HEARING ON CHINA'S AGRICULTURAL POLICIES: TRADE, INVESTMENT, SAFETY, AND INNOVATION

HEARING

BEFORE THE

U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

ONE HUNDRED FIFTEENTH CONGRESS
SECOND SESSION

THURSDAY, APRIL 26, 2018

Printed for use of the
United States-China Economic and Security Review Commission
Available via the World Wide Web: www.uscc.gov

UNITED STATES-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

WASHINGTON: 2018

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The Commission was created on October 30, 2000 by the Floyd D. Spence National Defense Authorization Act for 2001 § 1238, Public Law No. 106-398, 114 STAT. 1654A-334 (2000) (codified at 22 U.S.C. § 7002 (2001), as amended by the Treasury and General Government Appropriations Act for 2002 § 645 (regarding employment status of staff) & § 648 (regarding changing annual report due date from March to June), Public Law No. 107-67, 115 STAT. 514 (Nov. 12, 2001); as amended by Division P of the "Consolidated Appropriations Resolution, 2003," Pub L. No. 108-7 (Feb. 20, 2003) (regarding Commission name change, terms of Commissioners, and responsibilities of the Commission); as amended by Public Law No. 109-108 (H.R. 2862) (Nov. 22, 2005) (regarding responsibilities of Commission and applicability of FACA); as amended by Division J of the "Consolidated Appropriations Act, 2008," Public Law Nol. 110-161 (December 26, 2007) (regarding responsibilities of the Commission, and changing the Annual Report due date from June to December); as amended by the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015, P.L. 113-291 (December 19, 2014) (regarding responsibilities of the Commission).

The Commission's full charter is available at www.uscc.gov.

May 7, 2018

The Honorable Orrin Hatch
President Pro Tempore of the Senate, Washington, DC 20510
The Honorable Paul Ryan
Speaker of the House of Representatives, Washington, DC 20515

Dear Senator Hatch and Speaker Ryan:

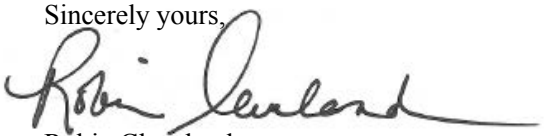
We are pleased to notify you of the Commission's April 26, 2018 public hearing on "China's Agricultural Policies: Trade, Investment, Safety, and Innovation." The Floyd D. Spence National Defense Authorization Act for 2001 § 1238, Pub. L. No. 106-398 (as amended by the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 § 1259b, Pub. L. No. 113-291) provides the basis for this hearing.

At the hearing, the Commissioners received testimony from the following witnesses: Ambassador Darci Vetter, General Manager, Public Affairs, Edelman, Former Chief Agricultural Negotiator for the Office of the United States Trade Representative; Dr. Fred Gale, Senior Economist, Economic Research Service, U.S. Department of Agriculture; Bill Westman, Senior Vice President of International Affairs, North American Meat Institute; Thomas Sleight, President and CEO, U.S. Grains Council; Dr. Carl Pray, Professor of Agricultural and Resource Economics, Rutgers University; Nathan Fields, Director of Biotechnology, National Corn Growers Association; Dr. Holly Wang, Professor of Agricultural Economics, Purdue University; and Michael Robach, Board Director Chairman, Global Food Safety Initiative and Vice President for Food Safety, Cargill. The following submitted statements for the record: Dr. David Ortega, Assistant Professor of Agricultural, Food, and Resource Economics at Michigan State University; American Soybean Association and U.S. Soybean Export Council; Howard Minigh, President, CropLife International; and Joseph Damond, Executive Vice President for International Affairs, Biotechnology Innovation Organization. The hearing investigated China's food policies and how they affect the United States. It examined China's food security and agricultural trade policy, China's investment in food resources abroad, the impact of China's biotechnology policies on U.S. firms and farmers, and export opportunities for U.S. food and agricultural firms in China. It also probed food safety challenges in China and how the United States should respond to food safety and market conditions in China.

We note that the full transcript of the hearing is posted to the Commission's website. The prepared statements and supporting documents submitted by the participants are now posted on the Commission's website at www.uscc.gov. Members and the staff of the Commission are available to provide more detailed briefings. We hope these materials will be helpful to the Congress as it continues its assessment of U.S.-China relations and their impact on U.S. security.

The Commission will examine in greater depth these issues, and the other issues enumerated in its statutory mandate, in its 2018 Annual Report that will be submitted to Congress in November 2018. Should you have any questions regarding this hearing or any other issue related to China, please do not hesitate to have your staff contact our Congressional Liaison, Leslie Tisdale, at 202-624-1496 or ltisdale@uscc.gov.

Sincerely yours,



Robin Cleveland
Chairman

Carolyn Bartholomew
Vice Chairman

cc: Members of Congress and Congressional Staff

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STATEMENTS SUBMITTED FOR THE RECORD

PUBLIC COMMENT SUBMITTED FOR THE RECORD

CHINA'S AGRICULTURAL POLICIES: TRADE, INVESTMENT, SAFETY, AND INNOVATION

THURSDAY, APRIL 26, 2018

U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION

Washington, DC

The Commission met in Room 328A of Russell Senate Office Building, Washington, DC at 9:00 a.m., Chairman Robin Cleveland and Senator Carte Goodwin (Hearing Co-Chairs) presiding.

OPENING STATEMENT OF SENATOR CARTE GOODWIN HEARING CO-CHAIR

HEARING CO-CHAIR GOODWIN: Good morning.
Welcome to the April 26, 2018 hearing of the U.S.-China Commission. Today we're focusing on China's agricultural policies, trade, investment, safety and innovation.

Later today we're going to hear from a panel of witnesses that will be exploring two important subjects: food safety risks associated with China's exports and the impact of Chinese government policies on U.S. agricultural innovation.

As the United States' third largest provider of food imports, even small food safety risks in China can affect thousands of United States consumers, and we've seen that numerous times over the past several years.

Chinese food imports carry several risks that therefore must be adequately managed. First and foremost, China's industrial development has left much of its soil, air and water heavily polluted, and this contamination has found its way into Chinese crops.

Second, China has thousands of small-scale food producers who don't often follow proper food safety procedures and makes attempts at regulatory oversight difficult.

Finally, while China has made some progress in reforming the legal framework behind its food safety regime, the practical implementation of the framework has been frustrated by lack of qualified inspectors.

U.S. industry and academia have risen to the challenge of attempting to address some of these food safety risks. American firms have established food safety cooperation centers in China to train Chinese inspectors, and several American universities have conducted joint research projects with their counterparts in China.

The Chinese government for its part appears eager to avoid the perception of administrative incompetence that often accompanies food safety scandals and has reformed its food safety laws, and in the estimation of many U.S. food safety experts is becoming more open to learning about international cooperation and best practices.

Domestically, of course, we must make sure that our food inspection regime is adequately resourced and efficiently deployed. While abroad, we must explore cooperative measures to improve the practices of Chinese farmers and the inspection capabilities of their Chinese regulators.

Similar challenges abound with respect to biotechnology in China where Chinese policies

also have affects, also have affects rather beyond its borders with respect to American trade and innovation.

China's biotech approval process has blocked shipments of GMO and conventional corn alike, and because China's approval process for biotechnology products has lagged several years behind the rest of the world, this often inhibits the commercialization of new crop strains that makes it difficult for U.S. farmers to be productive while using less pesticides and insecticides.

Additionally, U.S. ag firms have been victims of industrial espionage, sometimes carried out by Chinese nationals. Just this month, a Chinese scientist was sentenced to a ten-year federal prison term for stealing GMO rice samples from an American company.

Suffice it to say I'd like to thank everyone for coming, and appreciate your patience with this unusual set-up that we have for our hearing today. I want to remind everyone that the witnesses' testimonies and the transcript from today's hearing will be available on our website at www.uscc.gov.

Now, I will turn it over to Chairman Cleveland.

PREPARED STATEMENT OF SENATOR CARTE GOODWIN
HEARING CO-CHAIR

Our second panel will explore two important subjects: food safety risks associated with China's exports and the impact of Chinese government policy on U.S. agricultural innovation.

As the United States' third largest provider of food imports, even small food safety risks in China could affect thousands of U.S. consumers. We saw a vivid example of this in 2006 and 2007 when adulterated Chinese pet treats killed almost 2,000 U.S. cats and 2,220 U.S. dogs. More recently in 2017 more than 600 Canadians contracted norovirus from frozen Chinese raspberries, including many children and senior citizens who are more sensitive to the virus's effect. The United States can learn from outbreaks like these as the U.S. and Canada import similar products from China and U.S. citizens were similarly affected by Chinese imports in 2016.

Chinese food imports carry several risks that must be adequately managed. First, China's industrial development has left much of its air, soil, and water heavily polluted and this contamination has found its way into Chinese crops. Second, China has thousands of small-scale food producers who don't often follow proper food safety procedures. Finally, while China has made progress in reforming the legal framework behind its food safety regime, implementation of this framework has been frustrated by a dearth of qualified Chinese inspectors.

U.S. industry and academia have risen to the challenge of addressing China's food safety risks. Firms such as Walmart have established food safety cooperation centers in China to train Chinese inspectors and several U.S. universities conduct joint research with their Chinese counterparts. The Chinese government, for its part, appears eager to avoid the perception of administrative incompetence that comes with food safety scandals, and has reformed its food safety laws and according to U.S. food safety experts become more open to learning about international cooperation and best practices.

Domestically, we must make sure that our food inspection regime is adequately resourced and efficiently deployed. Abroad, we must explore cooperative measures to improve the practices of Chinese farmers and the inspection capabilities of their Chinese regulators.

China's food policy also has a powerful effect beyond its borders with respect to U.S. agricultural innovation and trade. For example, China's biotech approval process has blocked shipments of GMO and conventional U.S. corn alike. Because China's approvals unnecessarily lag several years behind the rest of the world, they prevent the commercialization of new crop strains that may make U.S. farmers more productive while using less pesticides and insecticides. U.S. agricultural firms have also been victims of industrial espionage carried out by Chinese nationals. For example, just this month a Chinese scientist was sentenced to a 10 year prison term for stealing GMO rice samples from a U.S. company.

I would like to thank you all for coming. As a reminder, the testimonies and transcript from today's hearing will be posted on our website, http://www.uscc.gov.

OPENING STATEMENT OF CHAIRMAN ROBIN CLEVELAND
HEARING CO-CHAIR

CHAIRMAN CLEVELAND: Good morning. I'd like first to welcome our new commissioner, Roy Kamphausen. This is his first hearing so it better be a good one.

We, as Carte noted, are going to focus on agricultural policies and what they mean for U.S. farmers and consumers. Our first panel will focus on China's food security policies and agricultural trade.

Like many countries, when it comes to food security, China has pursued a strategy of self-reliance; however, this has been complicated and constrained by lack of water, arable farmland, agricultural technology and environmental degradation.

In a global assessment of per capita arable land, China ranks 126th out of--how many--140 something--clearly indicating there is a limit to what China can produce. These challenges, along with rising domestic demand, have meant for the past five years China has imported much of what it needs with the U.S. as the leading source providing nearly 30 percent soybeans and 58 percent of sorghum.

Where U.S. farmers have received access to China's market, they have demonstrated their ability to provide high-quality food at internationally competitive prices, which has contributed to diversifying both the Chinese diet and American opportunity.

During WTO access, China accepted low tariff rates without quotas on soybeans and sorghum resulting in a strong position for American farm sales.

This demand, however, is reshaping domestic production with a significant shift in American planting trends from corn to soybeans. This shift raises unique concerns about the risk of retaliatory action in which the American farmer may pay the price for tariffs on steel or other commodities.

While we have seen good growth in some markets, regrettably, access and opportunity for other agricultural products have been protected by quotas and opaque government programs, including price and production subsidies and irrational policy barriers such as the 15-year ban on American beef.

The U.S. government and agricultural associations have pushed back against Chinese restrictions, but progress has been slow. I look to our panelists for their advice on how to give U.S. farmers and ranchers fair, consistent, and broad access to China's markets. I am also interested in your perspective on recent Chinese trends to invest in agricultural production abroad as a part of their food security strategy.

Our next hearing is June 8 on "U.S.-China Economic Challenges." I'd like to thank the U.S. Senate Committee on Agriculture, Nutrition and Forestry for their assistance in securing this space.

PREPARED STATEMENT OF CHAIRMAN ROBIN CLEVELAND
HEARING CO-CHAIR

Good morning, and welcome to the sixth hearing of the U.S.-China Economic and Security Review Commission's 2018 Annual Report cycle. Thank you all for joining us today.

Today's hearing will consider China's agricultural policies and what they mean for U.S. farmers and consumers. Our first panel will focus on China's food security policies and agricultural trade.

Like many countries, when it comes to food security, China has pursued a strategy of self-reliance, however this has been complicated and constrained by lack of water, arable farmland, agricultural technology and environmental degradation. In a global assessment of per capita arable land, China ranks 126th clearly indicating there is a limit to what China can produce. These challenges, along with rising domestic demand, have meant that for the past five years China has imported much of what it needs with the US as the leading source providing nearly 30% of soybeans and 58% of sorghum requirements.

Where U.S. farmers have received access to China's market they have demonstrated their ability to provide high-quality food at internationally competitive prices which has contributed to diversifying both the Chinese diet and American opportunity. During WTO accession, China accepted low tariff rates without quotas on soybeans and sorghum resulting in a strong position for American farm sales. This demand is reshaping domestic production with a significant shift in American planting trends from corn to soybeans. This shift raises unique concerns about the risk of retaliatory action in which the American farmer may pay the price for tariffs on steel imports.

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I would like to thank you all for coming. As a reminder, the testimonies and transcript from today's hearing will be posted on our website, www.uscc.gov. And please mark your calendars for the Commission's next hearing, "U.S.-China Economic Challenges," which will take place on June 8.

I would also like to thank the U.S. Senate Committee on Agriculture, Nutrition, and Forestry for their assistance in securing this space for the hearing.

PANEL I INTRODUCTION BY CHAIRMAN ROBIN CLEVELAND

And now I would like to introduce the panel. Our first panel is an excellent group of experts. We will begin with Ambassador Darci Vetter, Vice Chair for Agriculture, Food and Trade at Edelman and former Chief Agricultural Negotiator for the Office of the U.S. Trade Rep.

Ms. Vetter has been directly responsible for bilateral and multilateral negotiations affecting the U.S. agricultural trade with China. She will provide testimony on effective U.S. government strategies to create greater access to China's market and anything else she wants to talk about.

Next we will hear from Dr. Fred Gale, who I understand is a "bomb" of an expert. That's how the staff described you. Dr. Gale is a senior economist at the U.S. Department of Ag's Economic Research Service.

DR. GALE: How am I going to live up to that?

[Laughter.]

CHAIRMAN CLEVELAND: I don't know. The world of agriculture is just so exciting.

He has many decades of experience monitoring China's agricultural markets and Beijing's agricultural policies. Dr. Gale will testify on China's food security goals and how they relate to China's foreign policy and U.S. businesses.

We will then hear from Mr. Bill Westman, who is the Senior Vice President of International Affairs at the North American Meat Institute.

Previously he served as a Foreign Service Officer for the FAS. He will testify on conditions in China's market for U.S. meat producers. I hope the testimony says there are improvements because it's been pretty bleak for some time.

Finally, we will hear from Thomas Sleight--Sleight--Sleight?

MR. SLEIGHT: Sleight.

CHAIRMAN CLEVELAND: Sleight. Sorry. Okay.

He is the President and CEO of the U.S. Grains Council. He previously served as Executive Director for the Council's operations in Asia, Eastern Europe and the Middle East. Mr. Smith will provide--Sleight--who put Smith in here--will provide testimony on conditions in China's market for U.S. crop farmers. I apologize for that.

Thank you all for your testimony. Please remember we like to keep it to about seven minutes because we have lots of questions.

So, Ambassador Vetter, we'll begin with you.

OPENING STATEMENT OF AMBASSADOR DARCI VETTER, GENERAL MANAGER, PUBLIC AFFAIRS, EDELMAN; FORMER CHIEF AGRICULTURAL NEGOTIATOR FOR THE OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE

MS. VETTER: Good morning. Thank you, Chairman Cleveland, Senator Goodwin, and the distinguished commissioners for the opportunity to be here.

Over the years, the United States and China have used different fora to discuss trade and to discuss agriculture. But when it comes to the intersection of those issues--where the item on the agenda is agricultural trade--there has frankly not been a perfect forum to achieve either consensus or action.

When serving as Deputy Under Secretary at USDA and as Chief Ag Negotiator at USTR, I often felt like my Chinese counterparts were playing a game of hot potato with the items that I wanted to discuss.

In my experience, the Chinese Ministry of Agriculture officials resist discussing trade issues. On several occasions, when I raised concerns about the consistency of their policies with trade rules, I was reminded that the Ministry's mandate was, first and foremost, to increase their production. The Ministry frequently noted that, unlike other sectors, China had a trade deficit with the United States in agriculture and, therefore, we were already doing just fine.

China's Ministry of Commerce, on the other hand, was quite willing to discuss trade policy and openly acknowledged U.S. trade concerns. But when the conversation shifted to potential remedies, Commerce deferred to the Ministry of Agriculture, citing their technical expertise and their jurisdiction over the issues. Their deference to their agricultural colleagues effectively parked these issues, and no action would be taken.

Similarly, agriculture trade issues have been included on the agendas of the U.S.-China Joint Commission on Cooperation and Trade, the Strategic and Economic Dialogue, and, most recently, the Comprehensive Economic Dialogue, which has provided an opportunity to raise agriculture issues in the context of China's larger economic policies.

But agriculture ministers have never been co-chairs of these fora, and agriculture has always been a minor item on the agenda, and the result has often been a series of incremental victories on ag issues but circular conversations on the underlying problems.

On a parallel track, however, the United States and China have a series of relationships and programs that are related to agricultural cooperation. This has provided really important insight into China's agricultural goals--on increasing productivity, improving sustainability, rural development--as well as a number of opportunities for the United States to assist China in these areas.

But while those fora are a great place for exchange of best practices, they lack a focus on trade, and there is no real mechanism to turn those best practices into bilateral commitments.

So our challenge is to broaden these conversations about ag cooperation, to include and demonstrate the importance of healthy two-way trade. Rather than tallying our imports and exports, we should be recasting our dialogue so that it focuses less on admonishing China for not following the rules and more on asking China to "help us help you." We need to leverage our broad and deep relationship to make our expectations of reciprocation as clear as the capabilities and the knowledge we offer them.

A broader discussion of trade and agriculture can help us understand the causes of the specific trade barriers as well. Of the barriers we now face, some of them are clearly attempting to discourage imports, but others stem from China's challenges in implementing their ag reforms.

For instance, China is developing an improved food safety system and has enacted sweeping inspection procedures on nearly all products but doesn't really have the bandwidth to enforce them in China--the home of millions and millions of small producers. But they can more easily apply these strict rules at the border, resulting in treatment that is not equal and not particularly effective as a food safety tool.

So as China grapples with how to implement and enforce complex trade policies like this one, we need to stay actively engaged in their process to ensure a balanced approach toward domestic producers and imported product.

China is and will continue to be a huge market for a wide variety of U.S. agricultural products, which makes us vulnerable to any policy change--whether that's a new food safety law, retaliatory tariffs or domestic subsidies. So rather than reacting to those policies, we need to put ourselves in a position to help shape them.

So how do we get from where we are to where we're going?

First, and foremost, we need to know what we're already doing. The U.S. Department of Agriculture should require each mission area, each undersecretary, to fully report all of the programs it has in China, who are they partnering with, how much are they spending, and why? This task should be led by the Deputy Secretary, include the Assistant Secretary for Congressional Affairs and the Chief Economist, so that we can have a full analysis behind these cooperative programs and align them to congressional objectives as well.

Once we know that full extent of our agricultural relationships with China and have prioritized them, we should bring our appropriate Chinese counterparts to the table in a more hybrid forum where we both examine our common goals and establish next steps and future commitments that will establish mutual benefit, including on trade.

We need to bring the private sector to the table with us as well. They are deeply involved in cooperative trade work with China. And many of the development programs undertaken by the private sector are, in fact, joint public-private investments done under the auspices of USDA's Market Access Program and the Foreign Market Development Program.

The U.S. government should clearly articulate its investments in these programs as part of its larger strategy to support China's agricultural sector while advancing U.S. trade.

China needs to hear that it is increasingly difficult to defend public investment in these programs when we are receiving diminishing returns in the forms of more stable trade with China.

But a more robust agricultural work program among our agricultural officials is not a stand-alone solution. We need to continue to raise agricultural issues in discussions of economic reforms. The JCCT, the CED, or some similar forum needs to be revived with the expectation that the Secretary of Agriculture will co-chair. And when dialogue and negotiation fail to achieve results, we need to be willing to use all of our tools, including WTO dispute settlement.

The United States and China need each other. Isolated discussions about problems, divorced from the overall challenges we face, are unlikely to lead to creative solutions. We need to talk to China about agricultural trade in a way that does not frame it as a zero-sum game where China's farmers lose if America's farmers gain.

Unfortunately, that is not the direction we are currently headed. We are focused on trade deficits, broad categories of products flowing in either direction face retaliatory tariffs, and the CED has been suspended.

Meanwhile, both the United States and China are in the midst of making critical decisions on agriculture that will define our relationship for years to come. We should be doing all we can to better understand and influence those decisions for our mutual benefit.

Thank you.

PREPARED STATEMENT OF AMBASSADOR DARCI VETTER, GENERAL MANAGER, PUBLIC AFFAIRS, EDELMAN; FORMER CHIEF AGRICULTURAL NEGOTIATOR FOR THE OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE

China's Agricultural Policies: Trade, Investment, Safety, and Innovation

Darci Vetter[1]
Testimony
Thursday, April 26, 2018
U.S.-China Economic and Security Review Commission

Summary/Overview

The U.S.-China agricultural relationship is broad and deep, reaching well beyond the import and export of goods. Yet we rarely factor the other elements of our relationship into our trade strategies, and do not sufficiently take credit for the public investment we have made in modernizing Chinese agriculture. By failing to discuss our trade relationship within the larger context of China's agricultural and economic reforms, we often deprive ourselves of opportunities to leverage these investments, and instead craft piecemeal solutions with China that address symptoms, rather than the underlying political and regulatory issues inhibiting U.S. agricultural trade. While the United States should continue to actively pursue technical work on specific agricultural trade issues, it should look for new opportunities to address trade problems in the context of larger goals related to China's agricultural modernization and the health of its rural economies.

[1] The views expressed in this testimony are Darci Vetter's alone, and do not represent those of Edelman or the U.S. Government.

Introduction

Thank you for the opportunity to testify before the Commission on the topic of China's Agricultural Policies. Other panelists this morning will focus on China's agricultural policies, as well opportunities and challenges related to trade with China in particular agricultural products. As such, the Commission has asked that I focus on examining the government-government engagement between China and the United States, and how that process could be improved. I will address three key questions in this regard:

I. How has the United States government engaged with China on Agricultural trade issues? Where has this engagement been effective, and where has it fallen short?
II. What are the chief policy barriers to trade in agricultural products with China? What are the primary drivers or causes for these barriers? Are they used primarily to protect domestic industries?
III. How might retaliation in trade disputes impact the U.S agricultural sector, and how can we mitigate against such effects?

After addressing these questions, I will conclude with recommendations for action, including comments on how recent bureaucratic restructuring in China may provide an opportunity to reshape our U.S. China engagement on agriculture.

How has the United States government engaged with China on Agricultural trade issues? Where has this engagement been effective, and where has it fallen short?

During the previous Administration, the United States and China typically held 3-5 high-level engagements annually to discuss agricultural trade. These meetings were typically held in one of three formats:

- Bilateral engagement between the Minister or Vice Ministers of the Ministry of Agriculture (MOA) and the U.S. Department of Agriculture (USDA), or between the Minister or Vice Ministers of the Ministry of Commerce (MOFCOM) and the U.S. Trade Representative (USTR). These may be stand-alone meetings, or they may be shorter bilateral discussions on the margins of other meetings, such as the FAO Conference, or the OECD or G-20 meeting of Agriculture or Trade Ministers.

- Discussion of agricultural agenda items during the U.S.-China Joint Commission on Commerce and Trade (JCCT), a high-level dialogue focused on bilateral trade issues between the United States and China, co-chaired on the U.S. side by the Secretary of Commerce and the U.S. Trade Representative.

- Discussion of agricultural agenda items within the economic track of the U.S.-China Strategic and Economic Dialogue (S&ED), a high-level dialogue to discuss a range of economic and foreign policy issues, chaired on the U.S side by the Secretary of the Treasury.

Most bilateral meetings at Minister level are used to try to advance a limited list of specific issues that have been advanced by staff and/or deputies and are ready for Ministerial decision or direction. As a general rule, the trade items on the agenda of agriculture ministers, and the agriculture items on the agenda of trade ministers were often the most difficult to resolve. MOA tended to be willing to move forward on trade issues of mutual benefit, such as granting export approvals for U.S. fruit exports, if the United States was prepared to reciprocate on such products from China. MOA was typically much less responsive, however, to concerns raised about compliance with trade rules or international standards, often reminding U.S. Agriculture officials of their mandate for food self-sufficiency, and the growing trade deficit between the United States and China in the agriculture sector. Conversely, when agricultural issues were discussed in meetings of trade ministers, MOFCOM had a tendency to acknowledge U.S. concerns, but defer to MOA's authority to implement agricultural policy.

In contrast, the inclusion of agricultural trade issues on the agenda of the JCCT and S&ED created an opportunity to raise awareness of agricultural trade issues in the presence of multiple Ministries and the Vice Premier and allowed the United States to define those issues in the context of China's economic reform, and the broader US-China relationship. For example, China's approval system for the products of biotechnology was raised at the JCCT and S&ED because it was a barrier to agricultural trade, but also an example of larger concerns about China's policies regarding technology adoption and the protection of intellectual property.

Unfortunately, while Agriculture Ministers were included in the JCCT and S&ED meetings, Agriculture Ministers were not co-chairs of either of these fora. Agricultural issues were a minor part of very broad economic policy agendas, which left little time for discussion of those issues. Some agricultural trade gains were achieved through the JCCT and S&ED, such as lifting China's ban on U.S. pork, reducing the scope of restrictions on poultry due to avian influenza, and gaining approval for a limited number of biotech events, but agriculture lacked the leverage at the table to use the JCCT and S&ED to achieve systemic policy changes to prevent future agricultural trade barriers. Instead, China had a tendency to pledge to improve its procedures, or to engage in future dialogue, but the results were often elusive or seriously delayed. For example, China agreed on several occasions to work toward a protocol for the re-entry of US beef to China, only to introduce proposals during negotiations that it knew were not commercially feasible.

On biotechnology, China repeatedly pledged to make improvements to its biotech approvals process, yet significant concerns about the approval process remain. For example, during the 2015 state visit of President Xi, "Both [the United States and China] reaffirmed the importance of implementing timely, transparent, predictable, and science-

based approval processes for products of agricultural biotechnology, which are based on international standards…."[2] Later that year, at the JCCT, China and the United States reaffirmed the outcomes reached on agricultural innovation during the September 2015 state visit of President Xi, "Both countries reiterated they would work together to further the approval process based on international standards; and reiterated the importance of adopting a timely, transparent, predictable and science-based approval process."[3] In June of 2016 at the S&ED, a similar pledge was made; **"**China committed to revise its biotech regulations to be consistent with the outcomes on the administration of biotechnology from President Xi's State Visit to Washington in September 2015. China further committed to review applications of agricultural biotechnology products in a timely, ongoing and science-based manner…."[4]

In April 2017, the Trump Administration replaced the JCCT and S&ED with the U.S.-China Comprehensive Economic Dialogue (CED), co-chaired by the Secretary of the Treasury and the Secretary of Commerce. However, the July meeting of the CED ended in an impasse, and the Treasury Department indicated on November 30, 2017 that the CED would be indefinitely suspended, citing continuing disagreements on trade. Given the current trade tensions between the United States and China, it is unlikely the process will be revived soon.

While the JCCT and S&ED were focused purely on policy and reform, the U.S. China Agricultural symposia, the first of which was held in 2012 in Des Moines, on the margins of then Vice President Xi Jinping's visit to Iowa, and the second in 2013 in Beijing, were focused on agricultural cooperation, and organized around specific policy goals shared by the United States and China; food safety, food security, and agricultural sustainability. Their broad agenda allowed for participation from a range of ministries responsible for different aspects of agricultural trade policy, including China's Food and Drug Administration. Their focus on discussion allowed for open dialogue about issues where China was struggling, such as the design of new food safety rules after high-profile food safety scandals. The U.S. private sector was also invited to participate, showcasing their own best practices for food safety, and demonstrating successes from their investments in China's agriculture sector. While the symposia allowed the United States to highlight our own best practices, and to demonstrate how U.S. exports and a more transparent and risk-based regulatory system could contribute to China's goals—namely food security, food safety and sustainable agriculture--while creating a better environment for trade, the symposium was designed as a dialogue, and fell short of providing specific next steps or commitments to policy change needed to achieve the shared objectives.

The U.S. private sector is also extensively involved in cooperative work with China on agricultural trade. I emphasize it here because many of the export promotion and cooperative development programs undertaken by the U.S. private sector have been

[2] http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/2649_665393/t1300771.shtml

[3] https://www.commerce.gov/news/fact-sheets/2015/11/us-fact-sheet-26th-us-china-joint-commission-commerce-and-trade

[4] https://www.treasury.gov/press-center/press-releases/Pages/jl0485.aspx

initiated through the USDA Market Access Program (MAP) and the Foreign Market Development (FMD) program, and are, in-fact, a public private partnership, although rarely discussed as such with our foreign counterparts. The U.S. government does not take enough credit for the fact that the MAP and FMD programs were designed to facilitate direct private-sector relationships in foreign markets, including activities to modernize and develop the agricultural sector in China. For decades, US cooperators have worked with their Chinese customers to create value-added ventures and create jobs in China that advance Chinese agriculture while promoting U.S. exports, such as building modern corn milling facilities, or establishing aquaculture programs. While U.S. exports of agricultural products to China have grown dramatically in recent years, decades of partnership in developing Chinese agriculture have not been met with policy change to foster further work. China's agricultural market remains risky and fickle, discouraging or prohibiting longer-term partnerships and investments that could benefit both sides.

One must also keep in mind that in addition to specific engagement on agricultural trade issues, there are multiple other programs and activities between the United States and China related to agriculture. These programs include joint agricultural research, training on the design of domestic support and crop insurance programs, sharing of climate-smart agricultural techniques, and forestry projects, among many others. While not specifically designated as "trade" activities, many of these programs impact China's agricultural productivity and the design of its policies. These programs are staffed and funded by different agencies throughout the Department of Agriculture, but not centrally coordinated or prioritized.

What are the chief policy barriers to trade in agricultural products with China? What are the primary drivers or causes for these barriers? Are they used primarily to protect domestic industries?

Compared to many other developing countries, China's tariffs are low, as they were bound at relatively low rates as part of China's WTO accession. China's applied and bound tariff rates also tend to be the same, in contrast to many other developing countries, that may normally apply tariffs at one level, but have the freedom under WTO rules to raise them significantly. Because of this, the tariff treatment surrounding most agricultural products is stable, and not a source of uncertainty or risk for exporters.

While tariffs are more straightforward, inconsistent border procedures, overly complicated or restrictive sanitary and phytosanitary (SPS) measures, and non-transparent and burdensome licensing, registration and certification procedures remain significant barriers to trade with China. The application of anti-dumping and counter-vailing duties to U.S. agricultural goods has also restricted trade for years at a time.

These trade barriers reflect both a desire by China to protect domestic producers and processors, as well as a country conflicted about how to effectively implement and enforce complex policies on both foreign and domestic goods. Further, China struggles to simultaneously meet policy goals to increase agricultural production, reduce waste and pollution, and preserve or improve rural employment opportunities. There are often internal conflicts about how to achieve each of these goals, and at what pace they should be implemented, which can interrupt the pace and direction of policy change, creating additional uncertainty for trade.

China's policies toward biotechnology demonstrate the tensions between the policy goals referenced above. China is a major developer of biotech products, and its slow process for approving US biotech events, in particular its refusal to approve them for cultivation in China, reflects a strong effort to protect its domestic industry. Further, this sector is also a victim of China's attempts to force the transfer of technologies and theft of valuable intellectual property. U.S. biotech providers have long complained that the procedures for field trials in China require companies to share trade secrets, and multiple cases of theft of U.S. biotech traits by Chinese scientists have been reported. As recently as April 4, 2018, a Chinese scientist was sentenced to 121 months in a federal prison for conspiring to steal biotech rice seeds from a Kansas biopharmaceutical facility.[5]

At the same time that China invests heavily in biotechnology, public opposition to biotech makes China genuinely wary to approve new events for fear of protests. Some national security officials oppose allowing the cultivation of foreign biotech varieties for fear of making China dependent on foreign seed stock, undermining food security.

China's biotech policy is also a good example of China's use of SPS barriers to regulate the flow of foreign product, rather than address genuine concerns about human, animal or plant health. The lack of a clear process and timely decisions to remove SPS barriers appears to be a strategy in and of itself, allowing China to use selective enforcement of its regulations and policies to control the flow of trade. By delaying biotech approvals, China can use enforcement and inspection procedures as a spigot of sorts, turning imports of key commodities on and off according to internal market needs and domestic pressures. The U.S. experience with exports of MIR 162 provides an excellent example. MIR 162, a biotech event unapproved in China, was likely present in shipments that moved freely into China without incident for quite some time. But when China's domestic stocks of low-quality, high-priced corn began to pile up, China began to test for and detect MIR 162 in US corn shipments, blocking much of the U.S. corn trade, and making a cheaper, better quality alternative to domestic stocks unavailable.

Long delays in restoring normal trade conditions after a disease outbreak, and/or failure to bring domestic policies in line with international standards or guidance are also typical in China. The United States still lacks full access for U.S beef 15 years after the first case of BSE in the United States, and years after the World Organization for Animal Health recognized the United States as "minimal risk", and continues to face overly-

[5] https://www.justice.gov/opa/pr/chinese-scientist-sentenced-prison-theft-engineered-rice

broad restrictions on poultry exports, despite the fact that outbreaks of HPAI have long been controlled, and are no longer warranted.

In other areas, lack of capacity and complex domestic enforcement challenges seem to be the impetus behind restrictive or onerous trade policies. China is currently implementing a new, comprehensive food safety law, which requires inspection and documentation for all food products, regardless of risk. The prescriptive law is in response to very real and politically damaging food safety concerns in China, but China's Food and Drug Administration (CFDA) lacks the capacity to be able to conduct such broad inspections and has therefore drafted regulations that would place the burden of inspection and documentation of imported foods on exporters and their governments. Although the food safety requirements for foreign and domestic products may be the same under the law, it is difficult to imagine that CFDA is in a position to enforce the same requirements on the millions of small food producers and processors located throughout China that it is able to impose on foods that can be controlled at border inspection points.

China's treatment of veterinary drugs is another example where regulations on imports may be guided more by concerns about domestic enforcement than the safety of foreign products. China continues to ban the use of ractopamine in the production of beef and pork, despite the adoption of an international standard for safe use of the feed additive. China opposes the use of ractopamine not because it is concerned about the safety of the product when used correctly, but because misuse of ractopamine and related products can pose serious risks for both farm workers and consumers, and China cannot currently regulate the use of the drug on its millions of small hog farms. While China could technically allow use of ractopamine in imported product while banning its use domestically, it is difficult for countries to defend policies that would give foreign product a competitive edge over domestic producers.

How might retaliation in trade disputes impact the U.S agricultural sector, and how can we mitigate against such effects?

The United States agricultural sector is highly export-dependent and runs a trade surplus with several major trading partners. The United States is also a producer of a wide variety of commodities for export, and these commodities are grown, raised or processed in virtually every state and Congressional district. These two factors make agriculture susceptible to retaliatory tariff measures, regardless of trading partner. Agricultural products were featured prominently on the proposed retaliation lists when Mexico and Canada were authorized to retaliate against the United States for its Country of Origin Labeling Law, as well as when Mexico retaliated in the Mexican trucking dispute. Agricultural products are convenient targets not only because of the large volume of exports, but also because agriculture products produced in key Congressional districts can get the attention of Members of Congress in positions to fix the problem.

China is no exception here. It is widely believed that China brought its anti-dumping case on US broiler products in retaliation for US AD duties on Chinese tires. Through multiple suits and appeals, it effectively blocked US poultry trade with China for years. In early February 2018, China initiated an AD/CVD investigation on imports of U.S. sorghum in response to the imposition of tariffs on solar panels and washing machines from China. On April 18, 2018, Chinese importers of U.S. sorghum will be required to pay a 178.6 percent deposit in anticipation of anti-dumping tariffs.[6] The United States exported more than $1.1 billion of sorghum to China in 2017.[7]

China has also targeted U.S. agricultural products in retaliation for U.S. tariffs on steel and aluminum imposed under Section 232. Almost all fruits, vegetables, tree nuts and wine currently face an additional 15% tariff in China, with pork facing an additional 25%.[8] Further, China has published a list of products that will face a 25% tariff when and if the United States imposes tariffs on a broad list of Chinese machinery and other products as a result of the Section 301 negotiation, and concerns about Chinese theft of US intellectual property. U.S. soybeans, cotton, beef, wheat and corn are all included on that list.[9] Tariffs at these levels could significantly deter sales to China, as affordable alternative suppliers exist in nearly all categories of agricultural products.

The best way to avoid retaliation is to resolve the underlying dispute before we reach the point of imposing duties. Once duties and retaliatory actions kick in, it can be difficult to return to normal trade, particularly if we have not clearly laid out steps that must be taken for the duties to be removed. Using the WTO system and aligning with like-minded countries to clarify our complaints and expectation to China regarding policy change is likely to yield better long-term results than unilateral, short term eye-for-an-eye behavior, which provides China the opportunity to play its trading partners off against one another, by simply moving its sizable purchases to suppliers from other countries.

Recommendations

Engaging China directly on agricultural trade policy issues has often delivered short-term results, rather than aligning actions with long-term goals for both countries. Conversely, agricultural cooperation discussions have identified best practices to achieve long-term agricultural goals but have not delivered clear policy recommendations and timelines to implement them. China and the United States have the potential for significant partnerships to help China modernize its agricultural sector, increase production, reduce resource use and pollution, retain rural employment, and

[6] https://www.washingtonpost.com/world/asia-pacific/?utm_term=.95c95597aa44

[7] https://www.reuters.com/article/us-china-us-sorghum/china-launches-dumping-probe-into-u-s-sorghum-imports-amid-rising-trade-tension-idUSKBN1FO06C

[8] http://gain.fas.usda.gov/Recent%20GAIN%20Publications/China%20Imposes%20Additional%20Tariffs%20on%20Selected%20U.S.-Origin%20Products_Beijing_China%20-%20Peoples%20Republic%20of_4-2-2018.pdf.

[9] http://gain.fas.usda.gov/Recent%20GAIN%20Publications/China%20Responds%20to%20U.S.%20Section%20301%20Trade%20Action%20Announcement_Beijing_China%20-%20Peoples%20Republic%20of_4-4-2018.pdf

improve food safety. A robust, open trade relationship between China and the United States is part of this solution and should be explicitly discussed as an essential element of continued partnership. While the United States cannot compel China to engage in a more direct dialogue, it can plan its engagement with China more strategically, and look to the recent changes in China's bureaucratic structure for opportunities to convene new group of officials to change the dynamic of the conversation.

Take Stock of Current Activities and Priorities

Before the United States can determine its priorities for further cooperation and trade with China, it needs to take stock of the breadth and depth of its current agricultural activities. This should start with a USDA Department-wide accounting of all current activities with China, across all mission areas, and the corresponding budget and timeline for each. Where and how have we invested in Chinese agriculture, and why have we done so? How do these investments enable development, advance agricultural research, improve environmental protection and facilitate trade for the United States and for China? For example, cooperative work on veterinary practices may help China meet its goals for improved agricultural productivity, while also improving the safety of imports coming from China. Further, promoting US grain exports helps China achieve food security by increasing livestock production, while providing important income for US farmers. Once USDA has accounted for the breadth of its activities, it can group and prioritize these efforts to ensure that our resources are aligned to achieve our goals for the U.S.-China agricultural relationship.

Create a Hybrid Approach to Dialogue: Based on Mutual Goals, but with Clear Policy Benchmarks to Achieve Them

Using the results of the exercise above, the United States should engage China in a more comprehensive agricultural dialogue based on shared goals, from which an action plan should be developed to achieve them. This could be a hybrid approach, structured similarly to the agriculture symposium convened in 2013, which centered around food security, food safety and agricultural sustainability, but with a clear expectation that both countries would commit to implement the best practices identified, with clear benchmarks to monitor progress.

Recent changes in China's bureaucratic structure may assist in the development of this hybrid approach by consolidating responsibilities for agriculture and rural development, and for food safety and animal and plant health into two new Ministries. The Ministry of Agriculture was recently designated the Ministry of Agriculture and Rural Affairs (MARA), which now includes the Central Rural Work Leading Group. As such, the Minister of MARA, Han Changfu, now has responsibilities that include the health of rural economies, as well as agricultural production. This could provide greater opportunity to discuss rural development initiatives, such as the creation of value-added industries and rural employment, through partnership with U.S. exporters. The MARA Minister would also be able to make commitments and advance initiatives in both areas as well. Mr. Han Jun, newly-appointed Vice Minister of MARA, also has a long history of bringing

multiple ministries together and seeking out the experience of foreign officials to consider options for long-term agriculture policy reform, and could bring his experience to these efforts.

Similarly, the creation of the General Administration of Market Supervision (GAMS), which combines the regulatory roles of AQSIQ and CFDA, may create opportunities a more unified and streamlined approach to food safety in China that includes both food products as well as plant and animal health issues, and should increase coordination among regulators.

Engage the Private Sector and Their Partners in China

The United States, in collaboration with the U.S.-China Agriculture and Food Partnership, should convene a conference to demonstrate the decades-long commitment of the U.S. Government and private sector to jointly modernize agriculture in China, particularly through its MAP and FMD programs. Included in the discussion should be U.S. and Chinese officials at the federal level, as well as Provincial governments, state-owned enterprises and MAP and FMD recipients working in China. The conference should note opportunities for future work, but also the threats to future collaboration. The goal of the conference should be to:

- Emphasize the breadth and depth of our agricultural investment in China, as well as results achieved to date through these partnerships since the mid-1980s.
- Articulate the belief of the US agricultural sector and US Government that sustained engagement and investment in the success of our agricultural partners has been and should continue to be a win-win, improving livelihoods of producers and processors and the availability of safe, high quality food in partner countries, while creating new customers for US agricultural products.
- Note that concern that despite a history of mutual benefit, continued investments in China may be providing diminishing returns. Continued investments in research, promotion, new facilities, shared technology, food safety, etc., have not created greater predictability for our agricultural interests operating in China or exporting goods to China.

USDA is asked to defend the effectiveness of MAP and FMD programs each budget cycle. It will become increasingly difficult to demonstrate the value of these programs in China if policy reform is not achieved and market performance is not more consistent. The MAP and FMD programs are strategic investments by the U.S. Government that not only promote exports, but develop local agricultural markets. The U.S. Government should take credit for and clearly articulate our investment in MAP and FMD as part of our larger strategy to support China's agricultural sector, while advancing U.S. trade.

Make Agriculture a More Central Part of U.S.-China Economic Dialogues

Revive the JCCT or a similar mechanism for dialogue about policy reform, with the Secretary of Agriculture as a co-chair, rather than an invited guest. This would ensure

an opportunity to include agricultural issues in the discussion of larger economic reforms, such as innovation and protection of IP or investment policy, but would set the clear expectation that progress in the agricultural sector is expected.

Prioritize Enforcement as Well as Dialogue

While the United States should attempt to resolve bilateral trade issues through negotiation, it cannot take enforcement actions off the table. The United States should continue to utilize the WTO, working with allies where possible, to hold China accountable to meet its WTO commitments, particularly related to agricultural subsidies and transparency and reporting. First and foremost, the United States should continue to advance its WTO cases challenging agricultural subsidy levels and administration of China's TRQs. Recent proposals tying WTO benefits to meeting transparency and notification requirements should also be further explored.

Continue Intensive Technical-Level Engagement

Last but not least, the United States should continue its technical engagement with China from APHIS, FSIS, and FDA, with coordination through the FAS team in Beijing. Strong relationships among regulators are often the most effective mechanism for addressing SPS problems before they become significant trade barriers.

The agricultural sectors in the United States and China need each other to be successful, and agricultural trade will remain at the heart of that relationship going forward. Broadening our engagements with China to involve all relevant agencies and private sector stakeholders in both countries provides an opportunity to re-frame these trade issues and perhaps inject a more collaborative approach to agricultural reform in China. Given the current political environment, some creativity may be required to maintain and build our agricultural trade relationships. In the absence of such work, our competitors will solidify their relationships to our detriment.

OPENING STATEMENT OF DR. FRED GALE, SENIOR ECONOMIST, ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE

CHAIRMAN CLEVELAND: Thank you.

Dr. Gale.

DR. GALE: Chairman Cleveland and members of the Commission, thank you. I'm told that I'm the "bomb," but I'll try not to explode today.

[Laughter.]

DR. GALE: I appreciate this opportunity to present information on China's agricultural policies. I'm an economist at the USDA's Economic Research Service and we conduct research on policies and other factors influencing agriculture, and I'd mention as researchers, we don't--we examine the effects of policies and what they are, but we don't make policy recommendations.

And I'm going to summarize China's food security policy and its influence on agricultural production and trade in my remarks. I was just at China's Agricultural Outlook conference in Beijing last week, and these issues were very prominent in many of the speeches by China's leaders at that conference. And there are a lot of changes in policies that are going on right now.

For Chinese leaders, food security means ensuring that supplies of basic food crops can reliably meet the country's basic needs. This has been a top priority for China's leaders since the 1950s, at least.

In 1996, China had a 95 percent self-sufficiency objective for what they call "grains," which includes soybeans and potatoes as well as cereals. But a revised food security strategy that was introduced five years ago de-emphasizes these numerical targets, the hard 95 percent target.

Instead the new policy emphasizes self-sufficiency for rice and wheat, in particular, with imprecise phrases like "Chinese people must hold their food bowls firmly in their own hands at all times," and "the bowl must be filled mainly with Chinese rice."

For crops with lower priority, such as soybeans and corn, the strategy allows for what they call "moderate imports," without defining the term.

The food security strategy now encourages Chinese companies to invest in agriculture abroad to profit from China's growing imports and to play a more active role in global markets as China becomes a bigger importer.

To support its producers, China uses a combination of domestic support policies and controls on imports and exports of grains. Government programs cover nearly every major crop and livestock commodity, but the chief targets are producers of wheat, rice, and corn.

In recent years, China's Ministry of Agriculture has listed 50 or more different agricultural programs. This year there were 37. China uses these support programs, along with protection given by import quotas for these commodities, and restrictions on use of land that is designated only for uses for grain production to ensure that cereal grain output remains at a high level.

The two main outcomes of China's food security policy have been growth in China's production of cereal grains, along with parallel growth in China's imports of soybeans. Today China produces excess supplies of corn, rice and wheat, but it imports over 85 percent of the soybeans it consumes. It also accounts for over 60 percent of global soybean imports.

I would also note that China's price policies have resulted in a perverse outcome for grains. China has actually excess supplies of rice, corn and wheat. Yet, China also imports these

commodities. Approximately two to four percent of its annual consumption of grains are imported.

And this results from China's support price policies which exceed world prices. In order to save money, Chinese feed manufacturers, flour mills and rice processors have imported grains to cut costs and fill quality niches at the same time that the government was procuring large amounts of domestic grain to put in stock to support the price at a high level. The Chinese officials refer to this as "imports going into the market and domestic grain going into reserves."

This has created problems that are mounting, and at the conference last week, China was talking about how it wants to reform these policies and correct these market distortions.

China's food security policy also shapes the composition of U.S. agricultural exports. Soybeans stand out as by far the most prominent U.S. agricultural export to China, and maybe overall. While U.S. exports of wheat and corn are much smaller, Chinese demand for soybeans has been one of the factors encouraging U.S. farmers to increase their production of soybeans, and soybean planted area now exceeds corn area, which is a reversal of the historical pattern.

China's policies are now shifting to cope with the excess production of grains I mentioned. According to authorities, they hope to this year begin to improve the quality of grains instead of just simply emphasizing the quantity of production.

They have many programs now aimed at mitigating environmental damage that was caused in part by the past policies that maximized production.

As was mentioned earlier, China is trying to address many of these environmental problems. They're trying to reduce chemical fertilizer runoff, restore soil fertility that has declined, stop depletion of underground water supplies used for irrigation, prevent soil erosion, and remove food crops from contaminated soils.

Another big aspect of China's policies now is it's One Belt, One Road program, which I'm sure you've heard about. It's a major strategic initiative, which overlaps with China's long-term plans for agricultural trade and food security.

The Belt and Road Initiative aims to foster new trade routes between China and Western Europe that cross Asia, Africa, Russia and Eastern Europe, and a long-term objective of this is to nurture new suppliers for agricultural imports in order to reduce their reliance on exporters in North America, South America and Oceania, who are the main suppliers.

And China is also positioning itself as a leader in so-called "South-South" cooperation by emphasizing exchanges of agricultural technology, market information, and trade with developing countries.

China also aspires to gain a voice in global dialogue on food security. This is evident from China's recent donations of humanitarian food aid to African nations and China's positioning itself as a world leader in offering technical assistance in agriculture. China is seeking alliance with other countries in international organizations like the WTO to call for rule changes that would allow for greater levels of domestic agricultural support in the name of maintaining food security.

Well, Chairman Cleveland, other members of the Commission, this concludes my statement for now, and I'll be happy to answer any more questions that you may have regarding these remarks today, or in my written testimony, which discusses these issues in more detail.

Thank you.

PREPARED STATEMENT DR. FRED GALE, SENIOR ECONOMIST, ECONOMIC RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE

TESTIMONY BY FRED GALE, U.S. DEPARTMENT OF AGRICULTURE, ECONOMIC RESEARCH SERVICE

To U.S. Congress Economic and Security Review Commission hearing on "China's Agricultural Policies: Trade, Investment, Safety, and Innovation"
Russell Senate Office Building, Room 328A Washington DC
Thursday, April 26, 2018

Chairman Cleveland and other members of the Commission, my name is Fred Gale and I am an Economist at the USDA's Economic Research Service. I appreciate this opportunity to present information on China's agricultural policies. My remarks are based on the most recent data available from USDA's Economic Research Service (ERS) and publicly available data from China's customs statistics.

The mission of ERS is to inform public and private decision-making on economic and policy issues related to agriculture, food, the environment, and rural development. Our efforts support the goals and objectives of USDA by providing economic statistics pertaining to agriculture.

My remarks today will summarize China's food security policy, how it has evolved since the 1990s, and its influence on agricultural production and trade. I will also discuss the intersection of China's food security strategy, its One Belt One Road initiative, and foreign investment by Chinese agribusiness companies. I will characterize China's policies based on my review of Chinese documents, speeches, and articles and my analysis of China's agricultural imports. My remarks will not include specific policy recommendations since the mission of ERS as a research agency is to evaluate policy impacts but not to make policy recommendations.

Food security has always been a chief concern for China. For decades China struggled to produce enough grain to feed its population.

A 1996 State Council white paper on "China's Grain Issue" by China's State Council formalized China's food security policy. This paper was a rejoinder to the 1995 book by Lester Brown, Who Will Feed China?, which warned that China's demand for imported grain would disrupt global markets and consume excessive amounts of global resources. The warnings seemed to be validated at the time by a surge in both global grain prices and Chinese imports of grains in 1995. The white paper's food security policy focused on increasing China's grain production through science and technology, reclaiming land, reducing waste and increasing efficiency of the marketing system. The paper set a 95-percent self-sufficiency objective for "grains" (cereals, beans, soybeans, and the dry weight of tubers) which entailed maintaining imports at less than 5 percent of national consumption.

The food security policy influenced China's 2001 World Trade Organization (WTO) accession agreement. China negotiated limits on imports of cereal grains with tariff rate quotas and focused domestic policy support on cereals (as discussed below). China accepted low tariffs without quotas for imports of soybeans, rapeseed, sorghum, distillers grains, and edible oils (temporary quotas for oils were phased out by 2005).

A medium- and long-term food security plan for 2008-20 reaffirmed the 95 percent self-sufficiency objective and focused on increasing grain production, but it also encouraged Chinese agribusinesses to invest abroad to obtain food for China. This plan also introduced a strategy of raising minimum prices for grain annually to assure farmers that revenues would grow at the same pace as costs.

Since 2013, a revised food security strategy has de-emphasized numerical targets for grain self-sufficiency. Instead, imprecise phrases like "Chinese people must hold their food bowls firmly in their own hands at all times," China must be "basically self-sufficient in cereals and absolutely secure in rice and wheat," and toleration of "moderate imports" guide domestic support and trade policy for grains.

Another slogan, "Two markets, two kinds of resources," acknowledges that China's food needs can be met with a combination of domestic and international markets and Chinese and foreign resources. The strategy encourages Chinese companies to invest in agriculture abroad to profit from China's imports and to play a more active role in global markets.

China uses a combination of domestic support policies and controls on imports and exports of grains to support domestic producers. Since most producers are smallholder farmers who traditionally grew crops for subsistence, the same policies are portrayed simultaneously as supporting incomes for poor farmers. Government programs cover nearly every major crop and livestock commodity, but the chief targets are producers of wheat, rice, and corn. These support programs, protection given by import quotas for these commodities, and restrictions on use of land designated for grain production are designed to ensure that China's cereal grain output remains at a high level.

Farm support programs include various payments to farmers, transfer payments to agricultural counties, price stabilization mechanisms, irrigation and road construction, field upgrades, tax breaks for farmer cooperatives, subsidies for storage facilities, subsidized machinery purchases, subsidies for improved breeds, soil testing subsidies, subsidized agricultural insurance, and so-called model farms. New programs are added every year. China's Ministry of Agriculture has listed 37 different domestic agricultural support programs in place during 2018.

China views its grain reserve as a critical tool for maintaining food security. The 1996 food security white paper emphasized the importance of maintaining a large reserve of grain—-double the ratio of inventory to consumption recommended by the U.N.'s Food and Agriculture Organization. China keeps the size of grain reserves a state secret.

According to an explanation by Sinograin (the national grain reserve corporation), the function of national and local grain reserves is to insulate domestic farmers from global price fluctuations. Sinograin holds grain for emergencies and uses reserves as a buffer stock to stabilize markets. Sinograin said that it had purchased a cumulative total of 560 million metric tons (mmt) of grains during 2005-14 and it had sold 410 mmt, a net purchase of 150 mmt. More recent statistics have not been revealed, but it is well known that purchases ballooned even larger during 2015-17 as Sinograin and other State-owned companies acted to maintain support prices after international prices had fallen far below Chinese prices.

Due to pressure from record-high reserves and surging imports, China announced a reform of its corn program in 2016 that would allow its domestic price to fall closer to global prices. A similar reform for rice was announced in 2018.

According to Sinograin, a second measure used to ensure food security is "management" of tariff rate quotas (TRQs) for imported grain. When China joined the WTO, officials agreed to set TRQs for imports of wheat, corn, and rice, a measure intended by counterparty negotiators to increase transparency and establish commercial channels for grain imports. Sinograin, however, explained that it regulates the flow of grain imports to supplement domestic supplies and to balance supply and demand. Sinograin said that it had imported grains and edible oils for designated purposes and stored them separately to isolate the imports from the domestic market. This appears to undermine the intended purpose of the TRQ system: opening a transparent commercial channel for imported grains.

In 16 years since WTO accession, China's grain TRQs have never been completely filled, even during years when high Chinese prices made imports extremely profitable. For example, during 2015, Chinese corn prices were as much as 60 percent higher than the price of imported corn and over 1,100 Chinese companies applied for import quotas, yet over a third of the corn import quota was unfilled. That year China imported 4.6 million tons of corn, but feed mills and starch manufacturers imported over 37 million metric tons of commodities that are substitutes for corn and have no quotas on imports (sorghum, barley, distillers grains, cassava). The United States has initiated a WTO challenge of China's system for distributing the grain TRQs to potential importers.

While China produces more corn, rice, and wheat than it consumes, the country nevertheless does import all three commodities. This seeming contradiction is an outcome of the relatively high price and poor quality of much of the grain produced in China and the geographic separation between production regions and coastal consuming regions. Sinograin and other designated companies purchase and store large volumes of surplus grain in production regions at the same time feed mills and processing companies near ports import grains. Chinese authorities try to forestall this by brokering domestic trading partnerships between producing and consuming provinces.

China's support programs are opaque and difficult to evaluate. China has been slow to submit notifications of domestic support programs to the WTO. The United States has brought a WTO case to challenge Chinese policies for wheat, rice, and corn which guarantee farmers a minimum price to encourage them to plant these crops by eliminating the risk of a decline in price.

New direct payments have been introduced for corn, soybeans, cotton, and rapeseed. These payments are quite large and administered by local authorities using funds transferred from the central government. Only fragmentary information is available about the programs. Authorities have promised a similar payment for rice but no details have been announced.

The two main outcomes of food security policy have been growth in China's production of cereal grains and parallel growth in its soybean imports. From 2003 to 2017, China's production

of cereal grains increased by 198 mmt while imports of soybeans grew 80 mmt. Today, China produces excess supplies of corn, rice, and wheat, but it imports over 85 percent of the soybeans it consumes.

Chinese agricultural officials acknowledge that their strategy is to focus domestic resources on producing cereal grains while selectively opening to imports of soybeans. China now plants a combined 220 million acres in wheat, corn, and rice, but just 17 million acres of soybeans. Based on its average yield, China would need an additional 130 million acres to grow the soybeans the country imports.

The land-rich North and South American continents are the main suppliers of China's grain and oilseed imports. The United States is the largest single country exporting farm products to China. The United States exports dozens of farm products to China that are critical to the diversification of the Chinese diet. Since the 1990s, the U.S. accounted for about 25 percent of China's agricultural imports, but the U.S. share dropped to 20 percent during 2017.

China's food security policy shapes the composition of U.S. agricultural exports. Soybeans stand out as by far the most prominent U.S. agricultural export to China, while U.S. exports of wheat and corn to China are smaller. China's demand for soybeans has been one of the factors encouraging U.S. farmers to increase their production of soybeans.
With export sales of over $12 billion during 2017, soybeans account for about 60 percent of all U.S. agricultural exports to China, and they are the no. 2 export item (after aircraft) to China among all categories. During 2017, the no. 2 and no. 3 U.S. agricultural export items were cotton ($976 million) and animal hides ($946 million). U.S. exports of wheat and corn combined totaled $390 million.

China's vigorous growth in soybean imports is a major factor stimulating soybean production in the United States. The latest USDA baseline projections anticipate that U.S. farmers will plant more land in soybeans than in corn over the next ten years-—a reversal of the historical dominance of corn in U.S. agriculture.

Chinese agribusinesses are encouraged by Chinese officials to invest abroad to take a more active role in supply chains for China's food imports. According to China's Ministry of Agriculture, there were 1,300 Chinese businesses investing abroad in agriculture and related business at the end of 2016. The investments reflect an intertwining of profit motives with a "social responsibility" to contribute to China's food security and to increase Chinese influence in global markets. Some companies receive large loans to finance investments, but most receive little tangible support. Investments include a few large acquisitions of Smithfield Foods, Syngenta, and Noble agriculture, alongside hundreds of smaller projects. Relatively few Chinese investments have targeted U.S. agriculture. Most are made in Southeast Asia, Russia's Far East, and in Africa. New Zealand and Australia have been favored targets for dairy and beef investments.

So far, China's foreign investment has had a relatively minor role in agricultural trade. Many projects fall short of targeted scale of operation and profit, and many have failed to export products back to China. The U.S. share of China's pork market has fallen in the four years since

Smithfield Foods was acquired by China's WH Group--the most prominent agricultural-related investment in the United States. Smithfield-owned farms appear to constitute the bulk of mainland China control of farmland in the United States.

China's "One Belt One Road" program--launched in 2013--is a major strategic initiative that overlaps with China's long-term plans for agricultural trade and food security. The Belt and Road initiative aims to foster new trade routes between China and Western Europe through Asia, Africa, Russia and Eastern Europe, and maritime routes that pass through the South China Sea, Indian Ocean, and Suez Canal. China is making efforts to promote agricultural trade with countries along these trade routes by upgrading ports and border crossings, streamlining food inspection and quarantine procedures, agricultural investment in Belt and Road countries, and holding technical exchanges and training programs.

A long-term objective of Belt-and-Road is to nurture new suppliers of agricultural imports to reduce reliance on major suppliers in North and South America and Oceania. China is positioning itself as a leader in "South-South" cooperation by emphasizing exchanges of agricultural technology, market information, and trade with developing countries. It has twice hosted a meeting of BRICS country agricultural ministers. China aspires to take a more active role in multilateral organizations like the WTO, and organizations that set rules for food hygiene and animal health.

Early results of agricultural Belt-and-Road efforts include a small but growing flow of soybean and vegetable oil shipments from Chinese farms in Russia, small wheat shipments from Kazakhstan, approval of soybean imports from Kazakhstan, trade in fruits and vegetables with Kyrgyzstan, booming imports of tropical fruit from Southeast Asia, a string of fourteen agricultural industry parks across Africa, and exploratory efforts to farm in Central Europe.

Now China's policies are shifting to cope with excess production of grains. An adjustment in the food security policy this year emphasizes improvements in quality of grains instead of simply maximizing output. China now has many programs aimed at mitigating environmental damage caused, in part, by past policies that maximized production. China is trying to reduce chemical fertilizer runoff, restore soil fertility, stop depletion of underground water supplies, prevent soil erosion, and to remove food crops from contaminated soils. The new attention to environmental regulation may restrain production growth, creating greater opportunity for food imports. Indeed, China's production of grain and many other commodities has plateaued since 2015. Chinese officials are encouraging farmers to produce high-quality varieties of wheat and rice that are demanded by consumers instead of maximizing yield per acre and selling surpluses to the government. This latter effort is aimed at substituting domestic wheat for imports of these varieties.

China is holding auctions of stockpiled grain and giving subsidies to processors to dispose of excess grain stocks. Exports of rice jumped during 2017. Antidumping and countervailing duty investigations launched against U.S. distillers dried grains and sorghum may be related to the corn de-stocking effort. Both commodities are commonly imported as substitutes for Chinese corn, so taxing imports of distillers grains and sorghum will encourage mills to buy more corn from China's stockpile.

While not purely a food security program, this year China is beginning a rural revitalization program that will reshape programs covering a wide variety of rural affairs. One aspect of this program is an effort to restructure agriculture by facilitating consolidation of farmland into larger "family farms," cooperatives, and other new types of farms. This is prompted by concerns that fragmented smallholder farms with high production costs and lagging technology are inefficient. Chinese officials hope to nurture a new generation of commercial-scale farms through a "support and protection subsidy" for all farmers who plant grain, training programs, machinery and equipment subsidies, and loan guarantees for operating expenses. Authorities hope that these new farms will be more technically proficient and achieve scale economies that will raise productivity and reduce costs, allowing farms to earn profits at prices aligned with the international market. The farms rent dozens of land parcels from village collectives and hire villagers as laborers. Although these farms may be more technically adept, they also have higher cash expenses for land rent, hired labor, machinery and grain storage compared with traditional small household farms.

In summary, food security is a longstanding concern that has shaped the mix of crops produced and agricultural policy in China. Opening China's market to imports of soybeans and vegetable oils facilitated diversification of Chinese diets by supplying edible oils and protein for animal feed. China's food security policies helped create a bifurcated sources of supply: nearly all cereal grains are supplied domestically and nearly all soybeans are supplied by imports from the United States, Brazil and Argentina. In a corresponding manner, U.S. soybean producers are highly reliant on exporting to China, but producers of corn and wheat have a more diverse mix of markets for their products.

China has aspirations to add new international suppliers of agricultural imports through outbound investment and its Belt and Road initiative. These efforts could reduce the U.S. share of global agricultural trade. The expanded supply of Brazilian soybeans and Ukrainian corn have contributed to the decline in U.S. share of China's agricultural imports, but it is unclear whether China's investment played a significant role in these developments.

China aspires to gain a voice in global food security dialogue. This is reflected by China's recent donations of humanitarian food aid to African nations. China is positioning itself as a leader of technical assistance in agriculture, and China has sought alliances with other countries to call for changes to WTO rules that would allow greater levels of domestic support in the name of maintaining food security.

Chairman Cleveland, this concludes my statement. I will be happy to answer any questions that the Commission may have.

OPENING STATEMENT OF BILL WESTMAN, SENIOR VICE PRESIDENT OF INTERNATIONAL AFFAIRS, NORTH AMERICAN MEAT INSTITUTE

CHAIRMAN CLEVELAND: Thank you, Dr. Gale.

Mr. Westman.

MR. WESTMAN: Good morning. Thank you, Chairman Cleveland.

On behalf of the North American Meat Institute, I appreciate the opportunity to testify at this hearing this morning. We represent meat packers and processors of beef, pork, lamb and turkey products accounting for about 95 percent of red meat production and 70 percent of the turkey production in the United States.

From an international affairs perspective, our goal is promoting trade in meat and poultry products, both imports and exports, by eliminating tariff and non-tariff barriers to trade, and basing trading rules on sound science and standards and policies developed by international organizations, such as the World Organization for Animal Health and Codex Alimentarius.

To us, the People's Republic of China represents a market of tremendous opportunities and challenges for U.S. agriculture producers and exporters.

Today I'll focus on these opportunities and constraints which affect the U.S. meat and poultry industry, their activities and programs the Meat Institute supports in China, and our work with our Chinese partners to benefit from market opportunities and concurrently enhance food safety, food security and sustainability.

China is a world leader in agricultural production, the largest based on volume, with 20 percent of the world's population but only seven percent of the world's arable land. China is similar in land area to the United States, but with four times the population, similar stocking levels for beef and dairy cattle and five times as many sows.

China in recent years has turned its attention to promoting national policies to increase production efficiencies in the farm sector, implement environmental stewardship incentive programs for national and provincial leaders, and adjust agricultural self-sufficiency goals to allow greater imports to meet domestic protein demand.

At the same time, the projected growth in cash crops, livestock and fisheries production is not expected to meet the domestic demand over the next five to 15 years. As well, intensive land use has created additional environmental pressures as the Gobi desert continues to expand, the water table in many urban areas and production areas continues to decline, and the country is still faced with high water and air pollution levels, as was mentioned earlier this morning.

Against this backdrop, China has emerged over the last 39 years as the world's second-largest economy with a rapidly growing middle class, a demographic with increasing levels of disposable income.

With China's domestic production constraints and increasing demand from consumers for high quality, safe food products, the resulting import demand offers significant opportunities for agricultural exporters.

U.S. exports of beef, pork and poultry products to China and Hong Kong exceeded $2.5 billion in 2017, up nearly 13 percent compared to 2016. China is the primary export market for many byproducts of the U.S. meat industry. In 2017, the industry exported more than $1 billion worth of cattle hides, pig skins and semi-processed leather products to China's booming leather and footwear manufacturing industries, accounting for over 50 percent of total U.S. production of these items. For the byproducts of the U.S. meat industry, China is not only an important market; it is an essential market.

The United States is in an excellent position to compete in the Chinese market if the U.S. can avoid unnecessary, unjustified barriers to agricultural trade.

China prohibits the export of the following U.S. meat and poultry products or has policies in place that restrict exports, such as: a ban on prepared meat products; ban on pork bungs and intestines; China has a policy which does not allow us to "in lieu of certificates" for shipments of meat and poultry products; China requires duplicative certificates of analysis for exports of pork products to China; China does not allow edible and non-edible tallow and lard from the United States and bans lamb and sheep meat.

U.S. pork is subject to beta agonist free production under AMS Export Verification programs, and U.S. beef is subject to destination testing, also beta agonist free.

China's current ban against U.S. poultry due to high-pathogenic avian influenza cases in 2015 continues today.

China allowed direct U.S. beef access last year and contends that the U.S. must abide by the 2007 agreement to allow access to the U.S. market for Chinese-origin poultry, or broiler meat. The Chinese have been steadfast that they will not allow access for any other U.S. products until China receives or the U.S. publishes the poultry slaughter rule in the Federal Register. The U.S. made this offer so it is time to honor that commitment, which was made 11 years ago.

So how do we change the nature of the U.S.-China relationship? The U.S.-China agriculture and food partnership is designed to support the bilateral agricultural relationship by creating opportunities through increased cooperation, more effective issue advocacy, and development of a more positive relationship between U.S. and Chinese food and agricultural industries.

The Animal and Animal Products Working Group within the AFP operates with our Chinese partners to establish best practices throughout livestock, meat and poultry production, distribution and marketing chains to foster the adoption of proper production methods and ensure the safe distribution and use of quality food products.

The working group over the past couple of years worked very closely with the China Meat Association to hold the Executive Roundtable, a meeting of top level U.S. and Chinese meat and poultry company executives to exchange views, discuss meat and food production methods, and focus on food safety throughout the production and distribution chain.

Additionally, the working group participated in food safety training and orientation meetings with the China Food and Drug Administration, and with the China Agriculture University based in Beijing to design a pilot project on livestock production, technology training for students and mid-level managers.

That concludes my oral testimony. I'm happy to answer any questions that you may have at the end.

Thank you very much.

PREPARED STATEMENT OF BILL WESTMAN, SENIOR VICE PRESIDENT OF INTERNATIONAL AFFAIRS, NORTH AMERICAN MEAT INSTITUTE

Written Testimony for the U.S.-China Economic and Security Review Commission Hearing

April 26, 2018

William W. Westman

Senior Vice President, International Affairs

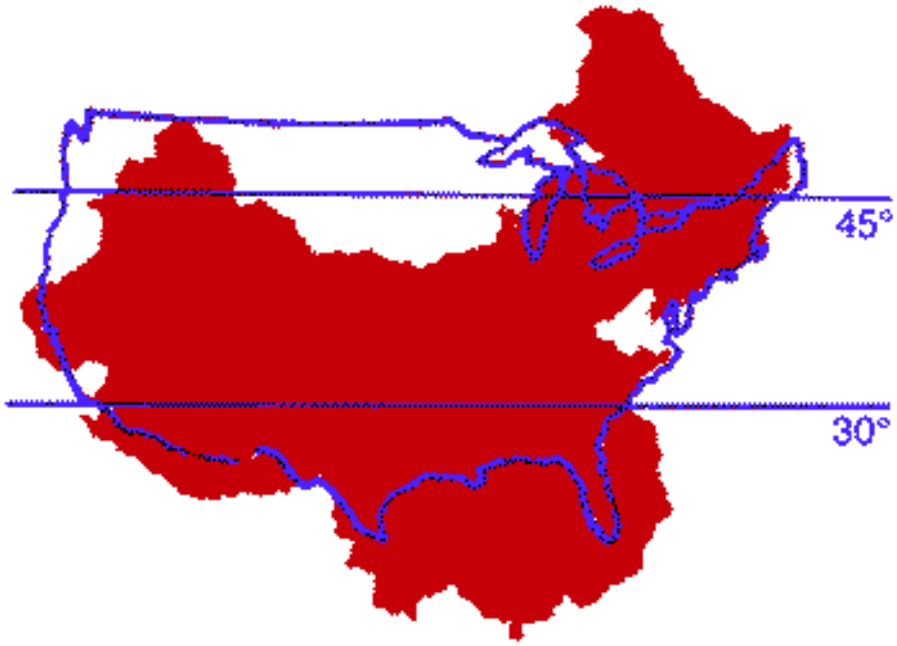
North American Meat Institute

On behalf of the North American Meat Institute ("Meat Institute") thank you for the opportunity to testify at the U.S.-China Economic and Security Review Commission hearing on "China's Agricultural Policies: Trade, Investment, Safety, and Innovation." I am William Westman, Senior Vice President of International Affairs at the Meat Institute. We represent meat packers and processors of beef, pork, lamb and turkey products accounting for 95 of the red meat and 70 percent of the turkey production in the United States. The Meat Institute's focus areas in representing our 725 members includes addressing regulatory issues, public affairs and communications, legislative concerns, international trade and trade policy, scientific affairs and education. Our annual convention, the International Production and Processing Expo (IPPE) is one of the fastest growing trade shows in the United States. In some respects, we are an international meat association with members from Brazil, Canada, China, Denmark, Japan, Mexico and Italy. From the international affairs perspective, our goal is promoting trade in meat and poultry products, both imports and exports, by eliminating tariff and non-tariff barriers to trade and basing trading rules on sound science and standards and policies developed by international organizations such as World Organization for Animal Health, Codex Alimentarius, and the World Trade Organization to name a few.

The People's Republic of China ("China") represents a market of tremendous opportunities and challenges for U.S. agriculture producers and exporters. My testimony today focuses on how these opportunities and constraints affect the U.S. meat and poultry industry, the activities and programs the Meat Institute supports in China and our work with our Chinese partners to benefit from market opportunities and concurrently enhance food safety, food security and sustainability.

China is a world leader in agricultural production, the largest based on volume, with 20 percent of the world's population and only 7 percent of the world's arable land. China is similar in land area to the United States (and Brazil) but with four times the population, similar stocking levels of beef and dairy cattle and five times as many sows.

Slightly Smaller Area than the United States
Total: 9,596,960 sq. km



As such, China faces tremendous land use challenges and environmental pressures which constrain further increases in production. However, China in recent years has turned its attention to promoting national policies to increase production efficiencies in the farm sector, implement environmental stewardship incentive programs for national and provincial leaders, and adjust agricultural self-sufficiency goals to allow greater imports to meet domestic protein demand especially for beef and sheep meat. At the same time, the projected growth in cash crops, livestock and fisheries production is not expected to meet domestic demand over the next five to 15 years. As well, intensive land use has created additional environmental pressures as the Gobi desert continues to expand, the water table in many major urban centers and production areas continues to decline and the country is still faced with high water and air pollution levels.

The picture below is from Beijing and provides an example of intensive land use in China. During my years living in Beijing I visited farm regions where double- or triple-cropping was common: a fruit tree planation with corn planted between the rows and vegetables growing under the trees!

Against this backdrop, China over the past 39 years has emerged as the world's second largest economy with the rapidly growing middle class, a demographic with increasing levels of disposal income. With China's domestic production constraints and increasing demand from consumers for high quality, safe food products the resulting import demand offers significant opportunities for agricultural exporters. Indeed, China is the number two market for U.S. agricultural commodities and products, behind Japan. U.S. exports of beef, pork and poultry products to China/Hong Kong exceeded $2.5 billion in 2017, up nearly 13% compared to 2016. U.S. exports of beef and beef variety meats to China/Hong Kong in 2017 totaled $915 million, up 34% compared to 2016. In 2017, mainland China opened its market to U.S. beef and exports for the last six months of 2017 came in at $31 million, a relatively small start to the market opening but also encouraging given the restrictive requirements under the China protocol for U.S. beef. U.S. exports of pork and pork variety meats in 2017 dropped slightly from 2016 levels to $1.1 billion while poultry and poultry variety products increased to $476 million over the same period. Additionally, China is the primary export market for many byproducts of the U.S. meat industry. In 2017, The U.S. industry exported more than $1 billion worth of cattle hides, pig skins and semi-processed leather products to China's booming leather and footwear manufacturing industries, accounting for over 50% of total U.S. production of these items. For the byproducts of the U.S. meat industry, China is not just an important market, it is an essential market. Beginning on page 33 of this document, there are a series of charts, graphs and summaries (provided by the U.S. Meat Export Federation) of the importance of the Chinese market to U.S. exporters of beef and pork products.

The United States is not the only supplier of meat and poultry products to China; competitors from the European Union, Australia, Brazil, Chile and Canada have also done very well in this expanding market. If a relatively open trading environment exists between the U.S. and China I anticipate that the market for U.S. meat and poultry products will continue to grow. The United States has an excellent reputation for high quality, safe food products. Additionally, with the growth in disposable income in China, many Chinese tourists have visited the USA and seen our supermarkets and experienced our restaurants. Similarly, Chinese consumers who have visited Europe, Canada, Australia and other markets know about the high quality/safe food available in other well-developed markets. These experiences and familiarity with other international cuisine has had a profound impact on not only demand for imported products

in China, but also the need to enhance and improve the production of safe, wholesome food products in China. Chinese government officials have been clear in their interest in transitioning away from the traditional wet market system (especially for meat and poultry products to a shelf-stable, high quality system). With the opening of the Chinese market for U.S. beef, some our packer/exporters are using the e-Commerce system in China shipping case-ready beef, labeled for the Chinese market, from the Midwest to Shanghai and the products enter e-Commerce for delivery to consumers. The system is limited only to the extent of a well-developed cold chain system.

Transitioning from the old wet market system:

To case ready product shipped through a dedicated cold chain system:

- Overview of e-commerce in China
    - Online retail business is growing dramatically and China now boasts the world's largest e-commerce market. China's online retail sales approached $1 trillion in 2017.
    - According to the U.S. Department of Commerce, by 2019 an estimated one out of every three retail dollars in China will be spent online, the highest percentage in the world, and sales are forecasted to reach $2.4 trillion by 2020.
    - Although China has traditionally provided the world with its manufactured goods, its e-commerce boom should offer increased opportunities for U.S. retailers and brands, with more and more Chinese consumers purchasing foreign goods.
    - Demand is strong in areas where the United States excels, such as high-quality foods and supplements, beauty products, and health care-related goods.
    - Both central and local governments have issued specific policies to support e-commerce development. The central government has set five year targets for the express delivery industry for 2016-2020, with goals of online sales (compound annual growth rate-CAGR) exceeding 20 percent through 2020. Local government support includes cash awards for opening e-businesses, achieving growth targets, attracting talent, tax reduction and office rental assistance.
    - The online market for perishables, including fruits, vegetables, meat, seafood, dairy, and eggs, is currently small at less than 2 percent of total retail sales but sales are growing fast. Annual online sales growth of perishables has been averaging over 130 percent since 2011. Alibaba, China's largest online company projects that by 2020, about 35 percent of Chinese families will purchase fresh food online.

- Market Access for U.S E-Commerce Companies
    - Although the recent liberalization of China's e-commerce sector has improved, it may be too late for foreign e-commerce companies. China's e-commerce market has become saturated, leaving little room for foreign or smaller local players to compete.
    - Alibaba dominates China's e-commerce market, accounting for 57 percent of the online B2C market with Tmall in 2016.
    - JD.com, Alibaba's main competitor, holds 25 percent market share
    - Other players—including Suning, VIPShop, Gome, Walmart-invested Yihaodian, and Amazon's China operation—have a combined 18 percent market share.
- Sales Channels for U.S. Food and Agricultural Retailers and Brands
    - Direct sales from a website hosted outside of China.
    - Direct sales from a self-owned website hosted in China.
    - Sell through a Chinese third-party platform.
- E-Commerce Challenges
    - Changing regulatory environment for cross-border e-commerce.
        - New Tax Policies - Facing pressures from traditional retailers at home and the loss of tax revenue, in April 2016 the Chinese government announced

several new tax policies targeting cross-border e-commerce. The new policies would subject goods purchased through cross-border e-commerce platforms to tariffs, value-added tax, and consumption taxes, instead of the postal parcel tax previously applied.
        - In addition, China's Ministry of Finance announced it would create a "positive list" of foreign products allowed for purchase through cross-border e-commerce and some products on the list would have to obtain import licenses.
        - In response to concerns from cross-border e-commerce stakeholders, Chinese regulators suspended the policy for a one-year grace period, which has subsequently been extended to the end of 2018.
    - Intellectual property rights enforcement.
        - While the Chinese government has made some improvements in enforcing intellectual property rights, intellectual property issues remain a key challenge for U.S. companies operating in China. In particular, the prevalence of counterfeit goods on Chinese e-commerce platforms continues to hurt U.S. retailers and brands.
    - Data localization.
        - China's draft e-commerce law, released in December 2016, mandates the local storage of Chinese consumer data.
        - Under the draft law, both foreign platforms that allow Chinese companies to sell on them (e.g., Amazon China) and companies operating outside of China but targeting Chinese consumers would be subject to the requirement.
        - China's new cybersecurity law may also mandate data localization for companies in the e-commerce sector, depending on whether e-commerce is deemed "critical information infrastructure."
        - Data localization can increase costs for foreign companies, which would have to set up their own server or contract out to domestic suppliers to store data within China.
        - Foreign companies have reported de facto requirements to store data locally, but the cybersecurity law and pending e-commerce law are expected to formally codify these requirements.

JD.com activity from recent news:

- Pork - Smithfield, JD.com and Shuanghui signed an exclusive 3 parties (1 billion USD in value over the 3 years) deal to promote U.S. pork products exclusively on the JD.com platform.
- Beef - JD.com signed a $200 million USD deal over three years with Montana Stockgrowers Association to purchase beef/cattle.
- Supply chain integration – JD.com is expanding cooperation with Walmart to further integrate their platforms, supply chains and customer resources in China.

The U.S. has a distinct advantage in competing for the agricultural market opportunities in China – but you need to know the market:

- Export land and resource-intensive commodities to China
    - China's trading pattern in agricultural commodities follows its comparative advantage: it tends to import land and resource-intensive commodities (soybeans, cotton, soybean oil, and increasingly corn, pork, distillers grains, dairy products and animal hides and skins)
- Technical Cooperation with China
    - China seeks to make its farmers more productive, and U.S. agencies, companies, USDA cooperators, and universities are helping China to do that.
- Follow the distinct dietary preferences of the Chinese people
    - China's imports from the United States have been concentrated in bulk commodities, a trade pattern quite different from U.S. agricultural exports to the rest of the world. But these distinct dietary preferences provide additional opportunities to U.S. producers. The United States has a surplus of exactly those parts of the animal, such as pork offal and chicken paws that Chinese consumers prefer. These products can be sold at a much higher price in China than in the United States.
- Provide safer food and focus on Chines people's demand for quality
    - As more people move to cities and earn higher incomes, China's population is demanding safer food and a more diverse, protein-rich diet at an affordable cost. The United States is well-positioned to meet that demand. U.S. farmers enjoy a comparative advantage in resources, productivity, and quality, particularly in meat production.

The United States is also poised to compete for safer and higher quality food market in China:

- Focus on food safety - As China transforms into an urban society with a growing middle class, per capita food consumption is rising, Chinese consumers' diets are changing and, as a result, the demand for higher-protein diets and safer food—a demand that U.S. farmers are well positioned to fill.
    - Chinese consumers have concerns about food safety because of recent scandals, particularly with genetically modified foods in China, milk and meats. Moreover, China's food production industry is highly fragmented and many producers at the farming, processing, and distribution levels forgo safe practices in order to cut costs.
    - In response, Chinese citizens, with the aid of social media, are seeking more information about food safety beyond government sources. Those with more disposable income are turning to premium food products to ensure safety.
    - Interest in organic food is spreading, ranging from farmers' markets to community farming and organic food clubs.
- Worries about food safety are also boosting food imports. Reacting to the rise in consumer demand, the Chinese government has begun to allow some imports of U.S. premium consumer foods bearing the "USDA approved" logo.

    - U.S. pear farmers, for example, received import licenses from Beijing in early 2013 and planned to focus on wealthy consumers concerned about the safety of domestic pears. These U.S. products often directly compete with goods produced in China.
- Ensure exposure of U.S. high quality agricultural products to Chinese people and cater to that demand.

The United States is an excellent position to compete in the Chinse market if the U.S. can avoid unnecessary, unjustified barriers to agricultural trade. The growth in demand for U.S. food products could be hindered by excessive increases in tariff rates by both sides in an effort to force negotiation of fairer trading practices.

- China restricts market access for U.S. agricultural products through various means:
    - High tariffs, quantitative barriers, an opaque system of licenses and import permits, sanitary and phytosanitary measures, regulations and outright bans on many agricultural products.
    - Limits on the types and numbers of enterprises that had the legal right to engage in international trade. Only firms granted trading rights may import products into China and have access to China's distribution system. In addition, some products, such as grains, cotton, and vegetable oils can only be imported through state trading enterprises (STEs).
    - Requiring state trading and providing domestic support. These policies have done particular damage to U.S. exports of land-intensive crops and meat products. State trading impacts the allocation of tariff-rate quotas. Tariff-rate quotas function as a way of protecting a market from excessive imports and, at the same time, provide a means of liberalizing trade and breaking up monopolies by dividing up the quota among different traders and passing on unfilled quotas.
    - According to a report in 2013, nontariff measures (NTMs) include all government measures other than ordinary tariffs that can potentially have an enormous economic effect on U.S trade in goods, changing quantities traded, or prices or both to China, such as the Ractopamine ban, zero tolerance of pathogens, bovine spongiform encephalopathy restrictions, biotechnology regulations and so on (see below).
- Top five main challenges faced by all types of U.S. businesses in China, according to American Chamber of Commerce in the PRC "2018 China Business Climate Survey Report" (January 2018):

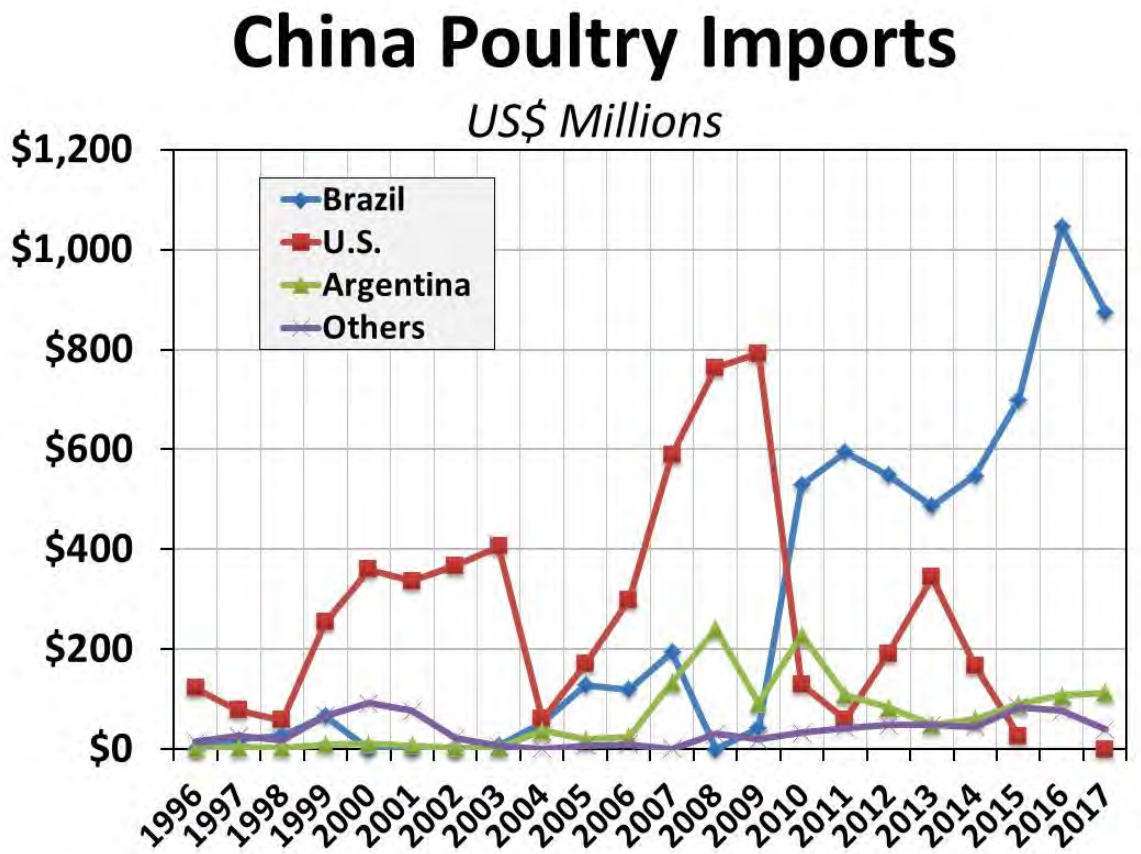
    1. Inconsistent regulatory interpretation and unclear laws
    2. Labor costs
    3. Regulatory compliance risks
    4. Shortage of qualified employees
    5. Chinese protectionism

Barriers to trade with China for meat and poultry products do exist currently which dampen the outlook for further increase in U.S. exports. For beef and pork products, the market protocols stipulate that all products must be free of beta agonist residues (feed additive livestock

production technology such as Ractopamine). Additionally, China prohibits the export of the following U.S. meat/poultry products:

1. Prepared meat products—based on a detailed plant registration process and a requirement to divulge business confidential information about plant layouts/configuration and products ingredient lists, many firms are reluctant to meet these requirements to start exporting to China (as expected there are concerns about intellectual property rights violations). The additional plant registration procedure is counter to the 1999 U.S.-China agreement which states that China will accept all USDA Food Safety and Inspection Service (FSIS) approved plants as eligible to export to China (no additional certification or registration procedure should be required).
2. Pork bungs and intestines--the protocol and export certificate remain to be negotiated between China's Administration of Quality Supervision Inspection and Quarantine (AQSIQ) and the USDA Food Safety and Inspection Service (FSIS). AQSIQ proposed to conduct a pilot project for these products but only with one company. FSIS refused the proposal indicating that the pilot had to be conducted with more than one company, even though there was a commitment to share experiences and data with entire industry. AQSIQ declined the counter offer. FSIS and AQSIQ remain at this impasse.
3. Re-inspection Process Improvement—China bans the use of in lieu of or replacement certificates for shipments of meat and poultry products. The inability to use replacement certificates even due to minor typographical errors is very costly to our industry. Any discrepancy on an export certificate (not food safety related) means the load(s) must be returned to the U.S. and recertified or diverted to another market at a significant financial loss. China may need a similar replacement certificate system with their exports to the U.S.
4. Laboratory protocols–China requires duplicative certificates of analysis (COAs) for exports of pork products to China. This requirement is in addition to the USDA Agricultural Marketing Service's Processed Verified Program (AMS EV Program; see No. 7 below) certification for pork products. There is no need for this duplicative requirement; China should recognize USDA meat inspection (see No. 1 above).
5. China does not allow imports of edible and non-edible tallow and lard–there is no scientific justification for banning these products.
6. Lamb and Sheep Meat–Currently, China implements a ban on imports of U.S. lamb and sheep meat due to Transmissible Spongiform Encephalopathies (TSEs). The only known TSE which affects sheep and goats in the U.S. is Scrapie, which, due to an extremely low incidence and further eradication efforts, is extremely rare. While public health concerns related to Bovine Spongiform Encephalopathy (BSE) led to an effort to eradicate all TSEs in ruminants, no case of naturally-transmitted BSE has occurred in sheep or goats. Additionally, considerable evidence shows that Scrapie is not transmissible to humans. Therefore, TSEs in sheep and goats are not a food safety issue in the U.S. or elsewhere, and there is no justification for the ban on imports of U.S. lamb and sheep meat.
7. Maximum residue limit (MRL) tolerance for meat products or better testing methods – U.S. pork is subject to beta agonist free production (AMS EV programs). U.S. beef is subject to destination testing, also beta agonist free. If China could show some flexibility in these restrictions we could request a Codex MRL for imported meat products similar to Japan.
8. China's restrictions on U.S. poultry**:**

a. Countervailing and antidumping duties - China's Ministry of Commerce imposed anti-dumping and countervailing duties on U.S. “broiler products” on Sept. 27, 2009.
    i. Company-specific AD duties ranging from 50.3 to 105.4% ad valorem, plus CVD from 4 to 30.3% ad valorem.
    ii. In 2013 a WTO panel found China outside of their WTO obligations regarding these duties; 5 years later (Feb 2018) China removed these duties.
b. China’s HPAI Ban - China’s current ban against U.S. poultry due to highly-pathogenic avian influenza (HPAI) cases in 2015 continue today. This prolonged ban is unscientific and is far outside of the norms adopted by most countries and recommendations of the World Animal Health Organization (OIE). China’s continued domestic HPAI outbreaks further minimalize risk of U.S. poultry imports. This unfair trade ban has shifted a significant advantage to Brazil as a poultry exporter to China.
    i. China banned all U.S. poultry on January 9, 2015 after high-path avian influenza (HPAI) discoveries on two farms in the U.S.
    ii. Other countries banned only states, regions (10 km around the farm) or counties. Nearly all of those bans were lifted within 12 months.
    iii. China’s nation-wide ban is now going on 3 years.
    iv. Significant progress in the regionalization and subsequent control of HPAI in U.S. flocks was made in recent years, and a number of countries base their imports of U.S. poultry upon these regionalization efforts. Further, since all avian influenza is caused by a virus, it is destroyed by the heat of normal cooking, therefore there is also no danger of acquiring the disease from normally and properly cooked food. Finally, in the U.S., no chickens or turkeys known or suspected to be infected with any form of avian influenza, including highly pathogenic, are processed for sale as raw meat. Consumers have virtually no chance of encountering meat from a chicken or turkey infected with avian influenza.



9. China informed us on numerous occasions that to consider additional market access for the products/procedures listed above USDA must publish the China poultry slaughter rule in the Federal Register. China allowed the U.S. beef market access last year and contends that the U.S. must abide by the 2007 agreement to allow access to the U.S. market for Chinese-origin poultry (broiler meat). The Chinese have been steadfast that they will not allow access for any other U.S. products until the rule is published. The U.S. made this offer so it is time to honor that commitment, made 11 years ago.

China's view on using the agricultural sector as an arena for retaliation against U.S. trade action.

- Earlier this year, China indicated that soybeans could be the target for potential retaliation. However, any action by Beijing would have repercussions for China's importers, crushers and livestock farmers who rely on soy protein.
- According to USDA, soybean exports to China is a $14 billion a year business and most of it is for soy protein to feed roughly 700 million pigs in the country or to make cooking oil. When including other farm–related products, China's total agricultural exports represent more than $21 billion annually for U.S. farmers.
- If China concludes that the U.S. Administration has started a trade war through the imposition of protectionist measures directed at China, you can expect China to respond in-kind.

On April 10, Chinese President Xi Jinping announced market access reforms including cuts in imported vehicle tariffs and other measures as a "new phase of opening up." These measures also included improved access to the financial sector and facilitating foreign ownership with China's auto, aerospace and shipbuilding industries. Whether the reforms will include agricultural market access remains to be seen. The United States and China have a great opportunity, as two of the largest agricultural producers in the world, to work together to not only reduce trade barriers but to work cooperatively in the shared objectives of addressing food safety, food security and sustainability. I will address these shared goals our efforts as members of the U.S. China Agriculture and Food Partnership. But first, let's examine briefly China's actions in addressing food safety.

The new China Food Safety law was established in 2015 and since then the Chinese government has been working on implementing, in stages, the provisions of that law. Certainly China and all other countries take the issue of food safety seriously and have put the regulations and rules in place to continuously enhance and improve the production of safe food products for Chinese consumers. This is not only the result of the severe food safety scandals which have occurred in China and consumers' demands for government action but also, as noted above, the food safety examples and experiences Chinese consumers have brought back from other countries as a result of rapidly expanding international travel and tourism. A good example of the effort to implement the new Food Safety Law was reported in the USDA Foreign Agricultural Service Gain Reports CH 17075 dated January 11, 2018 and CH 17069 dated December 20, 2017 entitled "State Council Publishes Key Tasks on Food Safety Work for 2017. The Executive Summary of CH 17075 states: "In 2017, the Chinese Government's efforts to modernize its food safety regime continued with the development and revision of multiple laws, regulations, and rules with a view towards a more coordinated and authoritative system.

Most notably, in August 2017, China notified the World Trade organization (WTO) a revised draft Regulations pertaining to the Implementation of the 2015 Food Safety Law. Similarly, China notified revisions to a handful of regulations for the oversight of imported and exported food products. After the China Food and Drug Administration (CFDA) introduced registration requirements for infant formula recipes (CFDA Decree 26), and foods for special medical purposes (CFDA Decree 24) in 2016, CFDA issued technical documents and rules to implement the registration process.

According to the State Council's 2017 Key Tasks on Food Safety Work, China aims to encourage the alignment of the Chinese food safety standards with corresponding international standards. To this end, China will develop 1,000 new Maximum Residue Limits (MRLs) standards, and 100 veterinary drug residue standards. China will also announce regulations for the establishment of pesticide/veterinary drug residue limits on imported agricultural products (import MRLs). China will initiate the development of a "uniform limit" standard based on product categories. The annual national food safety standard plan issued by the National Health and Family Planning Commission (NHFPC) reveals that a few dairy-related standards released in 2010 may also be revised within a year.

Seeking to inform the Chinese public about China's food import situation and its efforts, in July 2017, China's General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) released the 2016 White Paper on the Safety and Quality of Imported Foods.

According to the White Paper, the trade of imported foods in China was characterized as having slower growth rate, diversified origins, and diversified categories and varieties. The Paper also highlighted entry ports with high concentration of imports, and identified bulk imports that have become important supply sources for the Chinese domestic market. The White Paper also provided statistics on major categories of foods denied entry, their origins, and major causes for import rejections.

It is important to note that Chinese regulatory authorities continue to consider new measures to reflect the requirements provided under the 2015 Food Safety Law. For example, in June 2017, Chinese import authorities notified a proposed measure that would require official certification for all imported foods. Later, in September, China announced a two-year transitional period delaying implementation of this proposed measure to October 1, 2019.

In addition, starting January 1, 2018, the Ministry of Commerce [extended] the application of Cross Border E-Commerce policies on imports to Hefei, Chengdu, Dalian, Qingdao and Suzhou from the current ten cities: Tianjin, Shanghai, Hangzhou, Ningbo, Zhengzhou, Guangzhou, Shenzhen, Chongqing, Fuzhou and Pingtan."

As China has announced these programs and policies, the China State Council this year announced a major reorganization of the government ministries and agencies. We are very interested in how this new government structure will function relative to implementation of the Food Safety Law and impact on trade in agricultural products, especially meat and poultry. At the end of this paper is an analysis of the "China State Council Institutional Reform" prepared by the Beijing-based staff of the U.S. China Agriculture and Food Partnership (AFP).

The following section is to address the Commission's interest in how the United States may assist China in improving it food safety regime. Since 1979, the U.S. Department of Agriculture has worked with China under an agriculture science and technology cooperation agreement and the FAS cooperator program has been successful in expanding the Chinese markets for many U.S. products and commodities. These programs have been effective in addressing technical issues and agricultural production practices as well as exchange programs and training for Chinese scientists. Additionally, the market development component was essential for U.S. agricultural exports to benefit from the rapid expansion in the Chinese economy since market reforms in the late1970s and surging disposal income in China during this period. However, in evaluating our programs and outreach efforts in 2009, we concluded we needed a new, private-sector led model for enhancing advocacy with our trading partners in China, especially with our meat and poultry counterparts. The result was the establishment of the U.S. China Agriculture and Food Partnership (AFP). The AFP is designed to support the bilateral agricultural relationship by creating opportunities through increased cooperation, more effective issue advocacy and development of a more positive relationship between the U.S. and Chinese food and agriculture industries. Under the AFP, one of the working groups (WG) created was the Animal and Animal Products WG, which I co-chair with the U.S. Meat Export Federation Senior Vice President for Asia based in Hong Kong. The Animal and Animal Products WG operates with our Chinese partners to establish best practices throughout livestock, meat and poultry production, distribution and marketing chains to foster the adoption of proper production methods and ensure the safe distribution and use of quality food products. The WG over the past

couple of years worked very closely with the China Meat Association to hold the "Executive Roundtable," a meeting of top-level meat and poultry company executives to exchange views, discuss meat and food production methods and focus on food safety throughout the production and distribution chain. Additionally, the WG participated in food safety training and orientation meetings with the China Food and Drug Administration and with the China Agriculture University to design and implement livestock production technology training for students and mid-level managers.

The AFP concept truly came together following the 2012 meeting between Xi Jinping and then Iowa Governor Terry Branstad to discuss how we may cooperate on the common goals of fostering food safety, food security and sustainability. With these three "pillars" the AFP and the Animal and Animal Products Working Group continues to expand its activities and cooperation programs with the China Meat Association and the newly formed National Health Commission. The AFP founding members and current participants include the following:

- AGCO
- Am Cham China
- American Feed Industry Association
- American Seed Trade Association
- American Soybean Association
- Archer Daniels Midland
- Bayer
- Beijing Alltech Biological Products Ltd.
- Cargill Investment (China) Ltd.
- CNH
- Cotton Council International
- Ecolab
- Elanco Animal Health
- John Deere
- Johnsonville Sausage LLC
- Kay Dee Feed Co LLC
- McDermott, Will and Emery
- McLarty Associates
- Monsanto
- Nebraska Department of Agriculture
- North American Meat Institute
- Northwest Horticultural Council
- OSI Group
- Dow Dupont
- Smithfield Foods
- Tyson Foods
- USA Poultry & Egg Export Council
- US-China Business Council
- US Dairy Export Council
- US Department of Agriculture
- US Grains Council

- US Meat Export Federation
- US Trade Development Agency
- US Wheat Associates
- Walmart Stores Inc.

Other comments which may be of interest to the Commissioners:

U.S. technology could improve China's food safety and agriculture productivity

The Chinese government understands that big data technology could be used to improve food safety standards in the supply chain. For example, The Beijing Municipal Commission of Commerce (BMCC) has revealed its plans to take advantage of big data and cloud computing technology innovations, incorporating them into the food industry in order to improve safety standards. At end of 2017, the BMCC recorded 1,778 traceability points in the pork supply chain, which will increase to 1,900 this year. Similarly, the vegetable supply chain had 2,383 traceability points last year, set to increase to 2,600 this year.

- For Chinese leaders, agricultural modernization and improving agriculture productivity are priorities. Achieving these goals requires advanced farming technology, but China lacks the capacity to develop this technology domestically. China has pursued an aggressive investment strategy abroad, spending nearly $100 billion in the last decade to purchase foreign intellectual agricultural production technologies.

China's Overseas Agricultural investment

- The objectives of the firms that invest overseas is the acquisition of production capability and technology. Access to capital (loans) and foreign exchange is regulated by the Chinese government. The investment appears driven by product, technology and profitability, not guided or facilitated by the government. China has a complicated but not insurmountable regulatory system. Similar to any good lobbyist in the U.S., those that understand and work with the system accomplish their goals. The landscape is replete with winners and losers; Chinese firms may be better at working within the system, but do not seem to get preferential market access.
- From Alibaba to Shuanghui, China's global brand development and China's outbound mergers and acquisitions have increased significantly over the last decade. Expansion into the agriculture sector is a natural outgrowth of China's need to modernize its agriculture, improve agricultural productivity, profitability, and maintain food security.
- China and Hong Kong reported a value decrease of 32.8 percent in outbound merger and acquisitions deal making in 2017, with a total value of $137.1 billion, versus a historical high of $204.2 billion in 2016. Technology companies, however, remained active buyers globally, led by Tencent and Alibaba.
- China's National Development and Reform Commission reported they will encourage overseas investments to boost China's technological development and manufacturing competency.
- With more than 20 percent of the world's population, China has less than 7 percent of the world's arable land. Land available for agriculture is declining due to industrialization and urbanization. The Chinese government has encouraged companies to extend their upstream agribusiness value chain overseas.

- China's overseas investment in agriculture has been growing rapidly, being driven by several factors, including a need to bypass non-tariff measures on exports in destination countries, the rising demand for high-quality food from the domestic middle class, and the food–security concerns tied to higher dependency on food imports.
- Some examples include:
    - In 2014, China National Cereal, Oils, and Food stuff Corporation (COFCO) established a joint venture with the Dutch commodity trader Nidera and Hong Kong based Noble Agri Limited with a combined investment of $2.8 billion.
    - In June, 2017, Chinese state–owned chemical giant ChemChina announced the completion of deal to acquire Swiss agribusiness giant Syngenta for $43 billion. Acquiring Syngenta provides a platform for China to advance its technology and become a competitive global presence in biotech seed development.

- According to China's Ministry of Commerce, accumulated Overseas Foreign Direct Investment (OFDI) in agriculture reached $14.4 billion in 2016, but the data only includes investments financed by domestic resources. The actual size of China's agricultural presence abroad is probably much larger than suggested by official OFDI figures.
- Population pressures:
    - Based on low, median, and high scenarios developed by the United Nations, growth in the Chinese population is expected to reach 75 to 230 million between 2010 and 2030.
    - In 1995, Lester Brown published *Who Will Feed China? Wake-Up Call for a Small Planet*, in which he concluded that China will need to make use of international markets in order to respond to the demands of a wealthier population.
- To engage in vertical integration of the global food supply chain.
    - Increasingly, Chinese agricultural overseas foreign direct investment is focused not on overseas farming and related land purchases, but on investment across the industry supply chain in an effort to control both supply and pricing.
- To meet the needs of the new rising China's middle class, who demand food safety and product varieties and consume large quantities of meat and dairy products.
- To resolve the issue of food safety and build those countries' capacities for developing their agriculture. E.g. Africa.
    - Chinese foreign agriculture investments have a spillover effect into the domestic sector and catalyze relationships with existing small stakeholder production systems and other value chain actors such as input suppliers.

- Capital inflows, technology transfer leading to innovation and productivity increase, upgrading domestic production within recipient countries.

Can U.S. commercial technologies improve Chinese food safety and agricultural productivity? The United States has played an important role in the process of agricultural innovation.

- Important categories of commercial advancements in agriculture that emerged largely from the United States include farm machinery, pesticides, hybrid seed, genetic modification and cloning, and precision agriculture, among others.
- Need for modern agriculture innovation - China is adopting and integrating modern agricultural innovations but struggling to make full and efficient use of them; the United States is better at pulling significant efficiency from technologies, as well as developing follow-on innovations.
    - China needs to deploy innovations more effectively, and further develop its own agricultural innovations.
- Invest in early stage agricultural technology - Much of U.S. innovation in agricultural technology arises from early-stage businesses and there is need to identify models of U.S.-China innovation collaboration and sponsor early-stage agricultural technology.
    - The Midwest is a catalyst of U.S. agricultural innovation, knowledge transfer, and entrepreneurship development. And yet it has much untapped and undeveloped potential for further investment-related activity.
    - Investing in early-stage agricultural technology businesses provides a pathway for Chinese investors to access promising technologies and the human capital behind them.
    - Agricultural technology innovation will be particularly important to China in animal protein supply chains.
    - Improvement and development of technologies can increase the efficiency and sustainability of such supply chains which is critical in agriculture development.

To what extent is their investment guided or facilitated by the Chinese government?
Agriculture investments are largely guided by the Chinese government, but many large private companies have also independently pursued trade and investment opportunities to upgrade innovation and pursue vertical integration of their global supply chain.

China has carried out a series of policies encouraging well-established Chinese enterprises and private companies to undertake agricultural investment and development projects abroad.

- There are laws, policies and stakeholders that govern the foreign direct investment in agriculture development. Under the 10th Five –Year Plan for National Economic and Social Development (2001-2005), China Adopted a Strategy of International Cooperation to strengthen its outward economic development referred to as its ‘going out’ (走出去zou chu qu) strategy.
- The agricultural sector is an important composition of its ‘going out’ state policy and its goal to ensure domestic food security in China.
- Chinese overseas farming has enhanced partnership programs through bilateral investment treaties (BITs). By the end of 2005 China ranked second worldwide in terms of the number of BITs concluded, with 117 agreements in total, including 28 with African countries.
- Recent responses from Chinese gov't officials:
    - http://news.ifeng.com/a/20180321/56932272_0.shtml
    - http://money.163.com/18/0324/14/DDLUSDTE002581PP.html

Below are some of the Chinese stakeholders that oversee Agriculture Investments worldwide. Currently being re-organized as a result of the March 2018 State Council Reforms.

China’s Ministry of Agriculture and Rural Affairs and Ministry of Commerce

The Ministry of Agriculture and Rural Affairs has signed agreements with the two major domestic policy banks: Export-Import Bank of China and China Development Bank, to grant concessional loans to firms engaged in relevant ODI. Small and medium-sized companies can obtain additional subsidies from a special fund set up by the central government. In the 13th five-year plan (2016-20), the government stressed that imports will play a bigger role in meeting China's food demands, and China will also set up overseas bases for producing, processing and storing farm commodities.

- Provincial municipalities and autonomous regions.
- Academics in universities or research institutes, and agro-industries at national or regional levels; relevant co-operative platforms such as China–Africa co-operative forums and China–Africa development funds e.g. Chinese Academy of Social Sciences, the China–Africa Research Centre of Zhejiang Normal (Shi Fan) University.
- State-owned agricultural corporations and enterprises, such as the China National Agricultural Development Group Corporation, China State Farms Agribusiness Corporation, China Oils and Foodstuffs Corporation, and private entrepreneurs.
- State-owned banks, such as the Export–Import Bank of China (China Exim Bank) and China Development Bank (CDB).
- China’s State Council Publishes New Guidance on Regulation of Outbound Investment (2017)
    - Sets forth “guiding opinions” from the National Development and Reform Commission (NDRC), Ministry of Commerce (MOFCOM), People's Bank of China (PBOC) and the Ministry of Foreign Affairs (MFA) to relevant government authorities throughout China.
    - Re: agriculture - it encourages expansion of agricultural cooperation with foreign partners, develop win-win investment cooperation in agriculture, forestry, animal husbandry, fisheries and other fields.

China State Council Institutional Reform

Dear AFP Members and Friends,

As many of you have read in the news, the Chinese government has recently gone through a major restructuring of its ministries and agencies.

We have been monitoring the situation closely and have gathered information from various sources to provide you the below informal analysis as reference.

We believe that the AFP's mission to advance mutual food security, safety, and sustainability between U.S. and China remains a long-term and mutually shared goal. Perhaps now, more than ever, the programs that have been facilitated and the relationships that have been built over the years will provide continuity and a way forward during the transition. We have been working with U.S. Government and Chinese government and industry partners to find opportunities and adjust strategies accordingly with these changing market conditions.

We will continue to keep you informed of our activities and programs and appreciate your support. Since this is a changing environment, we welcome information or feedback you have about this topic.

Background

Date of Event: March 13-17, 2018, The Fourth Plenary Session of the First Session of the 13th National People's Congress

Summary of Event: At this plenary session, the 19th Communist Party of China (CPC) unveiled a restructuring plan of the State Council (China's cabinet). This is another major institutional reform plan of the State Council following the institutional reforms in 2013. In addition to the General Office of the State Council, the State Council will consist of 26 departments and several new agencies subject to the approval of the newly approved State Council.

Changes Related to Food-Related Regulatory Authorities:

- A new State **Market Supervision and Administration Bureau** will be established • Leaders:
- Bi Jingquan – Party Secretary (former Secretary of the State Food and Drug Administration) o
- Zhang Mao – Director (former director of the State Administration of Industry and Commerce)
    - Li Li – Party Secretary of the State Drug Administration (former vice governor of Jiangxi Province)
    - Jiao Hong – Director of State Drug Administration (former deputy director of the State Food and Drug Administration)
- Main duties:
    - Comprehensive market supervision and management
    - Unified registration of market entities and establishment of information disclosure and sharing mechanisms
    - Implementation of anti-monopoly law enforcement, standardization and maintenance of market order
    - Organization and implementation of national strategy for the quality and safety of industrial products, food safety, safety supervision of special equipment, unified management of measurement standards, inspection and testing, certification and accreditation.
- Agencies that will no longer exist: o State Administration for Industry and Commerce **(SAIC)**, General Administration of Quality
  Supervision, Inspection and Quarantine **(AQSIQ)**, China Food and Drug Administration **(CFDA)**, Certification and Accreditation Administration **(CNCA)** and the National Standardization
  Administration Committee **(SAC)**
    - Inspection and quarantine duties and teams of AQSIQ will be folded into the General Administration of Customs.
    - NDRC's price supervision and inspection and anti-monopoly law enforcement duties, the Ministry of Commerce's operators focused on antitrust enforcement, and the State Council's
      Antitrust enforcement duties will come under the new State Market Supervision Administration
    - The State **Drug Administration** will be established and *remain independent* under the supervision of the new State Market Supervision Administration

- National Health and Family Planning Commission **(NHFPC)** will be replaced by the National Health Committee
    - Responsible for formulating national health policies, coordinating and advancing medical and healthcare reform, establishing a national basic medicine system, supervising and administering public health, Medicare and health emergencies, as well as family planning services
    - Will also draw up policies and measures to cope with an aging population and incorporating Medicare with old-age care

Rationale

- The changes are being made in order to better cope with the coordination and comprehensiveness of food safety supervision, the specialty and professionalism of drug supervision.
- The changes integrate not only the functions of the traditional Bureau of Industry and Commerce, Quality Supervision, and Food and Drug Supervision, but also integrate antitrust and standardization functions.

Changes Related to Ministry Of Agriculture:

- A new Ministry of Agriculture and Rural Affairs will be established as a department of the State Council and it will absorb all management responsibilities for agricultural investment projects including the following:
    - Ministry of Agriculture
    - National Development and Reform Commission
    - Ministry of Finance o Ministry of Land and Resources o Ministry of Water Resources
- The main responsibilities of the Ministry of Agriculture and Rural Affairs include:
    - Coordinating the research and organization of the "three rural" work strategy, plans and policies
    - Supervise and manage planting, animal husbandry, fisheries, farming, agricultural mechanization, agricultural product quality and safety
    - Agricultural investment management

Rationale

- The reforms reflect the principles of simplification, unification, and efficiency • The reforms are intended to:
    - Promote the modernization of the management system for the three rural issues - "agriculture, rural areas, and farmers"
    - Integrate resources for agricultural and rural development
    - Facilitate the deepening of rural reforms, solve the "three rural issues" problems, and accelerate progress, using agricultural modernization to achieve rural renewal

Sustainable Agriculture:

- The Ministry of Natural Resources and the Ministry of Ecological Environment were established to replace the Ministry of Land and Resources and the Ministry of Environmental Protection

  The Ministry of Natural Resources manages the front end of the ecological chain and the Ministry of Ecological Environment the back end

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Note: *The text below represents some informal analysis and information from various sources (internal sources and what is available in the public domain) regarding the above reforms. These are provided only as reference to AFP members, and are subject to change given a very fluid situation.*

Reform Timeline:

- Working towards having **central and state agencies** put in place **before the end of 2018**

  o Provincial party and government structure reform plans to be submitted to the Party Central Committee for approval before the end of September 2018 in order for institutional adjustments to be in place by end of 2018

  o All **local institutional reform tasks** to be completed by the end of **March 2019**.

Background to Reform:

- At present, nearly 70% of the county-level governments have already chosen comprehensive law enforcement and reforms to integrate food and pharmaceuticals, industry and commerce, and quality supervision into a unified market supervision bureau.
- Therefore, many have said the Chinese government has been leaning towards establishing the market supervision bureau model for some time now, which has also been described as "Local Influence, Central Government".
- However, the main challenge is how to guarantee the professionalism of food and drug safety supervision and successful implementation.
- The last institutional reform of the State Council in 2013 integrated the functions of food safety supervision in the areas of production, distribution, and catering, and established the China Food and Drug Administration (CFDA).
- The advantage of the most recent reform lies in the fact that market supervision will become more uniform and coordinated in the future, and the administrative licenses for market supervision will be more closely coordinated with the post-event supervision and the cost of regulatory enforcement further reduced.
- The National Drug Regulatory Agency is now under the newly established Market Supervision and Administration Bureau.

    - While the General Administration of Food and Drug Administration is subsumed into the Market Supervision and Administration Bureau, the Drug Administration Bureau remains independent, which shows the specialty and professionalism of drug supervision.
    - The "big market-specific drug" model captures two key issues in the current governance of food and drug safety: the coordination and comprehensiveness of food safety supervision, and the specialty and professionalism of drug supervision. This model supports uniformity in the regulatory environment.
- Comprehensive law enforcement can prevent endless shirking of responsibilities.
    - Taking food as an example, the departments are often passing the buck to each other in the areas of production, distribution and catering; in particular, distribution and catering are often unclear.
    - Companies and ordinary citizens often don't understand which responsibilities belong to which government departments. In general, departments react to some cases and not others, according to whether or not they receive benefits for stepping out.
    - Integration of the law enforcement and supervision departments can perhaps improve the problem of excessive supervision of law enforcement, and unclear duties and responsibilities. With the merger of departments, it is even possible to increase the labor force at the grassroots market supervision level.

Some Concerns and Issues:

- The "three-in-one" responsibility of the State Administration for Industry and Commerce, the General Administration of Quality Supervision, Inspection and Quarantine, and the State Food and Drug Administration will be very difficult to integrate. Some concerns raised among the public:

    - **Efficiency –** How will the internal organization be set up and will it be possible to set it up efficiently?
    - **Transition period -** An adjustment process is inevitable. Will it be possible to get through the transition period as quickly as possible and make the organization function properly?
    - **Managing high-risk -** This round of reform has placed food into the supervision of the big market, and the industry has also discussed issues such as how to manage high-risk foods and health products. Food and pharmaceuticals are still relatively high-risk areas for market surveillance.

- **Professionalism -** The Market Supervision Administration lacks professionalism in certain aspects of food and drug supervision. At present, it is mainly due to the lack of professionals. Supervisors are mostly transferred by other departments. Concerns include:
  - Aging personnel
  - Lack of professional knowledge
  - Loss of professionals

Profiles of Some Newly Confirmed Ministers:

- Party Secretary of the State Market Supervision and Administration Bureau – Bi Jingquan
  - Over twenty years' experience in price control. In 2001, he worked on resolution of problems produced by China's entry into the World Trade Organization. In 2004, he compiled the planning outline for the development of China's logistic industry. He also wrote and released many articles on topics such as trade, circulation, economic reforms and price administration.
    - Previously served as a Deputy Secretary General of the State Council and Vice-President of the China Consumer Association
    - Became Director of the China Food and Drug Administration in 2015 o Background in Economics
- Director of the State Market Supervision and Administration Bureau – Zhang Mao
  - Began his career at the Beijing Glass Factory, where he held leading Party positions. Subsequently held Party posts in the Haidian district of Beijing.
  - Elected vice-mayor of Beijing in 1998, responsible for restructuring the economy of the city, foreign trade, foreign affairs, personnel, cultural issues, and health care issues.
  - In 2006, became vice-chairman of the State Development and Reform Commission. In 2009, became Secretary of the CPC Leading Party Group of the Ministry of Health.
  - Became Director of State Administration of Industry and Commerce in 2013 o Background in Economics
- Minister of Foreign Affairs – Wang Yi o Has been with the Ministry of Foreign Affairs for most of his career
  - A distinguished diplomat who has served in Japan and worked for many years in the Asian Department of the Ministry of Foreign Affairs. Promoted to vice minister in 2001 and became ambassador to Japan in 2004.
  - Director of the Taiwan Affairs Office of the State Council from 2008 to 2013 o Became Minister of the Ministry of Foreign Affairs in 2013 o Background in Japanese and Economics

- Minister of Natural Resources – Lu Hao
    - Graduated with a degree in economics from Peking University and was Beijing's youngest vice mayor in 2003 at the age of 35, overseeing the city's Industry Work Commission and Economic Commission, having broad portfolios of state assets supervision, industry, and information technology.
    - Became the youngest provincial governor in the country as governor of Heilongjiang in the industrial and corn belt northeast, in 2013
    - Background in Management
- Minister of Agriculture and Rural Affairs – Han Changfu o Worked in the Central Green Ministry of the Communist Youth League (1979-1990)
    - Became Minister of the Ministry of Agriculture in 2009 (re-elected in 2013)
    - Has long been devoted to the research and practical work of the country's macroeconomic operations and rural development. He has written about "The Problems of Agriculture, Countryside and Farmers" which covers the macroeconomic operation of the national economy, the regional distribution of advantageous agricultural products, the land system, the problems of migrant workers, and the construction of small towns.
    - Background in Law
- Director of National Health Committee – Ma Xiaowei o Vice President of the Chinese Red Cross Society
    - Appointed vice-minister of the Ministry of Public Health in 2001
    - Became Deputy Director of the National Health and Family Planning Commission in 2013
    - Background in Medical Research
- Minister of Industry and Information Technology – Miao Wei o Former Communist Party Chief of Wuhan, capital of Hubei province
    - Prior to that, was President of Dongfeng Motor, China's then second biggest carmaker. Credited with rescuing Dongfeng from near bankruptcy and turning it into a profitable company by 2003 through radical reforms including adopting Western management methodology and establishing alliances with foreign carmakers Nissan and PSA Peugeot Citroen.
    - Background in Engineering

Sources (Include the following but are not limited to):
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Brett Stuart, Global Agri-Trends

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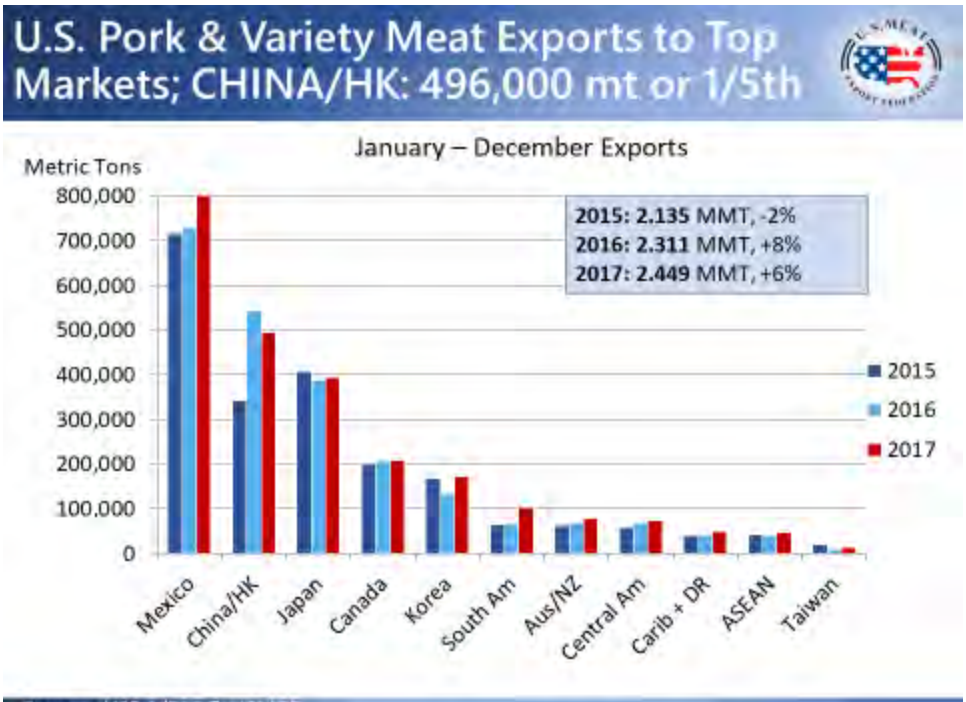
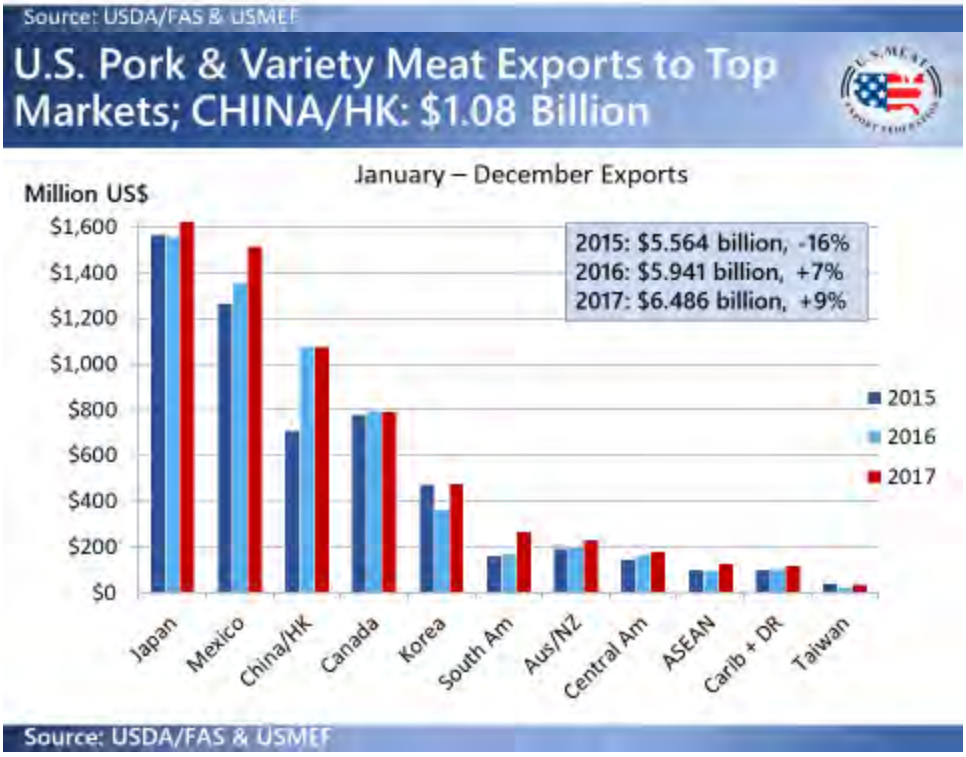
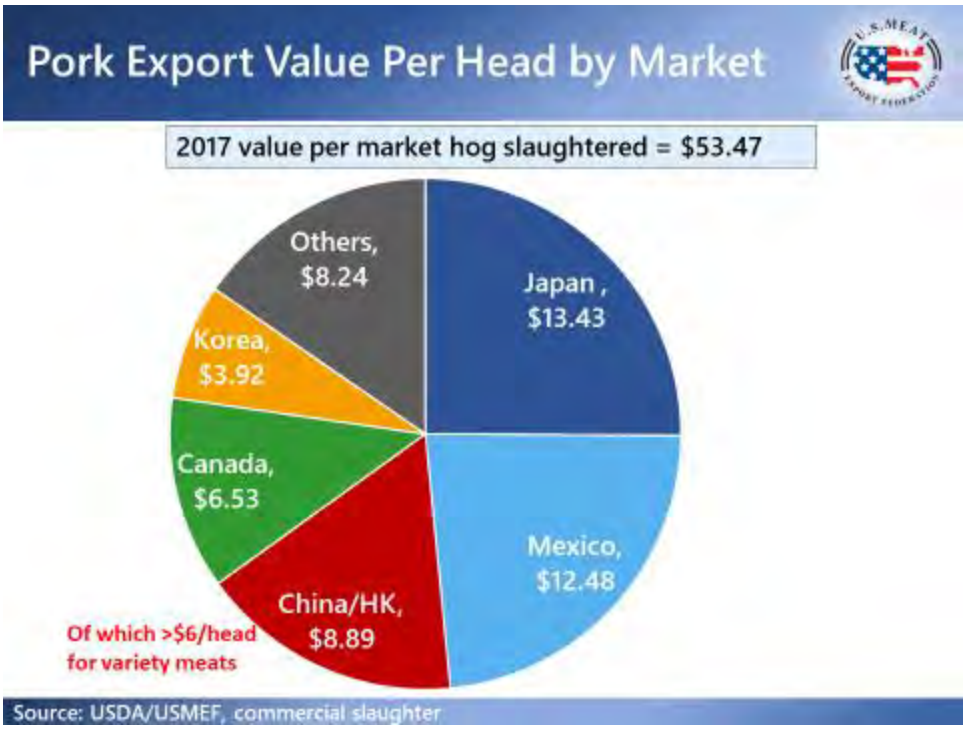
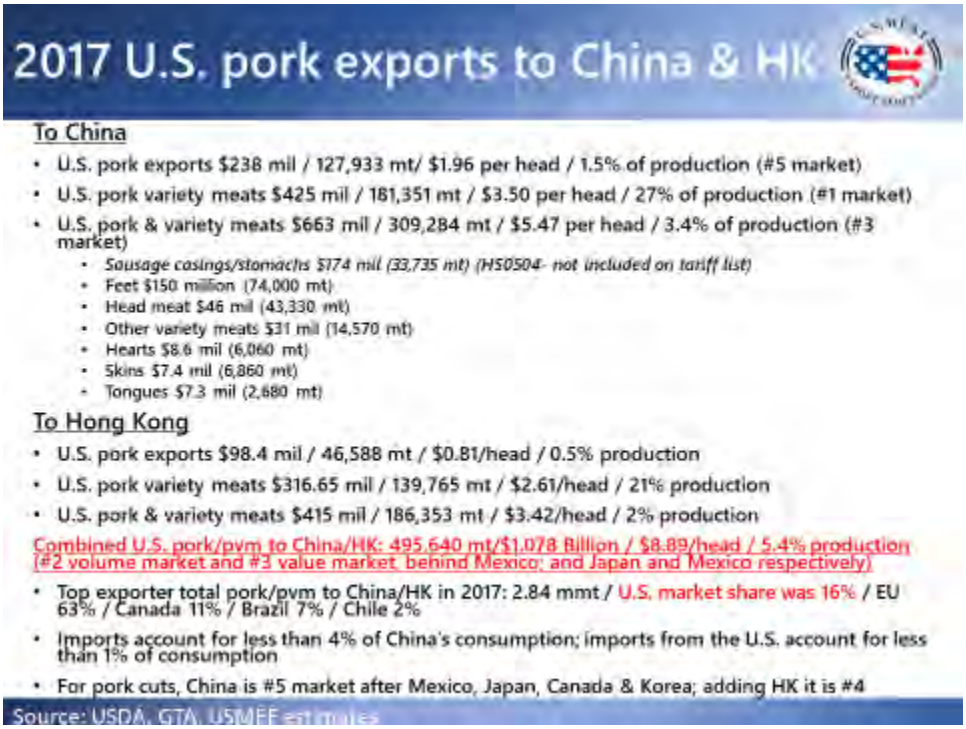
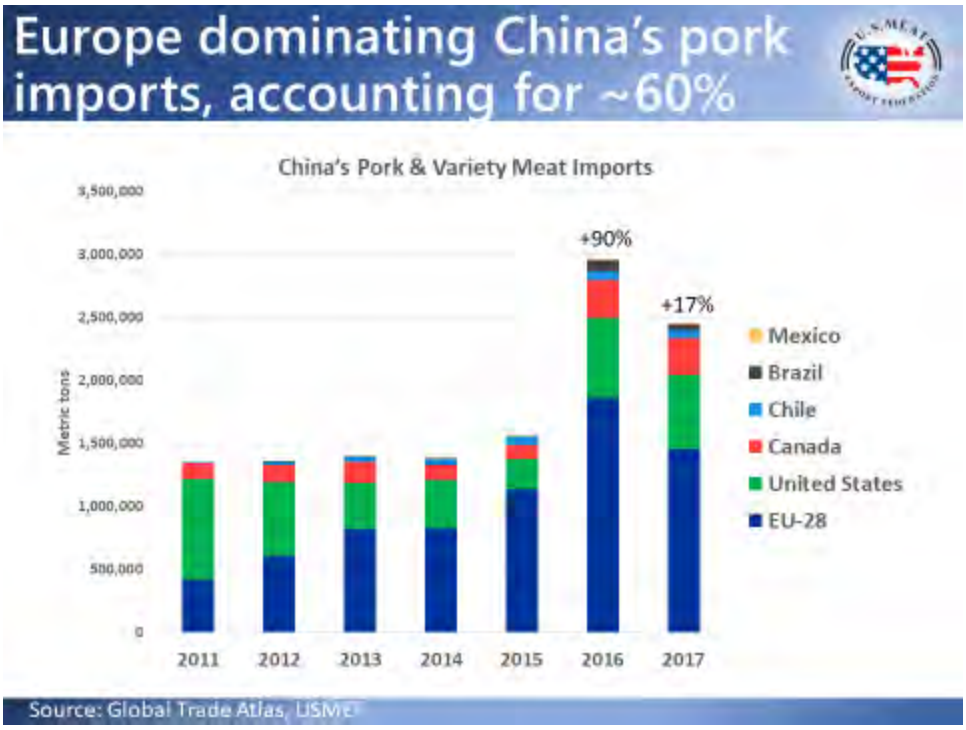

U.S. Pork & Variety Meat Exports to Top Markets; CHINA/HK: 496,000 mt or 1/5th
January – December Exports
Metric Tons
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
2015: 2.135 MMT, -2%
2016: 2.311 MMT, +8%
2017: 2.449 MMT, +6%
2015
2016
2017
Mexico
China/HK
Japan
Canada
Korea
South Am
Aus/NZ
Central Am
Carib + DR
ASEAN
Taiwan
Source: USDA/FAS & USMEF

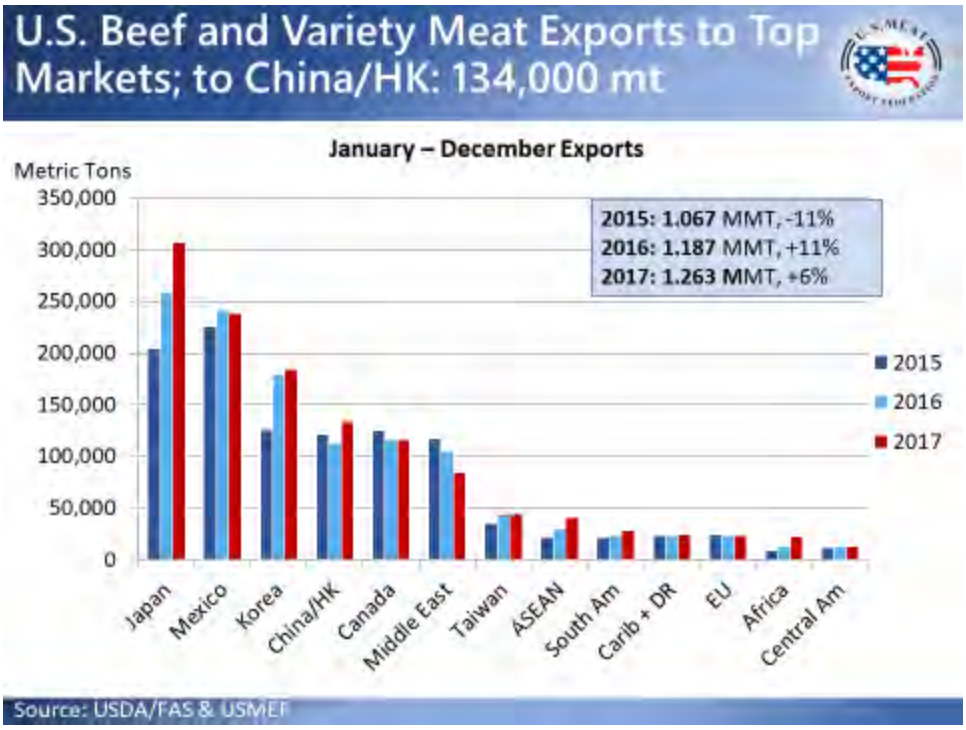

U.S. Pork & Variety Meat Exports to Top Markets; CHINA/HK: $1.08 Billion
January – December Exports
Million US$
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
2015: $5.564 billion, -16%
2016: $5.941 billion, +7%
2017: $6.486 billion, +9%
2015
2016
2017
Japan
Mexico
China/HK
Canada
Korea
South Am
Aus/NZ
Central Am
ASEAN
Carib + DR
Taiwan
Source: USDA/FAS & USMEF

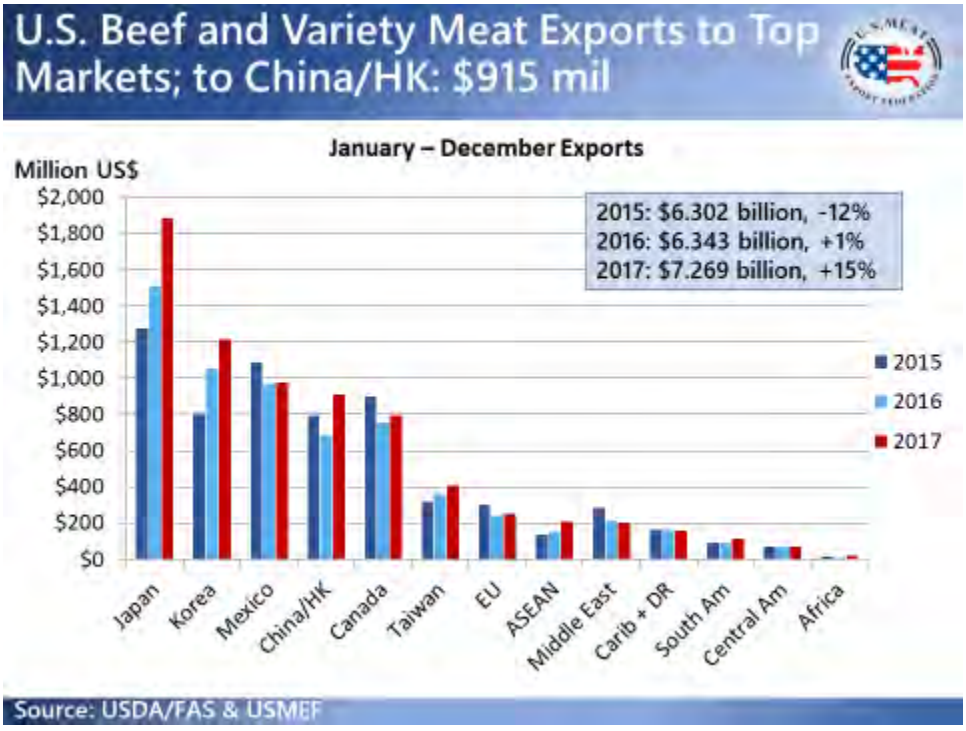

Pork Export Value Per Head by Market
2017 value per market hog slaughtered = $53.47
Others, $8.24
Japan , $13.43
Korea, $3.92
Canada, $6.53
Mexico, $12.48
China/HK, $8.89
Of which >$6/head for variety meats
Source: USDA/USMEF, commercial slaughter


2017 U.S. pork exports to China & HK
To China
• U.S. pork exports $238 mil / 127,933 mt/ $1.96 per head / 1.5% of production (#5 market)
• U.S. pork variety meats $425 mil / 181,351 mt / $3.50 per head / 27% of production (#1 market)
• U.S. pork & variety meats $663 mil / 309,284 mt / $5.47 per head / 3.4% of production (#3 market)
• Sausage casings/stomachs $174 mil (33,735 mt) (H50504- not included on tariff list)
• Feet $150 million (74,000 mt)
• Head meat $46 mil (43,330 mt)
• Other variety meats $31 mil (14,570 mt)
• Hearts $8.6 mil (6,060 mt)
• Skins $7.4 mil (6,860 mt)
• Tongues $7.3 mil (2,680 mt)
To Hong Kong
• U.S. pork exports $98.4 mil / 46,588 mt / $0.81/head / 0.5% production
• U.S. pork variety meats $316.65 mil / 139,765 mt / $2.61/head / 21% production
• U.S. pork & variety meats $415 mil / 186,353 mt / $3.42/head / 2% production
Combined U.S. pork/pvm to China/HK: 495,640 mt/$1.078 Billion / $8.89/head / 5.4% production (#2 volume market and #3 value market, behind Mexico; and Japan and Mexico respectively)
• Top exporter total pork/pvm to China/HK in 2017: 2.84 mmt / U.S. market share was 16% / EU 63% / Canada 11% / Brazil 7% / Chile 2%
• Imports account for less than 4% of China's consumption; imports from the U.S. account for less than 1% of consumption
• For pork cuts, China is #5 market after Mexico, Japan, Canada & Korea; adding HK it is #4
Source: USDA, GTA, USMEF est mates

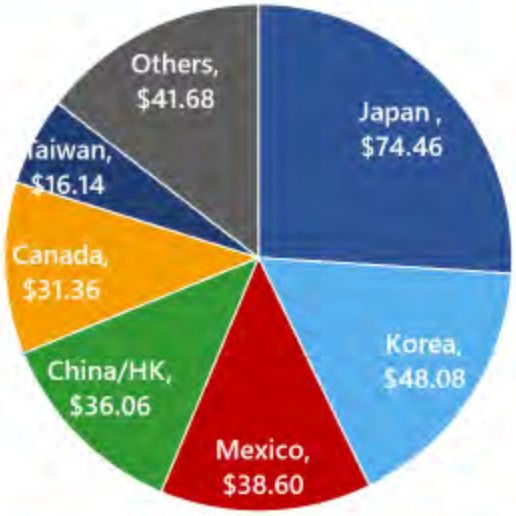

Europe dominating China's pork imports, accounting for ~60%
China's Pork & Variety Meat Imports
Metric tons
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
+90%
+17%
2011
2012
2013
2014
2015
2016
2017
Mexico
Brazil
Chile
Canada
United States
EU-28
Source: Global Trade Atlas, USMEF


China as the leading volume buyer for pork & variety meats
Global Pork & Variety Meat Imports
Metric tons
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
2011
2012
2013
2014
2015
2016
2017
Others
Russia
Philippines
U.S.
South Korea
Mexico
Japan
Hong Kong
China


U.S. Beef and Variety Meat Exports to Top Markets; to China/HK: 134,000 mt
January – December Exports
Metric Tons
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2015: 1.067 MMT, -11%
2016: 1.187 MMT, +11%
2017: 1.263 MMT, +6%
2015
2016
2017
Japan
Mexico
Korea
China/HK
Canada
Middle East
Taiwan
ASEAN
South Am
Carib + DR
EU
Africa
Central Am
Source: USDA/FAS & USMEF


U.S. Beef and Variety Meat Exports to Top Markets; to China/HK: $915 mil
January – December Exports
Million US$
$2,000
$1,800
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
2015: $6.302 billion, -12%
2016: $6.343 billion, +1%
2017: $7.269 billion, +15%
2015
2016
2017
Japan
Korea
Mexico
China/HK
Canada
Taiwan
EU
ASEAN
Middle East
Carib + DR
South Am
Central Am
Africa
Source: USDA/FAS & USMEF

Beef Export Value Per Head by Market



2017 value per head of fed cattle slaughtered = $286.38, +9% or +$25 from 2016

Source: USDA/USMEF, fed slaughter

2017 U.S. beef exports to China & HK

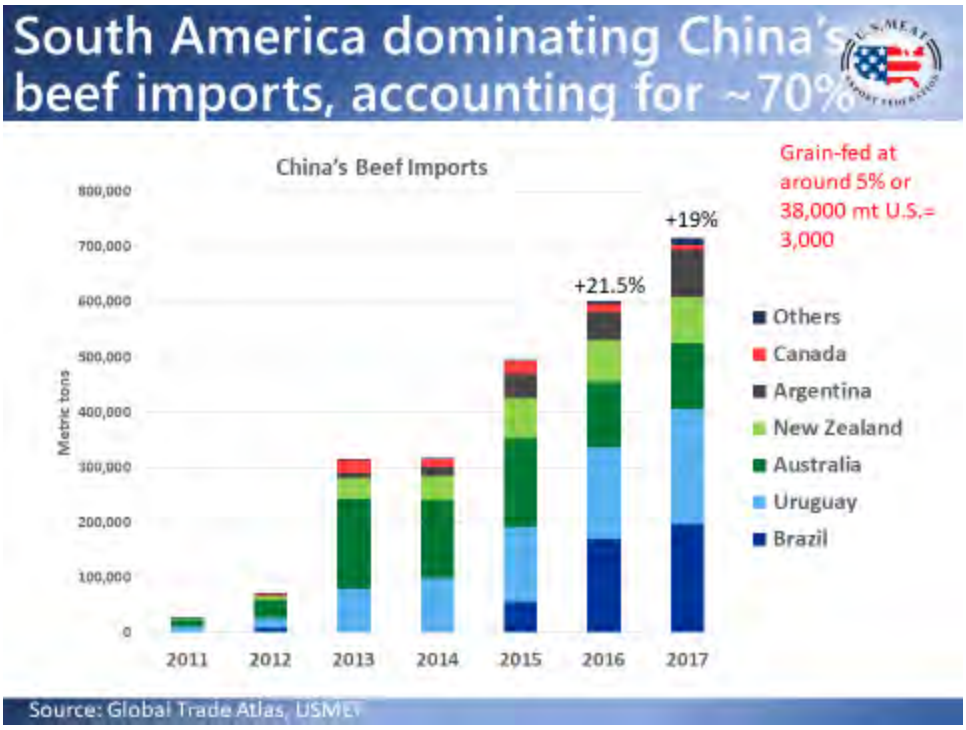
To China

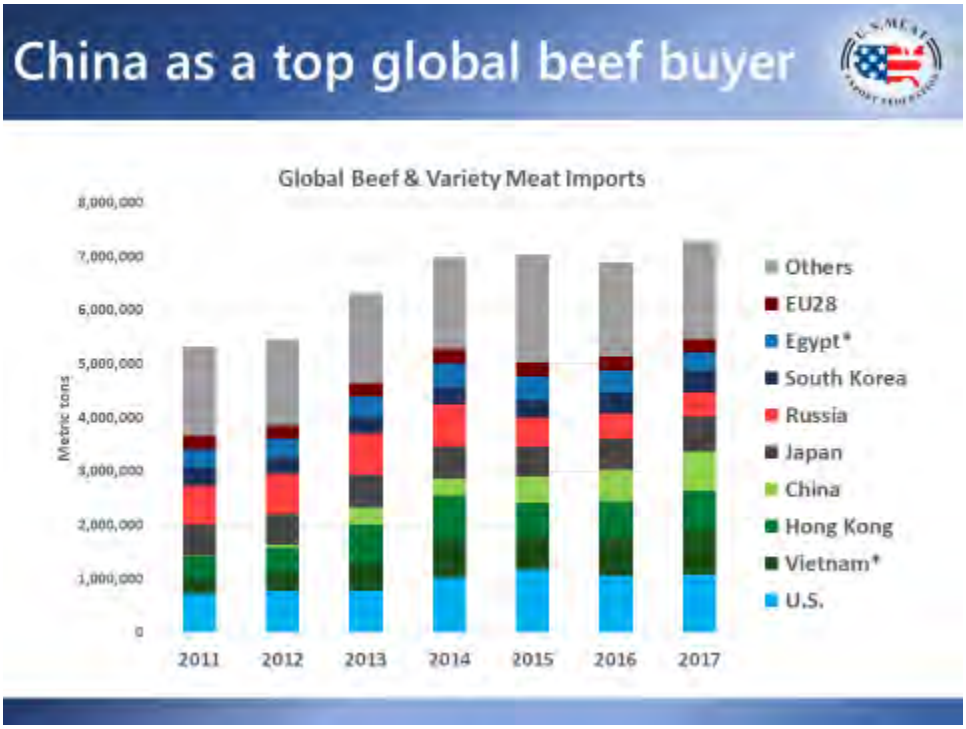
- June market opening- Dec 2017: 3,020 mt valued at $31 million
- Given the dedicated production chain, beef exports to China are high-value and the market continues to develop
- USMEF continues to educate the chain, from traders to retailers and chefs, about the attributes of U.S. beef as China is essentially a new market and the Chinese customers need to understand the U.S. production system, U.S. quality attributes, etc., and how to profitably feature U.S. beef
- In Jan-Feb 2018, U.S. beef surpassed China's imports from Canada, ranking U.S. as the 6th largest supplier to China with 1% volume market share (China's imports of U.S. beef in Jan-Feb: $14.66 million; 1,500 mt)
- U.S. beef accounted for roughly 1/5th of China's grain-fed beef imports in Jan-Feb 2018

To Hong Kong

- #4 market for U.S. beef in 2017, with 130,726 mt valued at $884 million
- The U.S. is the #2 supplier to HK (following Brazil), with 18% market share for 2017 and over 20% market share in Jan-Feb 2018
- The U.S. is by far the largest supplier of grain-fed beef to Hong Kong

Source: USDA, GTA, USMEF


South America dominating China's beef imports, accounting for ~70%
China's Beef Imports
Grain-fed at around 5% or 38,000 mt U.S.= 3,000
+19%
+21.5%
Metric tons
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
2011
2012
2013
2014
2015
2016
2017
Others
Canada
Argentina
New Zealand
Australia
Uruguay
Brazil
Source: Global Trade Atlas, USMEF


China as a top global beef buyer
Global Beef & Variety Meat Imports
Metric tons
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
2011
2012
2013
2014
2015
2016
2017
Others
EU28
Egypt*
South Korea
Russia
Japan
China
Hong Kong
Vietnam*
U.S.

China's additional 25% tariff impact on U.S. pork

- China duty on frozen pork & variety meats: 12% + VAT 11%
  - Note VAT drops to 10% on May 1
- U.S. unit export values to China last year
  - were $0.84/lb for muscle cuts and
  - $1.06/lb for variety meats
- Using the above, the taxes on variety meats would be roughly 26 cents/lb, on average before the added tariff;
- Under additive 25% duty, the taxes are 55 cents/lb (including VAT)
- Duties paid total cost before added tax: $1.32/lb
- Duties paid total with added 25%: $1.61/lb or a 22% increase in "price"
- If we discount U.S. exports by the total duty difference $0.55 - $0.26 = $0.29/lb or -27%, and assume the volume stays the same as last year, the lost value would be $116 million or a drop of roughly $1 per head (for just variety meats)
- China's demand had already slowed so this will add to the bearishness
- Uncertainty in the market is already translating to lower prices; the world is watching

China tariffs increase cost of U.S. pork by 22%

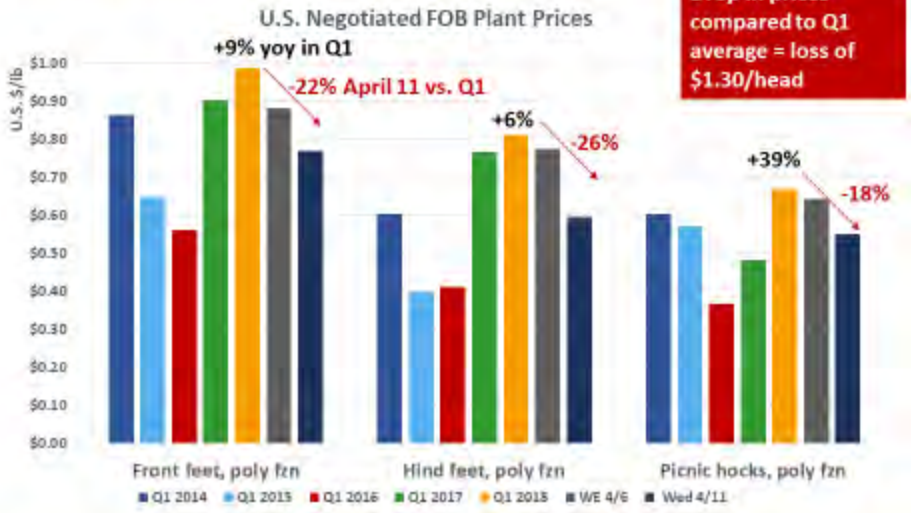
China is the dominant market for key export products

- As far as a share of U.S. exports, China/HK is the dominant market for:
  - feet (91%), heads (96%), hearts (76%), and tongues (51%)
- It is also a top market for frozen bone-in cuts (46%)
  - although the share drops to 8% when combining chilled/frozen bone-in with Mexico as the dominant market
- China/HK also takes roughly a third of exports of skins (34%) and other variety meats in 0206 (30%)

China tariffs impact cont.

- Exports of pork/pvm to China/HK last year averaged 9 pounds for every hog slaughtered ($8.89/head).
- Of this, HS 0206 variety meats were 5.2 pounds or $4.67/head.
- Feet were the big products, averaging 3.18 pounds per head and $2.96.
- HS 0206 variety meat exports to the rest of the world totaled 2.55 pounds per head and value averaged $1.96/head.
- If we assume exports could be shifted to other markets (Mexico, Korea, Philippines, C/S America, Taiwan), and maintained to China at a discount,
- the impact on per head export values could be a loss of $2.33 per head (prices drop by 50% but volumes are maintained)
- to a maximum loss of closer to $4.50 per head depending on whether values drop to rendering levels (and thus export volumes drop).
- The next chart shows what has happened to key item prices already, with the drop in prices for front and hind feet plus picnic hocks translating to losses of $1.30/head...

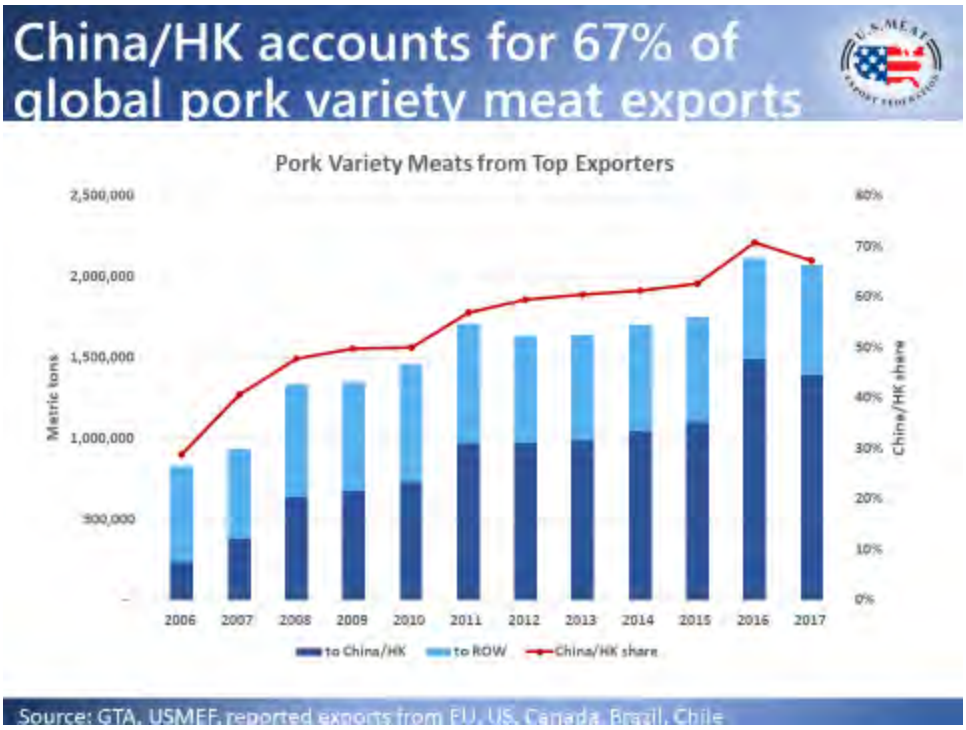
Strong prices for U.S. pork feet and picnic hocks in Q1, but…

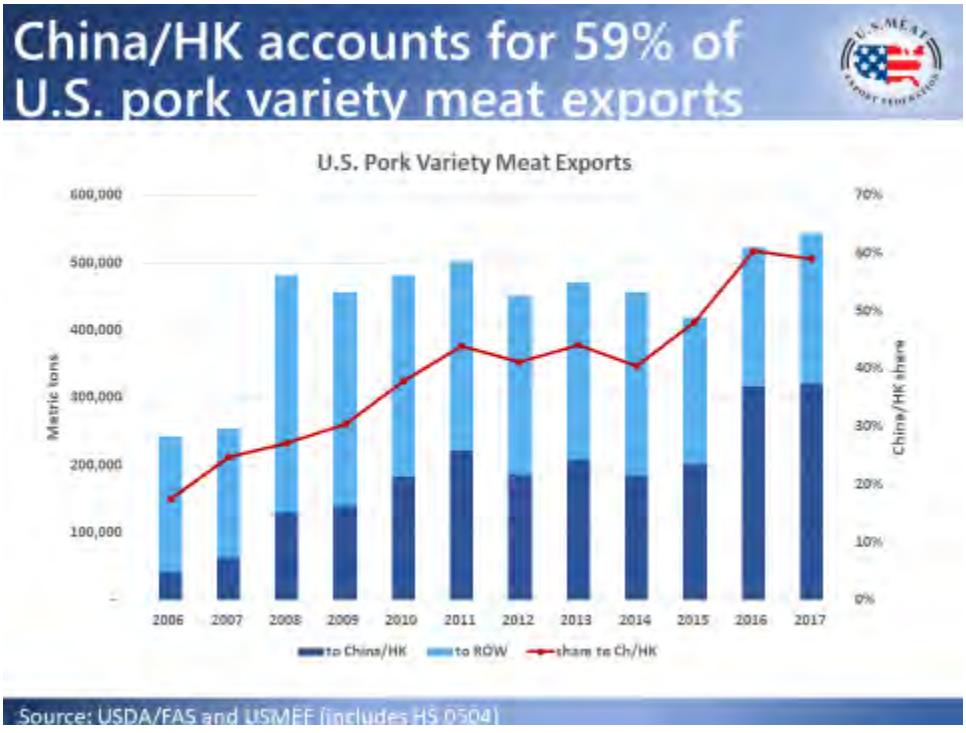


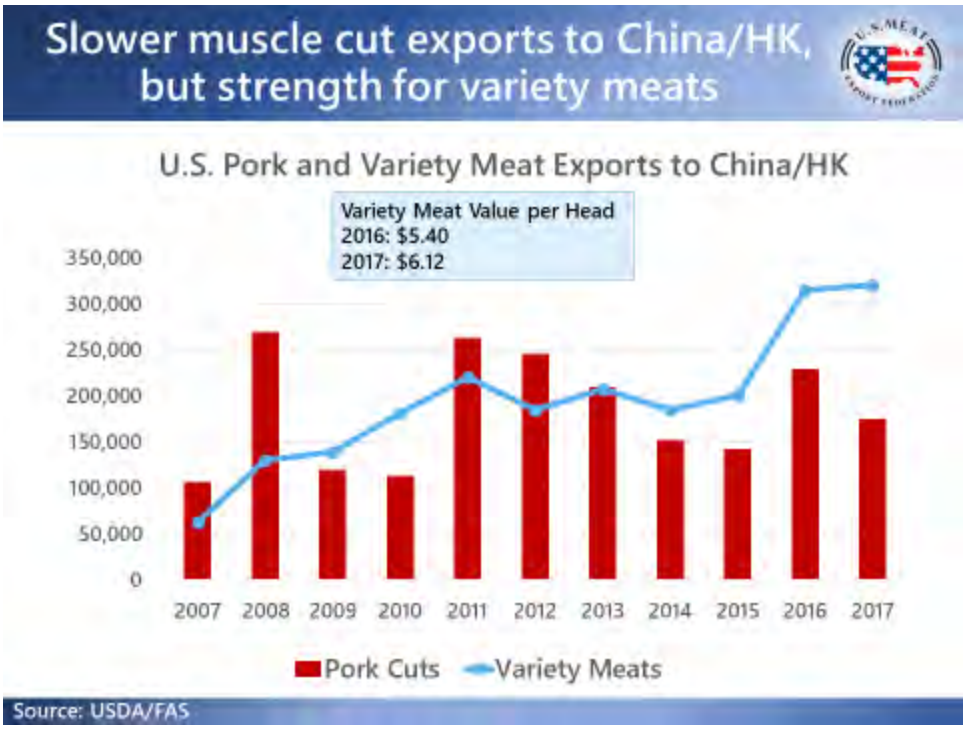
Source: USDA/AMS

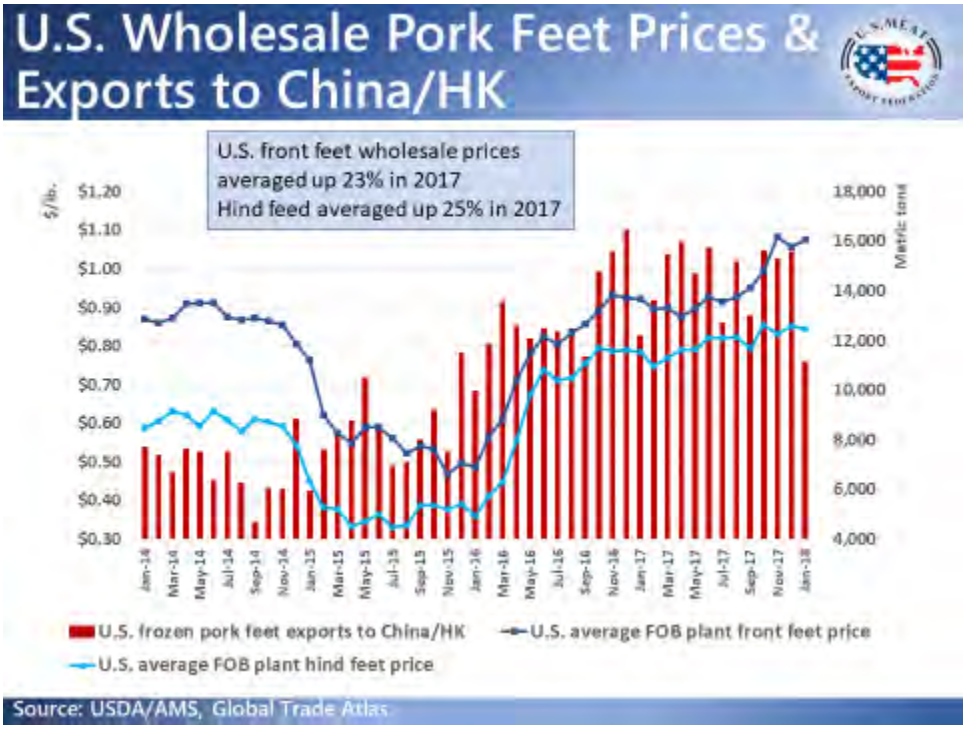
China is the world's top buyer of pork variety meats

- China/HK accounted for 67% of global variety meat exports last year, up from 16% in 2006
  - top exporter total: 2.07 mmt of which 1.39 mmt went to CH/HK in 2017
- U.S. 59% to China/HK, of 544,000 mt total (and 63% of U.S. pork variety meat export value)
  - China and Mexico's demand in 2017 drove U.S. variety meat exports to >$1 billion for first time
  - Mexico accounted for 20% of U.S. pvm export $ so China/HK/Mexico = 83% or $974 mil out of $1.17 billion total
  - Likely alternative markets: Mexico and other Western Hemisphere; ASEAN; Africa
- EU over 70% of the 1.3 mmt total variety meat exports in 2017 went to China/HK
  - followed by Philippines, Korea, Japan
- Canada 55% of 168k mt total went to China and only 1.4% to HK,
  - other top markets are Mexico, U.S., Philippines, Japan, Korea, Taiwan, and Colombia
- Brazil 68% of 75k mt total went to HK (very limited access for variety meats to China today)
  - Other top markets- Angola, Russia (no longer), Haiti, Congo DR, Thailand and Ivory Coast
- Chile 60% of 44k mt total was to China
  - then Mexico, Russia, Colombia and Ecuador


China/HK accounts for 67% of global pork variety meat exports
Pork Variety Meats from Top Exporters
Metric tons
China/HK share
2,500,000
2,000,000
1,500,000
1,000,000
500,000
-
80%
70%
60%
50%
40%
30%
20%
10%
0%
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
to China/HK
to ROW
China/HK share
Source: GTA, USMEF reported exports from EU, US, Canada, Brazil, Chile


China/HK accounts for 59% of U.S. pork variety meat exports
U.S. Pork Variety Meat Exports
Metric tons
China/HK share
600,000
500,000
400,000
300,000
200,000
100,000
-
70%
60%
50%
40%
30%
20%
10%
0%
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
to China/HK
to ROW
share to Ch/HK
Source: USDA/FAS and USMEF (includes HS 0504)


Slower muscle cut exports to China/HK, but strength for variety meats
U.S. Pork and Variety Meat Exports to China/HK
Variety Meat Value per Head
2016: $5.40
2017: $6.12
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
Pork Cuts
Variety Meats
Source: USDA/FAS


U.S. Wholesale Pork Feet Prices & Exports to China/HK
U.S. front feet wholesale prices averaged up 23% in 2017
Hind feed averaged up 25% in 2017
$/lb.
$1.20
$1.10
$1.00
$0.90
$0.80
$0.70
$0.60
$0.50
$0.40
$0.30
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
Metric tons
Jan-14 Mar-14 May-14 Jul-14 Sep-14 Nov-14 Jan-15 Mar-15 May-15 Jul-15 Sep-15 Nov-15 Jan-16 Mar-16 May-16 Jul-16 Sep-16 Nov-16 Jan-17 Mar-17 May-17 Jul-17 Sep-17 Nov-17 Jan-18
U.S. frozen pork feet exports to China/HK
U.S. average FOB plant front feet price
U.S. average FOB plant hind feet price
Source: USDA/AMS, Global Trade Atlas

OPENING STATEMENT OF THOMAS SLEIGHT, PRESIDENT AND CEO, U.S. GRAINS COUNCIL

CHAIRMAN CLEVELAND: Thank you.

Mr. Sleight.

MR. SLEIGHT: Yes, thank you, Chairman Cleveland and thank you to the Commission for the opportunity to share some thoughts with you today.

Let me start by saying the U.S. Grains Council works to develop markets, enable trade, and improve lives around the world. We're the export market development arm for U.S. corn, sorghum, barley and their co-products, including dried distillers grains with solubles, a coproduct of the ethanol industry, ethanol itself, sorghum flour and barley malt.

The U.S. Grains Council has been active in China since 1982, soon after the recognition of China and the opening of China's relations with the world and particularly the United States. I've worked on U.S. Grains Council programs in China since 1983.

Over this time, China has become a top market for all products that the U.S. Grains Council works with. Currently, however, the China market has essentially cut off U.S. exports of all our products due to either exorbitant tariffs, opaque and onerous approval processes, or simply turning away from U.S. supply.

With a positive trade atmosphere and a productive dialogue in trade and agricultural policy, we believe the United States will return to be a major supplier, even a preferred supplier, for all products that our organization represents.

Beginning in 1982 with the construction of a model animal pre-mix facility in Nanjing, China, U.S. Grains Council embarked on substantial investments in technical exchange and cooperation in the feed and livestock industry that defined our collaborations for decades to come.

We learned many lessons with this project that have stuck with me over time as a reminder that one always needs to view working in China through China's eyes, and that our normal business approaches need to adjust.

Since 1982, the goal for Council programs has always been to build economically rational demand for U.S. coarse grains--corn, sorghum and barley, along with their co-products--through deep collaboration in the development of feed and livestock industries along with policy engagement based on developing food security with a role for trade.

We have seen our programs evolve from feed milling exchanges to modern swine, dairy, poultry productions, to aquaculture, to agricultural policy, and to most recently air and water pollution. We have always enjoyed robust cooperation and exchanged countless agricultural delegations over the decades.

China's food security policy affects U.S. exports in several ways. Before going into this, I think it's useful to point out that in Chinese, the phrase "food security" can be interpreted as "food safety" as well as the food security we think of, because the word for "safety" in Chinese is often translated as meaning "security" as well.

The primary way food security policies affect exports is by limiting imports of staple grains--wheat, rice and corn. China's food security policies for these products are essentially self-sufficiency policies with the stated goal of maintaining 95 percent self-sufficiency, as "Dr. Bomb" pointed out earlier.

While policy is not clear whether each grain is to be 95 self-sufficient or whether the aggregate of the three should be 95 self-sufficient, China has maintained the goal for all three grains individually since the policy established was in 1995.

Since the U.S. is a major exporter of these products and is typically very competitive on global markets for these products, China's self-sufficiency policies have certainly reduced U.S. exports in China.

It's important to note that China is starting to move away from these policies for corn, and we expect similar reforms for wheat and rice in coming years.

Food safety policies have also had adverse effect on U.S. imports although it's more difficult to generalize. Food safety policies typically affect more processed products than staple grains that we work with.

For corn, the product most central to U.S. Grains Council's efforts, we do face some food safety issues, primarily around the use of genetic engineered corn that farmers have used in this country for well over 30 years, and it has helped them improve not only efficiency but also improve environmental outcomes on their operations.

Additionally, genetically engineered corn has been shown to be as safe as non-GE corn with no instance to date of any food safety issue. Despite this success, these benefits have yet to be accepted in China, and consumers are still very wary of technology, with many vehemently opposed to it.

Because of lack of understanding regarding the safety of GE foods and the benefits of GE technology, China does not approve traits in a timely or a transparent manner. This has led to serious disruption in corn and dried distillers grain exports in the past, and it also prevents newly developed GE technology that would benefit farmers from being commercialized and made available to them.

Aside from these negative impacts on U.S. exports, there are also positive impacts on China's food safety, particularly if you look at dairy imports where U.S. product is perceived to be more safe than Chinese products, to use milk powder as an example.

If we consider the core competitiveness of U.S. agriculture in China, our products are in a strong position. First, U.S. agricultural products are typically very competitively priced. Moreover, they are typically price competitive with Chinese domestic products, particularly grains which are land and/or capital intensive to produce, and China is constrained with land and resources given its large population.

In addition to price competitiveness, U.S. products also have a reputation for quality and safety, particularly relative to China's domestic products.

Importers often point out to the Grains Council that they like doing business with U.S. exporters rather than exporters in other countries. The use and compliance with detailed contracts generates trust and certainty that make imports from the U.S. easier to manage than imports from other countries where these practices are less prevalent.

Moreover, the efforts of organizations like the U.S. Grains Council help build strong personal relationships between importers and end users in China and producers and exporters in the United States. These relationships also help facilitate more reliable trade and help importers procure quality characteristics they seek.

The chief market access barriers today for U.S. corn, sorghum and barley are: a tariff rate quota on corn imports; a very high, roughly 66 percent, antidumping/countervailing duties on U.S. dried distillers grains with solubles; a fantastically high--as in where did this come from--178.6 percent antidumping duty on sorghum with an additional countervailing duty soon to be

announced; and a WTO bound 30 percent tariff on imported ethanol that was recently increased to 45 percent with the recent retaliatory tariffs in response to U.S. self-initiated steel and aluminum tariffs.

In the past, GE traits that were not approved in China and were commercialized in the U.S. limited corn access, and that's a problem you'll hear a lot more about later.

I would quickly emphasize that we feel we have strong markets in China. We remain committed to the Chinese market. No other country holds more promise for new demand and development for U.S. agricultural products that we produce than China, and I would include India.

So I'll leave it there and thank you very much for the opportunity.

CHAIRMAN CLEVELAND: Well, where did it come from?

MR. SLEIGHT: Excuse me?

CHAIRMAN CLEVELAND: Where did it come from? 178 percent is a significant--

MR. SLEIGHT: Well, it came from a rather thorough search on the part of the Chinese of U.S. literature, and they cited, you know, sorghum production in the San Joaquin Valley in California where you have very high costs of irrigated acres, and so you're trying to compare your production on irrigated acres of sorghum versus it's mainly a dry land crop in Texas, Kansas and Nebraska, and so they very adeptly found this figure that is totally skewed to reality. And obviously they were looking for the worst case scenario to defend their preliminary duty decision.

PREPARED STATEMENT OF THOMAS SLEIGHT, PRESIDENT AND CEO, U.S. GRAINS COUNCIL

U.S. GRAINS COUNCIL

Hearing on "China's Agricultural Policies: Trade, Investment, Safety, and Innovation"

U.S. China Economic Security Review Commission

Written Comments

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Thursday, April 26, 2018
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Thank you for the opportunity to share some thoughts with the committee here today.

The U.S. Grains Council has been active in China since 1982, soon after U.S. recognition of China and the opening of China's relations with the world and particularly the United States. With the construction of a model animal feed pre-mix facility in Nanjing, China, the U.S. Grains Council embarked on a substantial investment in technical exchange and cooperation in the feed and livestock industry that defined our collaboration for decades to come.

Since 1982, the goal for Council programs has always been to build economically rational demand for U.S. coarse grains (corn, sorghum and barley, along with their co-products) through deep collaboration in the development of feed and livestock industries along with policy engagement based on food security with a role for trade.

Food security and U.S. exports

China's food security policies affect U.S. exports in several ways. Before going into this, it is useful to point out that in Chinese, the phrase "food security" can be interpreted as "food safety" as well as food security as we think of it, because the word for safety in Chinese is often translated as meaning "security" as well.

The primary way food security policies affect U.S. exports is by limiting imports of staple grains – wheat, rice, and corn. China's food security policies for these products are essentially self-sufficiency policies with the stated goals of maintaining "95 percent self-sufficiency" in these grains. While the policy is not clear whether each is to be 95 percent self-sufficient or whether aggregate of the three should be 95 percent self-sufficient, China has maintained this goal for all three grains individually since the policy was established in 1995. Since the U.S. is a major exporter of these products and is typically very competitive on global markets for these products, China's self-sufficiency policies have certainly reduced U.S. exports to China. China is moving away from these polices for corn, and many expect similar reforms to wheat and rice in coming years.

Food safety policies have also had adverse effects on U.S. imports, though this is more difficult to generalize. Food safety policies typically affect more processed products rather than staple grains. Taking pork as an example, China requires pork imports to be free from ractopamine, a beta agonist growth promoter that is approved for use in the U.S. but not in China due to food safety concerns. This has resulted in more limited pork exports from the U.S. to China than would have occurred if China did not ban ractopamine. Moreover, to be approved for export to China, pork processor must undergo special certification that their product is ractopamine free, which is an added cost, on top of the cost of less efficient production when not using ractopamine (estimated as high as seven percent higher feed costs for ractopamine free pork). These added costs are even higher than they look when you consider that only part of the animal is typically shipped to China: U.S. consumers value the bacon and ribs higher than consumers in China, and China's value other parts – feet, head, offal, higher than U.S. consumers so typically only those parts are shipped to China, not the whole animal. This makes the higher production costs for the animal even more difficult to recoup when only exporting a portion of the animal to China.

For corn, the product most central to the U.S. Grains Council's efforts, we do face some food safety issues primarily around the use of genetic engineering (GE). Farmers in the U.S. have been using genetically engineered corn for over 30 years, and it has helped them not only improve efficiency but also improve environmental outcomes on their operations. Additionally, genetically engineered corn has been shown to be as safe as non-GE corn with no instance to date of any food safety issue. Despite this success, these benefits have yet to be accepted in China, and consumers are still very wary of this technology, with many still vehemently

opposed to it. Because of lack of understanding regarding the safety of GE foods and other benefits of GE technology, China does not always approve new traits in a timely nor transparent manner. This has led to serious disruptions in corn and distillers grains exports in the past, and also prevents newly developed GE technology that would benefit U.S. farmers from being commercialized and made available to them.

Aside from these negative impacts on U.S. exports, there are some positive impacts of China's food safety policies. Many consumers in China do not trust China's domestic policies to provide sufficient safety guarantees and therefore seek out imported products. Again, this is primarily true for processed food products. China's large imports of dry milk powder are an example of how milk processors, as well as consumer, seek out imported supplies due to concerns about the safety of domestic supplies (as well as price advantages).

Competitiveness of U.S. Exports

If we consider the core competitiveness of U.S. agricultural goods in China, our products are in a strong position. First, U.S. agricultural products are typically very price competitive globally. Moreover, they are also typically price competitive with China's domestic products, particularly grains which are land-intensive to produce, and China is constrained with limited land and water resources given its large population. In addition to price competitiveness, U.S. products also have a reputation for quality and safety, particularly relative to China's domestic products.

Another thing that importers often point out to the Grains Council is that they like doing business with U.S. exporters rather than exporters in other countries. The use of and compliance with detailed contracts generates trust and certainty that make imports from the U.S. easier to manage than imports from other countries where these practices are less prevalent. Moreover, the efforts of organizations like the U.S. Grains Council help build strong personal relationships between importers and end users in China and producers and exporters in the U.S. These relationships also help facilitate more reliable trade and help importers procure the quality characteristics they seek.

The chief market access barriers for U.S. corn, sorghum, and co-products are:

1) A tariff rate quota on corn imports,
2) Very high (roughly 66 percent) AD/CVD duties on U.S. Dried Distillers Grains with Solubles (DDGS), a co-product from ethanol,
3) A likely/imminent AD/CVD tariff on U.S. sorghum in coming days, weeks or months, and
4) 30 percent import tariffs on imported ethanol, soon to be 45% with the recent retaliatory tariffs in response to the U.S. self-initiated steel and aluminum tariffs.

In past years, GE traits not approved in China that were commercialized in the U.S. also limited U.S. corn access, and there are still issues with end users requiring more stringent certification to use imported GE corn in their operations.

Can the U.S. compete based on higher quality?

Reliable and consistent quality is one factor contributing to demand for U.S. coarse grains and co-products. However, the restrictions outlined above reduce the extent to which the U.S. can promote these products for export to China. In an open, competitive trade environment, the U.S. would be a strong competitor given it's consistent, high quality crop that can be delivered year-round, strong contract sanctity, backed by a world standard grain sampling a grading system.

Trade retaliation and U.S. exports

Agricultural imports are viewed as a suitable, and in some ways ideal, means for retaliation against U.S. trade actions. While China imports large amounts of U.S. agricultural products, it is in a position today where consumers have sufficient access to food, so additional supplies from the U.S. are not needed to avert food crises. Instead, many U.S. agricultural exports to China are used to meet demand for variety, quality, and in some cases, safety. The only major agricultural item that might affect food prices are soybeans, and China may find ways to raise the price of U.S. soybeans through a tariff. There are other global suppliers that China can turn to for replacing at least a portion of U.S. soybean exports. Raising soybean prices will raise the price of soybean meal, which will raise feed costs and the costs of livestock production. This will only partially show up in final costs of livestock products as those are mostly determined by supply and demand in those markets. For meat, the market is dominated by pork and pork production, which usually takes 1 to 2 years to adjust to shocks in feed supply and costs. Moreover, hog and pork prices are just now entering what is expected to be a prolonged period of low prices, and this will not change much even if feed costs go up. Soybean oil prices may also rise, and while consumers in China are sensitive to cooking oil prices, China can import soybean, palm, or other edible oils from other countries to augment lower supplies from domestic sources.

Agricultural exports are even more ideal in today's political environment. China's leaders realize that rural voters are strong supporters of the Trump administration. Engaging in retaliation that targets the supporters of the administration that initiates trade actions only increases the desirability of using agricultural exports as a means for retaliation. Another political factor is that there is a powerful domestic constituency in China that is against reliance on global markets for food supplies, and this constituency tends to be more anti-U.S. than others who advocate for greater integration with global markets for food. Because of this,

implementing restrictions on U.S. imports will be well-received by some key players in China's leadership and policy making community.

Above and beyond all of this is the core of where the U.S. Grains Council has been since 1982. No other market in the world, including India, holds as much positive potential for growth of U.S. agricultural exports than China. With 97% of the projected population growth over the next 35 years occurring outside the borders of the United States, U.S. coarse grains producers have a laser focus on trade as the new demand driver for their products and co-products. A stable, predictable, and mutually rational trade relationship between the U.S. and China is a top priority for our organization. The U.S. Grains Council's board of directors in their most recent strategic plan (December 2017) has a line item goal of "Give proper attention to the trade relationship with China." No other country was singled out in the USGC strategic plan; that is how important our board feels China is to the future of the U.S. corn, sorghum, and barley sectors.

CHAIRMAN CLEVELAND: Interesting.

Mr. Wessel.

COMMISSIONER WESSEL: Thank you all.

Dr. Gale, welcome back. I believe you were with us in Iowa several years ago.

We're at it appears somewhat of an inflection point, I guess, here, as the president has taken action or announced intent to take action on a number of products, and that has raised the specter of either the action or the specter of action by China against some of our products.

Ambassador Vetter, you've been in these-- actually all of you have been deeply involved in this for years--but you've been at the table with the Chinese, and all of us believe here on the Commission that engagement is valuable, but it seems that dialogue has become more of an opportunity for China to delay.

17 years in, they have to--to their WTO accession--they have dramatically exceeded their scheduled subsidies. Staff estimates provided to us showed in 2014 I think it was 110 billion when 19 billion is what they had scheduled.

I looked at the U.S., the current farm bill, and it's 16 billion for all the similar products across the country. Others have talked about what's happening with beef, with sorghum, other products, as well as genetically engineered GMO products, which China wants to exclude in many ways from their market, but they have no problem trying to steal the seeds that then they can use to further their own interests.

This has gotten pretty bad. Should we continue to just say dialogue is the answer when China is so clearly in violation of their WTO commitments? They are now trying to hold us over a barrel to address issues like intellectual property, engaging in unfounded and illegal retaliatory actions.

You know, I was looking at some of the commodity press relating to soybeans, for example, and, you know, I believe the EU has replaced much of the Chinese--what we may lose in China. The EU has picked up those purchases recently because of Brazilian and others purchasing.

So it seems that the potential impact on the U.S. is overstated from the press, that we need to have a long-term approach to all of this and not worry about the current point-counterpoint.

But, Ambassador Vetter, if you could start and then others. How do we actually get through this? How do we find a stable, long-term, robust agricultural market where we are not engaged in--where we are not subject to the kind of threats that China imposes, not just threats, actions that China imposes?

MS. VETTER: Well, I think that's sort of the million dollar question--right--which is how we--

COMMISSIONER WESSEL: $20 billion question.

MS. VETTER: --can find--yeah, right--how we find that sort of sweet spot between encouraging action at the technical level, applying pressure at the political level, and using our allies. And I think that's a critical point to emphasize.

My remarks today focused largely on political and high-level interactions with the Chinese. What are the fora we have set up where issues have risen to the level to say we need some change here?

On the cooperative side and on the technical side--our plant health officials, our animal health officials, economists, researchers-- there's a lot of work going on with China that is mutually beneficial and informs how we address those issues at the higher level.

And so what I hope is that this inflection point where we seem to be pulling back from dialogue, that that pulling back isn't necessarily filtering down to a lot of these technical exchanges because that's where you figure out that there's very healthy debate about some of these policies going on in China as well.

One of the reasons that I think it was properly timed that we launched a WTO case in China on their domestic support for wheat, rice and corn, their TRQs, is that we know within China there has been a very healthy debate about the environmental and fiscal cost of their corn support program, in particular. We should bolster the hand of those people within China that are saying we need reform.

And we need reform because not only is this costly inside China, but it runs afoul of our commitments to the rest of the world and to the WTO as well.

So, you know, I think we need to use all of those levels of debate in concert, but you are also right that the size of China's market means that they can very easily play us off against our allies and others. If we go it alone and we impose tariffs or we place pressure that others are not willing to place, they can simply purchase somewhere else. You know, the One Belt, One Road Initiative, let's, you know, make these closer commercial ties that we can rely on and create new suppliers of choice, and we need to watch for that.

But other countries are frustrated, too, with this fickle treatment at the border, with biotech policies that don't make a lot of sense, concerns about intellectual property. Let's use joint pressure with them to say your agricultural behavior is part of that larger concern about these policies as well.

COMMISSIONER WESSEL: Just on that last point. As the person who was in charge of, I guess, some of the multilateral engagement, it always seems to me that others like to "hold our coat while we bloody our nose," is the old saying.

Australia, EU, are there, did you see others really stepping up to engage with us or, again, hoping the U.S. will lead and, you know, getting some benefit from the draft?

MS. VETTER: What I saw was growing concern and I think a desire to coordinate. I think if you look at our Brazilian colleagues, our colleagues in Argentina, they knew that the problems we faced with MIR 162, for example, blocking our corn exports, next time it could be them.

So, you know, how outspoken they were willing to be, what was the strategy we should employ to raise this consistently with our Chinese colleagues, I think that needed some additional work. I know Tom has done a lot of work with his colleagues in those countries about sending similar messages on biotech policies. We've done it more effectively with Europe in the past but certainly could continue to work on China.

So, yes, I think that was a topic of discussion with other countries, but I think we have to--other countries also expect the United States to show leadership here, and we could be launching these initiatives, not alone, but with others with us. If you look just at the latest actions we took on intellectual property, we announced these $50 billion of potential tariffs and then launched a WTO case, which other countries soon joined.

We could have launched it together, and I think that would have sent a much stronger message and said, you know, we're all sharing this level of frustration rather than going that alone.

COMMISSIONER WESSEL: Thank you.

If there's a second round.

CHAIRMAN CLEVELAND: Senator Goodwin.

HEARING CO-CHAIR GOODWIN: Thank you, Madam Chair, and again thanks to the panel for your time and your testimony today.

I'd like to get a little more context on the make-up of the Chinese ag market itself. Ambassador, you touched on the fact that there are millions of these small-scale producers. In an effort to get a little bit of context, how does that compare in both scale and composition to the United States and to some of our closest ag trading partners, say Canada and Mexico?

Related couple questions. Given that make-up of their agricultural market, what is the quite obvious impact on China's efforts to regulate such a large number of producers?

And then finally what's the impact of that market composition on Chinese domestic internal politics? I think, Mr. Sleight, you referenced in your written testimony that there is a large segment of Chinese domestic political opposition to food imports and to the world global food market, and it tends to be anti-U.S. imports specifically.

So I would welcome the panel's insights on those.

MS. VETTER: I think in terms of the overall make-up number of farmers in which sector, my colleagues are probably more prepared with latest figures and how those two sectors compare.

But certainly the challenge of regulating hundreds of millions of producers that might have, you know, five hogs in their backyard versus how we might produce here, those are very different practical challenges that China has in enforcing and trying to frankly professionalize and modernize their agriculture sector.

And those small levels of production, the inefficiencies that come with them, and the difficulty of just knowing what practices those farmers are using is problematic for them from an economic perspective but certainly from the efforts to try and deal with runoff and environmental pollution and a number of the things you mentioned that plague their production and food safety system.

And I think some of the problems we see in agricultural trade or in unequal treatment of their domestic producers versus what they do at the border is simply a lack of capacity to be able to address all of those small farms at the same time. And some of the problems we face at the border in terms of restricting the use of growth promotants or beta agonists like ractopamine have to do not with their opposition to those products in general, but to a very large black market for those products, which when used improperly can have very significant human health effects.

And so how do you allow the use of it for imports without--and ban it domestically? That's a pretty difficult political line to walk to say, you know, foreign producers can have the benefit of this growth promotant, domestic producers can't, but if you allow it in the domestic market, they have a significant food safety problem because it's very hard to control.

I remember some of my colleagues in industry showing me that you can go on the Internet and buy magic meat powder, which is essentially beta agonist, in China, and so simply banning it is probably the best approach for them to try to reach those controls. And so, you know, helping them get a handle on how you can promote, allow and regulate safe use of some of these products that would modernize their agriculture I think is a long-term project, but perhaps worth doing.

And if you look at China's food safety laws, part of their goal is to frankly push for larger farms. Let's make larger, more efficient, easier to regulate facilities that serve, that form the basis of our food production system. But there's a real tension there as well.

If you look at the urbanization issues in China and lack of jobs in the countryside, if you modernize these production facilities, if you increase the scale of facilities, what do people in the countryside do? So that's a very real political tension in terms of the success of their rural economies and the health of the countryside.

So not small issues that they are grappling with but that end up feeding into how they treat particular products and how they regulate us at the border, which I think strong engagement on rural development, on environmental practices, on food safety, we need to know how they're balancing those things. That's why it's so critical.

MR. SLEIGHT: Yeah. Thank you.

I might just add, for instance, from the corn point of view, we have had several encounters with the Minister of Agriculture, Mr. Han. You know he would complain privately to us I have 120 million corn farmers to deal with, and certainly the U.S. doesn't have that problem.

And about a year ago, we were having a really solid discussion about--sort of in the midst of the anti-dumping case on dried distillers grains--a good discussion about policy, ag policy with China, and talking with them about how they can create agricultural policy in a non-market distortive manner, and that the U.S. has a lot of experience, you know, both good and bad, in terms of how to help producers without having market distortive policies in place, and that dialogue was starting to catch hold.

I just think in reference to what you were talking about before my testimony, there are two camps within China that we readily recognize: those that, you know, this is great, we don't want to be dependent on multinational companies, we don't want to be overly dependent on the United States for our sources of food supply, and, you know, kind of a hawkish attitude; but there are certainly a lot, equally great segment, who want to have policy reform.

These are the folks that we've established a very strong dialogue with over the years, looking at U.S. examples, looking at European examples, looking at other country examples, on having market policies that help farmers survive without being, you know, world distortive and, again, food security with a role for trade.

Those are two key things, and so it's a really tough, tough discussion with China but one that I think we need to start to get back to and get back to in a very strong way.

HEARING CO-CHAIR GOODWIN: Thank you.

CHAIRMAN CLEVELAND: Commissioner Tobin.

COMMISSIONER TOBIN: Thank you, Madam Chair.

I have four questions. I'll just raise two on this round and hope we have time for the others later. I'd like to hear from each of you-- we follow the Belt and Road Initiative. It's now five years in place. We follow it from an infrastructure point of view, from a military security point of view, from a foreign relations point of view, and I'd like to hear from your points of view on the land, what do you see?

You mentioned, Mr. Sleight, that you are connecting with a good number of people who are market-oriented. What's just what is talk; what's in place; what are they seeing? Give us the context, please, each of you, for what's going on with the Belt and Road Initiative, and where it bumps up against issues that we have.

MR. SLEIGHT: Well, I'll start. I think for us, we've been following it as well, and we've been putting it in front of our members as well as something that they need to pay attention to.

For us, it seems like it's more talk and more of an attitude like I was just talking about. We need to develop away from the example of being dependent on multinational companies and big suppliers and start developing these connections in other countries. We've seen some minor, you know, examples of this, particularly in Brazil, in Africa, and so forth.

On the ground in China it's a little bit hard to grab a-holdahold of other than it's gaining in popularity. And it certainly is something that, you know, feeds into that sort of we want to redefine the world of trade; it's China's turn to lead the world with trade. That attitude is there.

I think there's a lot of somewhat skepticism about will they be able to pull it off. Again, some of China's attitudes towards trade mesh with some of the countries that they're looking at; some of them are directly contradictory to the countries they want to target.

And so we monitor it very carefully. Again, I think it's an attitude that we China want to have a different model for trade away from the current model, particularly with multinational companies.

COMMISSIONER TOBIN: Mr. Westman, what do you see or hear?

MR. WESTMAN: Well, I think it's almost a natural progression from what they've started in terms of their huge investments in Africa. They're resource dependent and they're looking to where they can get resources. And for the Belt and Road to go from China back towards the Middle East and up into Europe and Russia, it's natural. I mean it's, from their perspective, this is a pretty good idea to develop these relationships, to develop these modes of transportation and communication.

It's clear to me that they need resources from around the world, and they're going to use their financial strength to go and get them. So how do you do that? You just don't rely on the Western hemisphere.

COMMISSIONER TOBIN: Thank you.

Dr. Gale.

DR. GALE: As it happens, we released a report on Chinese foreign investment in agriculture yesterday actually, which is available on our website, which the Belt and Road overlaps with this quite a bit, and we talk about some of the strategies that they have related to investment and food security and Belt and Road all overlap.

And one of their general goals is to diversify their sources of agricultural imports, and most of it is under the radar right now. There are big efforts to try to promote farming, Chinese farmers in eastern Russia. They've started to reduce some of the barriers to importing products. The imports are small so far, but they're importing soybeans and other oil seeds from Russia.

They want to push into Kazakhstan and looking for other regions where they can import from. There's a big emphasis on technical exchange as well. Much of their investment in agriculture is actually in technical assistance projects in rice, demonstration farms, and they have a series of what they call agricultural industrial parks.

And as usual, the Chinese are very ambitious and they think big and long-term about these things, but it's going to take a while for it to develop. A lot of it is not going as well as planned. They're not always ready to go, but I meet a lot of Chinese counterparts who are always on their way to Africa tomorrow to do something or other, some kind of technical assistance for a market information project. So there is a lot going on, but it's under the radar. That's all I can say in three minutes.

COMMISSIONER TOBIN: And just in terms of Kazakhstan, they when--several years ago were not too pleased about the pressure on that and pointed to the Russians.

DR. GALE: Yeah. Yeah, there was resistance seven years ago, but the Chinese are back at it. In fact, they always emphasize that the Belt and Road Initiative was announced when President Xi visited Kazakhstan.

COMMISSIONER TOBIN: Right.

DR. GALE: And there's a lot of effort to try to boost agricultural trade with that country.

COMMISSIONER TOBIN: Ambassador Vetter, please.

MS. VETTER: Thank you.

I, I don't know that I have a lot more to add from my colleagues, but I will say that the momentum behind it I think seems to have lessened a little bit in terms of their ability to deliver. There's a concern if these agricultural facilities would be built and positioned in a way to essentially funnel a lot of those resources to China. That would obviously have an impact on our trade relationship.

But the rate at which they're actually being built and planned, et cetera, seems to have slowed.

What I have heard from, sort of anecdotally, from private sector colleagues that I find interesting is a real questioning from those Belt and Road partners about what it means to be the recipient of these things from China, and I think there is growing concern about the fact that those facilities are often built only with Chinese labor, that they are, the condition and how modern and well-built those facilities have been in some countries that have received them, I think there are concerns about whether they want that to be the basis of their development in that sector, and whether it is a good idea for them to position their infrastructure development to be simply a funnel to China or positioned in a way that gives them more choice.

So I just find that interesting that there is sort of a bit of questioning about how a Belt and Road Initiative can be more of a partnership and less of maybe a one-sided proposal.

COMMISSIONER TOBIN: Thank you.

Other questions I'll hold for later.

CHAIRMAN CLEVELAND: Commissioner Stivers.

COMMISSIONER STIVERS: Thank you. Thank you all for being here today and for your excellent, excellent testimonies.

I have two questions, and I'll just throw them out and maybe you can answer after that. The first question is that it seems pretty clear that China's food security and trade policies reflect a goal to diversify away from reliance on U.S. agricultural imports. Now it seems these policies are becoming more sophisticated and more effective. Obviously we talked about the Belt and Road Initiative. It's not going to be WTO violation if China is producing better roads to Ukraine to diversify away from grain, from U.S. grain.

And so my question is if the status quo continues, aren't we seeing, isn't this going to have a negative impact? If China is successful in diversifying away from U.S. agriculture exports, if the status quo continues the next ten 15 years, we're going to see a very negative impact on the U.S. agricultural economy on exports--I guess that's my first question. If the status quo continues and there is no effective action to change China's policies, will there be a negative impact on the U.S. agricultural economy? That's my first question.

And the second question has to do with China's agricultural production in other countries. And Dr. Gale, you--I was reading an article that you wrote in November, and this is what you said:

You said now that China has 1,300 companies, which have made 11.7 billion in total investments in agriculture, forestry and fisheries in 85 countries and regions and to help propel

the Belt and Road Initiative's infrastructure building campaign, China's leaders have recently rebranded these foreign farm investments as a form of international cooperation.

What I've seen on the ground is that China's large state-owned enterprises will come into a country, mechanized maize and corn seems to be something that they're doing in Asia, going into these poor countries, local farmers tell us that they're being displaced on the local market because China is bringing in superior corn seeds and not sharing those seeds, that they're displacing the less inferior corn in these local markets, and, in addition, they're exporting back to China, which seems okay, but--that part of it--but is that an example of what we're seeing in other countries?

And maybe could you describe what those initiatives look like in terms of China moving, China's policies in those countries? Is that example that I described, is that what we're seeing in other countries?

DR. GALE: We're seeing lots of different things happening on--and it took us years to finish our report because there's just so many different things happening.

There are examples like what you spoke of. There are other examples of in our report, we have an example from Laos where they tried to set up an industrial park, and it eventually fizzled out and failed, and it turned out that the rice seeds they brought in from China to plant there actually weren't suited for the local environment, and they couldn't export the rice back to China because of various regulations and transportation costs on both sides that they hadn't taken into account.

And I would emphasize that these efforts are in a state of flux, and the Chinese are learning from their mistakes and from their difficulties, and I've been reading through what the Chinese literature, what they write, and they've evaluated some of these, these projects, and they've discovered problems like what you've mentioned, and they're telling their companies to pay more attention to their so-called "social responsibility" for the local, the local population although there have been recent examples in Cambodia, for example, of a sugar project where local farmers complained or even protested about being displaced and losing their land.

In most cases, the Chinese are going into I'd say authoritarian type countries where there is land available, and there's lack of interest in farming, such as in eastern Russia is the main example, and they make deals to acquire large tracts of land.

I have a picture of a screenshot of a Chinese real estate website which shows different tracts of land that Chinese producers can rent or buy in eastern Russia, which there's no way they could ever get that kind of a land, parcel of land in China because of China's very tight restrictions on land, land ownership.

So we're seeing all of the above actually, and I would like to emphasize again that the Chinese are learning, and this is constantly in a state of flux. In fact, all the policies that we've talked about this morning so far are in a state of flux, and I'd like to again amplify Ambassador Vetter's earlier statement that we do need to remain engaged with China because all these things are constantly changing.

COMMISSIONER STIVERS: Thank you. Thank you.

In terms of the first question, what do we think the agriculture or trade relationship will look like in the next ten or 15 years if there's no changes?

MR. SLEIGHT: I'd like to comment on that one.

COMMISSIONER STIVERS: Sure.

MR. SLEIGHT: You talk about the impact on U.S. agriculture, and I maintain right now that the sorghum industry is a bit of "a canary in the coal mine" here because, you know, China

was the number one market for U.S. sorghum. China was taking about 40 plus percent of all U.S. sorghum produced, and they are actually paying more for that sorghum than, you know, you would probably elsewhere in the world.

And so you're seeing that market stop immediately. It stopped on April 18. Ships had to turn around, be re-marketed, and so you have growers, some who still have to decide how much sorghum they're going to plant, particularly in Kansas, but they also have another sorghum crop coming off in Texas in about another 45 days that really--and that Texas crop relies on going directly for exports, directly into ships to be exported.

So you're going to see a lot of hurt going on in the sorghum industry right now that may translate into possible government support. We don't know how that's going to happen, but I think you'll see far reduced acres in sorghum. You know, we talked about earlier when China cuts off its market, we find other markets for us elsewhere, DDGS falls into that category--dried distillery grains with solubles.

Yes, again, China the number one market for DDGS, and they cut it off with a 60 plus--actually at the time, it was a 90 plus percent tariff. We were able to find markets elsewhere in the world for that product, but at a much lower price.

The same thing is happening in sorghum right now so you are going to see these effects. I would maintain you got to watch the sorghum industry over the next few months to see how that actually plays out.

MR. WESTMAN: I have a comment. Unfortunately, for sorghum, it's a difficult situation. I don't ascribe to the theory that the future will move away from the United States in terms of trade with China. We have an excellent reputation among Chinese consumers about the safety and quality of U.S. food products.

We now as I mentioned earlier before we started, we are air freighting beef from Omaha to Shanghai, which goes into the e-commerce system. It's packaged, it's fresh, labeled for China, and it goes right into the e-commerce system for consumer, delivered to their door. So this is where China is headed in terms of both e-commerce and how people buy food.

Alibaba predicts, I think it was in the next few years, 35 percent of the Chinese population will be buying fresh food online. And we are positioned. We are in a great position to help service this market. We've built over a thousand meat plants in China over the last 12 years--all U.S. equipment.

Okay. They're small plants, but what China is doing is they're retooling in the interest of food safety. That doesn't mean that the system works exactly right, but we're working with them to make it right in the interest of food safety. And it's our equipment, and the way we protect the IPR there is we're two to three generations ahead of them.

Now they'll try to copy our machines. They can't do it. They don't work the same way. So it's all--it's a great opportunity, and we can talk about the cold chain later, but that's--it's all related to that.

MS. VETTER: I would just add very quickly to sort of launch off of Bill's point here, the diversity of exports that we send to China in agriculture is vast and growing, and there is not "a" Chinese market. There is the high-end Chinese consumer that can get fresh beef delivered to their door. There is increasing demand for fresh fruits and vegetables. There is, you know, dried fruit and nut exports have taken off.

So we tend to focus on commodities. Where we indeed will have I think greater competition, where Chinese production of meat is growing but uses our commodities as an input, and there still is that reputation that we have. So I think it makes sense for China to want to

diversify its supply to create more certainty and consistency for its producers that rely on that supply and its consumers as well.

But I think that is a cautionary tale for us to say that we also need to diversify the community and the countries that we work with as purchasers for our products, and that's a continuing challenge, and we're seeing that same challenge with our Mexican partners who now have an incentive to diversify supply because of possible changes in our NAFTA relationship.

And so I think we will keep each other on our toes, but I think globally demand for protein, for higher-end products, and continued demand for commodities will remain strong. We're going to need to position ourselves accordingly, but, you know, China will see growth I think in all those categories as well as diversity of supply. So we will continue to be a major exporter.

CHAIRMAN CLEVELAND: In theory, we're supposed to be breaking right now. I think we have--

VICE CHAIRMAN BARTHOLOMEW: 11:20.

CHAIRMAN CLEVELAND: No, there's a break, and then we start again. So but that's fine.

VICE CHAIRMAN BARTHOLOMEW: 11:05 on the schedule.

CHAIRMAN CLEVELAND: Oh. It's ten. Keep going.

[Laughter.]

VICE CHAIRMAN BARTHOLOMEW: Keep going. The schedule is--

CHAIRMAN CLEVELAND: Yeah, no, it does. And I was looking and thinking it was 11:10. So it's fine. Carolyn, sorry.

VICE CHAIRMAN BARTHOLOMEW: Thanks very much.

COMMISSIONER TALENT: Time goes back fast when you--

VICE CHAIRMAN BARTHOLOMEW: I know. It's good. It's good we have so much time because, as always, there's so many questions that come up and thank you all to all of our witnesses, and I'm sure if we go to a second round, I'll have some because I won't be able to fit in all of my questions.

But I'd like to start first with how, how do the Chinese define self-sufficiency in food production? Is it production inside China by Chinese people or does it also include products that are grown or raised elsewhere but controlled by Chinese companies?

And I will build on that, Mr. Westman, with a specific question for you too. I'd like all of you to answer the first one. But how has Chinese acquisition of other companies affected the ability of those companies to export into China? I'm thinking specifically of Smithfield in this case. Are they able to bypass phytosanitary barriers that other pork production companies--

MR. WESTMAN: No.

VICE CHAIRMAN BARTHOLOMEW: Okay. So there's a simple answer there.

But let's start with the self-sufficiency question because I think it will build on one of the issues that Chairman Cleveland raised, which is China's activities outside of China in acquisition of land and food production companies.

DR. GALE: China is, as I mentioned in my opening remarks, China is broadening its view of self-sufficiency in exactly the way that you're moving or implying. China has what--they often state their sayings in kind of a phrase, which is, they call it "two markets and two kinds of resources." And as they have become a larger agricultural importer, they've given up on the idea that they can be completely self-sufficient.

And self-sufficiency is more of a movable target which depends on the circumstances. More flexible they say. And part of this, the two, the two markets is the international market, the domestic market. Two kinds of resources is Chinese resources and overseas resources, and so that's recognizing that China doesn't have the resources to produce all of its food.

And a corollary to this is that as China becomes a major importer, they want to be, have an active role, not be a passive importer. So they want Chinese companies to go out, and that's a part of this investment program, is to have Chinese companies in strategic places controlling these supply chains as much as possible so that Chinese companies will get the profits from importing these products, and that they will have more influence on the global market so that they will not be passive takers of price fluctuations or subject to monopoly by they think multinational grain trading companies, for example, manipulate prices in cooperation with the USDA to take advantage of China.

So they do have this idea that's again kind of under the radar that they want, as they become an importer, they want Chinese companies to have a more active role. They want to upgrade Chinese markets so that they have more of a signaling role to determine world prices so that they're not entirely set in Chicago Board of Trade.

So they do have these concepts that are adjusting to the new reality of China becoming a major importer.

VICE CHAIRMAN BARTHOLOMEW: And there's concern in some places, of course, that they will or could potentially do what they have done with other commodities, which is basically corner the market. I mean that as China is acquiring companies in other places that they, that they indeed could have the ability to do the very market distortions, Mr. Sleight, that you're arguing that they should be working against.

But anybody else on the self-sufficiency question?

MS. VETTER: It's not necessarily a direct answer to your question, but I think in terms of the pace and the discussions with China about what does self-sufficiency mean, if you look at the crops where they have moved away and are more comfortable with saying they're not self-sufficient, like soy, where as they talk about the "hands on the bowl of rice," the sort of cultural significance and signaling here I don't think we should overlook. I think it will be very difficult for China to say they were not self-sufficient in rice.

And similarly pork is their protein of choice, and we see them adjusting, you know, in a staple really in the Chinese diet. For those who can afford meat, that's what they eat. And so we see them adjusting their import policy based somewhat on consumers and being/feeling self-sufficient and sustainable and the price of pork, and you see political upheaval or concern when those prices get too high--their strategic pork reserve, their, you know, letting in more imports at times that they need it.

So I think it's just useful to think about that context as well in terms of what they grasp to more tightly and what they see as being sort of a bellwether for attitudes toward agriculture.

VICE CHAIRMAN BARTHOLOMEW: Mr. Sleight.

MR. SLEIGHT: Sure. Thanks.

Yeah, I've seen this. It's kind of a moving target that I've seen over the years we've been there. I remember once when I was there in the mid-'90s at the same time that Lester Brown gave his, you know, talk in front of the Chinese agricultural folks, you know, warning them of China eating up the whole world, you know, with their demand and really put a shock into the Chinese system to really address domestic production.

So in order to talk about self-sufficiency in those years, it was really tough. I think as we've gone along though, we continue to engage on that issue. Yes, we know you want to produce your crops and produce them in abundance. I use the example of ethanol. This is a new ethanol, a new initiative for us. China has put in a policy where they want to have E10 nationwide, and you know we have been working with them, saying to them, yes, okay, we recognize that you want to produce this domestically. We can work with you to help make that happen.

But make that happen with the role for trade, and it becomes a very positive discussion. And China knows that for clearly until their industry starts to ramp up, which is going to take a long time, they're going to have to rely on imported ethanol in order to meet some of their air pollution goals.

So it that constant discussion, recognizing their desire to have self-sufficiency but talking about that and self-reliance with a role for trade, and we've had some very positive discussions on that, you know, recent weeks and months. They're not quite as positive as they used to be, but, you know, we'll get through this.

VICE CHAIRMAN BARTHOLOMEW: Mr. Westman, anything?

MR. WESTMAN: Just I think it was four years ago at the World Meat Congress in Beijing where we first heard from officials that they have moved away from these self-sufficiency goals, if you will, or statements, as Fred mentioned in his opening remarks. That was a significant change because they hadn't really talked about that before.

And they were making statements like we're going to import water in the form of commodities. We're going to invest where we can. We're going to focus on being more efficient at what we can do here--all with the interest of animal health and food safety. And it's been so successful. But that's where they're headed, I think.

In terms of your other question, foreign investment in our meat and poultry industry is not new. Brazil bought Swift. Marfrig just bought a controlling interest in National Beef. Maple Leaf Foods has purchased a small company in the northwest. Sigma Alimentos of Mexico bought Bar-S out of Phoenix.

Our companies in turn--our meat packers have huge investments in China. We have huge investments in Canada and Australia and Europe. So that's not unusual, but in terms of your question, does that mean that companies get a pass on food safety? No. We're probably one of the most heavily regulated industries in the United States. We cannot operate our plants without a federal inspector standing on the line.

VICE CHAIRMAN BARTHOLOMEW: Sorry. Just to clarify. What I meant was if Smithfield, for example, is exporting to China, does it find that it doesn't become a victim of the kinds of I'll use the word "spurious" but some of the inspections at the border that might stop American, other American products from going into China?

MR. WESTMAN: No, when they want to stop our products, they don't discriminate.

VICE CHAIRMAN BARTHOLOMEW: Okay.

MR. WESTMAN: They stop everybody.

VICE CHAIRMAN BARTHOLOMEW: Thank you.

DR. GALE: I have a quick anecdote on addressing that in particular. I've been tracking China's rejections of food imports over the last five or six years, and I have found examples of Smithfield products that have been rejected at the border. So--and there are other examples of Chinese-owned companies from overseas whose products have been stopped. So that's evidence that they aren't giving them a pass.

CHAIRMAN CLEVELAND: Senator Talent.

COMMISSIONER TALENT: I may have to crane my neck to do this.

[Laughter.]

COMMISSIONER TALENT: So if I don't look at you while I'm speaking to you, you know, this--being here brings back some memories for me because I was on the Ag Committee when I was in the Senate--farm state senator--and I did find myself slipping into a highly partisan mentality on behalf of American producers. You all know how diverse Missouri's agriculture production is and animal ag as well as a wide variety of row groups.

So the question I'm going to ask may be overly cynical and apply a corrective if it is. Okay. But from your testimony and everything I've read, the Chinese have the following or consider themselves having the following interests with their food policy--right--food sufficiency; supporting their domestic producers; insofar as they are dependent on imports, not being dependent on the United States, and I think there's geopolitical reasons for that; addressing the food safety concerns because of concerns about regime legitimacy, and where they can't address it, directing it outward.

And, you know, we know from general policies that they don't care very much about their obligations in international trade agreements.

So if I had those interests, if I was the Chinese and I had those interests, and I didn't care about my obligations, I think I would be pursuing the following policies:

I'd default on my tariff quota requirements under the WTO; I'd use food safety as an excuse to block imports, you know, ractopamine, mad cow, GMO, all the usual pretexts; I'd have an enormous and opaque system of domestic subsidies that nobody could figure out to support my producers; I'd buy and control foreign sources of supply; I'd steal technology whenever I could to increase the efficiency of my producers; I'd build an enormous reserve of grain, both to support my domestic producers and as a hedge in case the rest of the world ever got their act together and started imposing some sanctions on me; I'd gobble up as much technical assistance as I could in the form of cooperation with the United States that has the most sophisticated food production system in the world; I'd keep the Americans talking as long as possible and hold out hopes that I might change in order to keep them from actually doing anything; and I'd continue doing all of this until the United States and maybe its allies woke up and imposed some real costs that outweighed the benefits I was getting from this in terms of the interests that I had.

And so I mean to me what they're doing seems to be very logical in terms of their interests. Now I'm sure I've oversimplified this. I'm just an old meat and potatoes Midwesterner, you know, so tell me why I'm wrong, but it does seem to me that while I'm all for talk and engaging and the rest of it, it has to be engagement in support of a policy, a cost imposition strategy that convinces them, you know what, maybe the gravy train is over, and we ought to try and work out a way to satisfy our food sufficiency concerns and the rest of it while being a little bit fairer to American producers.

So would you comment on that? And there may not be any. It may be that we're stuck. They've got us over a barrel. But if so, at least let's acknowledge the situation and figure out--

MR. SLEIGHT: Well, I'll start by saying, you know, "amen" to that. And it captures the real frustrations that we have had working in China, you know, for three decades now. The promise of the market, you know, the sheer size of the market is tantalizing, has always been alluring, and we've had moments in our history, like I said earlier, where China represented the number one or number two or number three for everything that we produce, and so we're there.

You know, we were finally there on corn a few years ago. We finally broke through. Now, they have corn, they're comfortable with that, and then boom, you know, things go the opposite way, and we're dealing with, you know, genetically engineering problems. Sorghum the same way.

You know, importers within China really want access to U.S. products because they know they can be much more efficient utilizing grain source from the international marketplace than trying to buy high-priced/low-quality domestic grain.

And so when you work with those folks, those feed millers, those importers, you get really--they're really excited. They want to buy more, more, more, more. Even at some of these--at crazy tariffs, they're still penciling out. We were still selling DDGS into China at 92 percent tariff. Now it's stopped because it just became economically unviable.

But, you know, so, Senator, the problem is you're always this, you know, optimism/pessimism, optimism/pessimism, and again when we, from our point of view, you know, our farmers need new demand in the marketplace obviously. You know, corn, sorghum, barley. They need new demand drivers.

And we know the international marketplace holds those, China when you do the economics is there, but it's certainly not the only place, and we're as equally frustrated.

COMMISSIONER TALENT: And our producers are the victims of their own success. They are so good, they are so efficient, that they constantly need new markets, and so you can hold that over them as leverage.

I wasn't just offering the question. It's a personal concern or just a--or the "cathart."

[Laughter.]

COMMISSIONER TALENT: We're going to do a chapter on this, I'm sure, and I guess, so maybe the right way to frame the question for you is if we presented what I described as a basic template describing what's happening, maybe oversimplified or whatever, would we be, would we be correctly? Would that be correctly informing the Congress? In other words, would you basically agree if we presented that as the overall template of what the Chinese have been doing and why?

And if you disagree, tell us, because we don't want to--you know, we're advising the Congress and we want to give them proper assessment.

MR. SLEIGHT: Well, let me take a whack at that. I know Ambassador Vetter and Fred probably have some thoughts on that, too.

You know, a lot of it I agree with. Since, really since let's just say 2008 or actually 2010--let me be a little more fair--my life has been basically ruined by dealing with Chinese trade problems. My personal life--no, I don't get into that--

[Laughter.]

MR. SLEIGHT: No, I mean, we had two anti-dumping cases on DDGS. Now we have anti-dumping case on sorghum. We had tariff problems on ethanol. And so basically you're dealing with these things 24/7, and it creates a lot of intense frustration, and, Senator, what you said, completely agree with.

But I keep on coming back to the fact that, okay, calm down, calm down, we've got to engage here and try to solve some of these clear policy problems because, again, there is potential there.

MS. VETTER: I don't disagree with the list of tactics that they have used sort of effectively to protect U.S. or to protect Chinese producers, to create uncertainty or make the market more difficult for the U.S. folks to navigate.

But all of the tactics you outlined are expensive. It is costly to maintain a domestic reserve. It is actually costly to, you know, develop your own biotech industry and not use outside influence, and, you know, there are tradeoffs for all of those different kinds of policies.

And if China's only goal was to develop its ag sector and it didn't have many other competing goals, maybe it could continue to throw as many resources as it's throwing into maintaining these policies as it can.

But I don't think that that set of tactics is long-term sustainable or that within China, its leadership believes that it is sustainable, and so that's why I would advocate for this engagement, which is we know you're looking to deal with environmental degradation and issues here.

Part of the solution to that is not producing too much corn, which requires tons of nitrogen and a lot of water, neither of which you can afford to be using in that way. So, you know, I don't, I think they have effectively employed many of those strategies, and they are very frustrating, and we have seen progress on moving them away from them in fits and starts.

But I don't think we should assume that they want to be employing all of those strategies long-term, or there aren't some voices about how they can be more nimble in the global market and operate in a different way.

And I do think that, you know, the costs of maintaining those things is at the expense of doing other things that are also priorities for them. And I think they do want to show leadership in other international institutions, and that's hard to do if you can't align some of those policies with the rules. So again using our allies to help kind of point out that behavior with us is important as well.

MR. WESTMAN: A quick comment. I think I pretty much agree with what you said, but I think it goes both ways. We granted China equivalency in poultry in 2006. It is now 2018. So from their perspective, how are we playing fair in the market if we truly believe in equivalency and working together and cooperating and so forth?

So I think, I think we need to be careful in pointing the finger always that way. We can do a better job in separating whether it's politics or political expediency from business opportunity and true negotiation and true dialogue.

So we're in a competitive environment and a world market, and the Europeans and the Australians and the Brazilians, they're not waiting around to see what we're going to do, whether it's with China or the former TPP organization and what have you.

So I think we're either going to do the best we can to work in the market and work cooperatively to both sides' advantage or someone else will fill the void.

DR. GALE: The strategy you described could fit what China, our dealings with China. It has required a lot of patience. But I would emphasize it's very complicated and China has a lot of balls in the air. They're juggling a lot of different priorities, and it's unfortunate that we have these current trade difficulties where there's a lot of smoke in the air, which is actually obscuring what China is, or actually their President Xi Jinping, what he's saying is their new ambition to be an open economy and to shift from just maximizing GDP growth to beginning to try to satisfy consumers' needs and their wants, which includes allowing them access to good quality and safe food through promoting e-commerce, international e-commerce, for example.

And there are a lot of initiatives in the air on the Chinese side that are mostly obscured by what's happening now, and I think that the Chinese are being dragged into this, this trade conflict probably against what they would like to pursue these things.

But they just have so many constraints, so many balls in the air, that there's always something to disrupt the building of our what has to be a permanent relationship in agricultural and food trade.

And an example that's come up earlier already today is food safety where the Chinese leadership is very worried about imposing or upgrading their food safety so they've introduced--Ambassador Vetter again mentioned this in her opening remarks--they've introduced a complete overhaul of their food safety system, and it's taking a long time to, for example, develop a traceability system for pork in China.

It's still in the pilot stage, but they immediately imposed this for U.S. exporters that you must have this traceability system, and essentially they're adopting a lot of the principles that the U.S. used in its FSMA, Food Safety Modernization Act, a lot of the principles of trying to deal with food safety problems at the source, certifying manufacturers, producers, and it's coming back to haunt us in a way.

So it's an example where one thing, food safety, is conflicting with another thing of free trade.

CHAIRMAN CLEVELAND: Commissioner Kamphausen.

COMMISSIONER KAMPHAUSEN: Thank you, chair.

Despite living on a three-generation-long family dairy farm in Connecticut, I have virtually no experience in this field. And so I've learned a tremendous amount both from your statements and in your comments this morning.

I did a similar kind of mental exercise to what Senator Talent did though and tried to compare some of the things I've heard you say today with our engagement or interaction with China in other fields, and so I'd maybe share some points that I think of commonality in other fields--the diplomatic, national security--and more to get your comments or disagreement with that approach as a starting point, and then two other quick questions after that.

So I've heard several things from you. First, we interact and engage with an economy that has a domestic imperative to modernize at a very rapid pace through whatever means necessary, including the acquisition, legal or otherwise, of foreign technology and capabilities.

Second, in the context of that imperative, there's a far superior foreign capability, quantity, and capacity, and so there's a tension between achieving the goal of modernization with the face of cheaper and higher quality foreign goods.

In resolving this tension, there's a deep concern on the part of policymakers in China that they avoid overreliance and that they move rapidly towards, as you've talked today, self-sufficiency.

However, in that context, and Mr. Sleight, in particular, has highlighted this point in the tension, there's both an incentive and desire on the part of U.S. partners to help grow, participate in the reform and modernization, if you will, not least because there are huge opportunities, both now and in the process of aiding in that modernization.

And as a result of that effort and some homegrown efforts, you find real pockets of excellence across this sector as we do in other sectors.

And then finally--and there are other dimensions--this isn't by any means exhaustive--but you see the intersection of--Ambassador Vetter, you referred to this--the kind of political imperatives at a time to at least achieve some short-term coercive costs, but also to set the scene to reframe the rules-making mechanisms. And so there are both short-term and longer-term objectives at play.

I guess my question is both to comment on that list, on whether it's applicable or not to this broad set of issues we're considering today, and then maybe offer from your perspective if there are ways in which our agricultural and food safety and the whole range of things we've talked about, whether they are unique dimensions that really stand apart from other ways in which we interact with China in this set of issues?

I think, second, the smartest social scientist I know at Harvard says the most useful analytic construct is to compare, and so I'd invite, and maybe, Dr. Gale, you've done some thinking about this, compare what we face with China with other either challenging mature or developing markets? Are there--is it so unique or are there things here that we have encountered before and what can we learn from those other experiences in other markets with other countries?

And then, lastly, I think, Mr. Sleight, you said sorghum is the canary in the coal mine. And so the question is, not to create some tension, but Mr. Westman, you're a little more sanguine at the moment. And really the question is what's next?

If it's sorghum today, what is the next? What's looming? What's the next challenge that we might see the Chinese state use a form of economic coercion to achieve some of its own goals?

Thank you.

DR. GALE: I'll begin. I absolutely agree with the idea that we can learn a lot by comparison, and there's actually nothing really new, and I think I've been very, I've gained a lot of insight the more I read and learn about other, even our own history where we encountered many of the exact same food safety problems a hundred years ago.

I wrote a book chapter about that a couple years ago, and it was very eye opening to me, and we wrote it about how the U.S. and Britain encountered very similar food safety problems, and we conquered them or most of them, when China is now at a very, a similar juncture historically.

And to get more directly to your question, in terms of trade frictions, in agriculture and food, in particular, Japan is a good example, where Japan tried to do many of the same things that China is trying to do.

In fact, the Chinese explicitly say we're trying to do the same thing the Japanese and the Koreans did before by diversifying our sources of imports and investing in agriculture overseas.

And there were reports from my agency in the 1970s worried about this, that Japan is an important export market for U.S. farmers, and we're worried that we're going to lose that market if the Japanese make these investments and diversify. And it's very similar to what's happening, I think, with China that a lot of those investments flopped, but some of them did succeed.

Japan actually played a, a role, not the key role, in beginning to develop soybean production in the inland parts of Brazil, and Brazil is now our chief soybean competitor and has overtaken us as a soybean exporter to China, and also another success that Japan had was in cultivating vegetable--China itself as a source of vegetables and poultry for Japan.

And in the 1980s, we were worried that Japan's investment in U.S. agribusiness was going to take over the U.S. agribusiness and take up farmland in the United States, and that never really, never really happened.

So we've had a lot of the same angst with Japan in the past, and we have a lot of angst now with China, but we still export a lot to Japan. There's been a lot of friction over it, and we will probably have the same experience with China where there is, I guarantee there's going to be

friction. There will be no end to it, but the United States, as we've mentioned earlier, is a very efficient agricultural producer, and we will remain a major exporter to China.

MS. VETTER: On the point of comparison, I'm listening to Fred's answer, and I think the problems in many places are the same. The motivation behind why the problem is there and how you solve it is different.

You know, if I think about the briefing books handed to me by the very capable staff at USDA and USTR about what issues I was going to raise with my Chinese counterparts versus my European ones, kind of the same. Right? Really longstanding SPS barriers, concerns about access, and the way they apply particular rules.

But how we go about solving them and which points of pressure work were very different, and I think for China, getting a handle on its own food safety regime, figuring out how to implement more modern policies in an agriculture sector that is really in transition and with, you know, millions and millions of small farms, that's a different challenge than what you see in Europe, where a number of their policies are stuck where they are because of public opinion and because of protection of an agriculture sector that it operates on a different scale and markets their products sort of to a different, a different market, but it's protection from competition that you see in a lot of their policies as well.

The EU, however, I think, wants to be in line and showing leadership in these international institutions, and so you can use those kinds of pressures with them and with allies to try and solve those problems.

For China, I think still their domestic development implementation and their domestic political concerns still take precedence over that.

And I will say I hadn't really thought about comparing China to Japan and Korea, but, you know, if you look at that, that trajectory, I think that's pretty interesting, and if you look at where Japan and Korea are today, they have largely opened their agricultural markets but have chosen to spend their sort of blood and treasure in protecting a few key products, and, you know, with Japan, it's the six sacred products, where I still think I have some scars from the TPP negotiations on trying to open them.

You know with Korea, it continues to be rice and some others. But they have decided that some of those that are significant both culturally and economically are, we continue to have concerns about access, but many other products, we don't, where they have continued to move toward a path of liberalization.

So that's just maybe something to think about is will we start to see, as we have with soybeans, that list of priorities as to how they're going to engage as a sector and will that start in some areas and advance into others?

MR. WESTMAN: I think that comparison exercise is very interesting. And it's not lost on our trading partners like China. I mean they, we were involved for years in the beef negotiations with China, and they said, well, you have basically an organic program with the EU. We want that.

And we said, no, no, no, you have to, you have to accept science, you have to accept the technology. They said why? Why are you discriminating against us? You offered the program to the Europeans--and this is cultural--why don't you offer it to us? See? Rather than saying we want that, you offered it.

So--and the comparison is very interesting. The EU market is very difficult for us for pork and poultry, as you know, and the beef market is relatively small, but it's worth $400 million last year to our industry. So we sort of have to play within the rules that they have, and

why does the EU have these restrictive rules? You look at their history, they don't have a lot of trust in their public health officials, in my opinion, and look what happened with BSE in the UK. This is why.

They have these restrictions because of their lack of trust. So you have to have that consumer trust in order to build the system, and this is why it's so important to China. Look at the melamine scandal. Look at the pet food scandals we've had here and so forth. So this is consumer perception and consumer opinion is important regardless of where you are, and in China also.

They want our products; they're safe. They want China to do better. They want the government to make sure they're regulating their property and so forth. I'll stop there, Tom. What do you think?

MR. SLEIGHT: I'll give you one short on the comparison angle. I think it's a really apt one. From a slightly different view, we had about five years ago a market assess mission and went to both India and China, and a lot of talk lately has been let's focus more attention on India.

And, you know, we were talking, debriefing these folks, and they said, well, we're really glad to be here in China because things sort of work here. You know, in India, it was chaos, lots of multilayered, you know, jurisdiction and really hard to get through, heavily bureaucratic. You just, really, you know, confusing as all get out, but things sort of worked in China. And so let's, let's concentrate more effort here than in India. I think you might see that turn around a little bit in the next couple of years.

CHAIRMAN CLEVELAND: Could you talk through why it took 15 years on the beef negotiations, and I gather from, we had a briefing from USDA and FDA that there was some change in the last several months that it may actually look like there were protocols put in place that fix some of the issues, but could you talk through as an illustration of either the Chinese cleverness or I mean why 15 years?

MR. WESTMAN: I think the United States felt that they had leverage in terms of this negotiation. The deal was cut December 10, 2007, poultry for beef. U.S. and China. It was offered to the Chinese, and the Chinese said we'll accept that deal.

As I mentioned, the equivalency was in 2006. To get equivalency in the United States for poultry is very difficult. There's very few countries that are allowed to export poultry to the United States so it was a big deal for China, and to me, my opinion is it wasn't that they had an interest in exporting to the United States, but they wanted the USDA seal of approval.

And they could use that for marketing perspective in other countries. That's just my opinion. So when the deal was cut, what happened? I felt that we in the United States tried to use that as leverage to get some other things, and promises were made, and deadlines were missed, and what was not explained well is our approval system for meat and poultry in the United States.

It's difficult to get approval, and I think justifiably so, Food Safety Inspection Service has certain milestones they have to meet and certain deadlines, and when those are missed, the clock starts over again.

Well, they, the Chinese felt when we were missing some of these deadlines, that we did it purposefully to discriminate against them. But FSIS was just following the regulations. So when you try to leverage SPS issues in that manner, they generally fail for those reasons.

So it kept going on. It's sort of like a merry-go-round, you know, around and around. We kept in this, what used to be called a do-loop.

[Laughter.]

MR. WESTMAN: You know it just never got resolved until last year for whatever reason the Chinese opened the market, mainland market for U.S. beef. It's restrictive. It's a restrictive protocol, but they still did it. So they felt they took the first step and now it's our turn.

Long explanation. Sorry.

CHAIRMAN CLEVELAND: Can you also speak to the status of pork imports with the Smithfield purchase? I think I anticipated an increase, but, in fact, I think the U.S. share of pork has declined. So I'm curious about what the specific circumstances are, and what the market looks like?

MR. WESTMAN: Well, our, if we look at the data from last year, basically it was the same as 2016 in terms of both volume and value going into China. The EU has been very aggressive in the market, and they have, you know, they're increasing their exports all the time.

In terms of the Shuanghui investment, they've built a very, very large plant in China. All the pork they process in that plant is from the United States. They want to produce the types of products that we have that you go to the refrigerator case in your supermarket, they want to buy the ham that's packaged that way, and it has the label, and, you know, it's got the little or has the little absorbent pack above the stuff.

And the reason is, in my opinion, again, as Chinese have had more disposable income, they travel more, they come here, they go to Europe, they go to Australia, they go to our supermarkets, they see what we have, and they say I want that.

I want that in my supermarket. And that's I think changing, it's changing everything in China, and Fred will disagree with me now.

COMMISSIONER TALENT: Waiting for you to blow up.

[Laughter.]

DR. GALE: I agree, and I can see those changes in general, not just for meat. I know there is a lot of, just about every Chinese person who can goes on a tour of Europe, for example, and to the United States, and you can see the results. They're just--when I was in Beijing, there are these French style bakeries and coffee shops just everywhere, and actually the pastries were pretty good, in my opinion, but I see also the same changes happening in the supermarkets.

It's slow, but you do see now, it's very common to see packaged meat covered with cellophane in a styrofoam tray with the absorbent material, which was virtually nonexistent except in a very few very high-end supermarkets just a few years ago.

Now you can find it everywhere, and the Chinese company Shuanghui is--they've had a trial to try to sell Smithfield type branded actually hams and bacon products in China, which is a major innovation because Chinese consumers are used to buying freshly slaughtered meat that was slaughtered just hours ago, and they pick over it and choose the cut that they want, and it's never, never packaged.

So this is really an innovation, but it's slow going to change consumer attitudes. They are changing, but it's, the pork market, in particular, is very interesting to see how consumer attitudes and wants are changing and diversifying.

But Shuanghui, my understanding--Bill may know better than I do--but from my reading of the Chinese literature, they haven't been as successful in this venture so far as they thought, and the capacity in the factory is not what they had hoped that it would be, and they actually had some negative financial results last year, and they're being criticized for actually not having enough innovation in their products and building enough confidence in their overall brand because Smithfield is just a part, a small part, so far of their broader product mix.

CHAIRMAN CLEVELAND: Commissioner Wessel.

COMMISSIONER WESSEL: Thank you and to give others a chance, I'll be quick, I think.

Talk about, if you can, the composition of trade in the sense of when we were in Iowa, and thank you, Dr. Gale, you know, we learned that the Chinese would not allow our pressed and crushed soy. They want to import the raw commodity and do the value add work there, and we find that in other products as well.

You talked about pork and the Shuanghui facility. We have the situation where still in its infancy, of course, the potential to send over chickens and have them cut and packaged and sent back here. I don't know how that's economically possible, but--

China seems to want to retain the higher value-added portion of all of these commodities, sending in finished foods, et cetera, or doing the finishing for their own market. Is that correct? Can you provide any detail on that?

Dr. Gale, if you could start?

DR. GALE: Yeah, that is changing. When I first started following Chinese agricultural trade, there were very few value-added products coming into China, and it was in the 1990s, early 2000s, that the soybean trade really got started, and that was, as you describe, they preferred to import the beans, process them there, and then sell the final products in China, and that still pretty much goes on.

The companies doing that are a mix of probably hundreds of not only multinational companies who really got that industry jumpstarted, but over the ten years, last ten years, there's been a major expansion by domestic Chinese companies, especially state-owned companies, to dilute the share of the multinationals, and so that's still going on.

And in the soybean industry, again, there's a diversification of products where these kind of generic oil products that are sold in giant plastic bottles are the dominant product that you see in every grocery store, which has a display at least as large as this table of these different oils, and they're usually on sale.

But the composition of the oils is changing. Over the last ten years, olive oil, for example, has become very popular, which I think reflects Chinese health concerns, and there are other, sesame oil or sesame seeds, at least, are coming in from Africa, and also in the supermarkets you can see a much greater variety of products.

We just talked about the meat products, and there's a, every supermarket has a huge aisle of various kinds of milk powder ranging from all kinds of infant formula to milk powder especially for elderly people or for school children to make them smarter.

So there's just, there has been a big uptick in these more value-added and processed products, and a lot of that you can see from just the way the Chinese consumers have become much more sophisticated and connected to the outside world.

Everybody has a smartphone that they use for shopping online, and China is, I'm sure, ahead of the rest of the world in e-commerce in food where it's very common, it's routine to order food online, and even food from overseas, and China is working on the protocols and the ways to promote this international e-commerce in a way that they think is under control and safe and so forth. So, yeah, there are a lot of changes going on.

COMMISSIONER WESSEL: Right. If the Department has any data on the composition of trade, meaning the raw commodities, and composition of value-added change over time, we'd love to see that.

Thank you.

CHAIRMAN CLEVELAND: Commissioner Bartholomew. I think this is the last question because it is 11 o'clock--for real this time.

CHAIRMAN CLEVELAND: Thank you, and all of our witnesses have work that they have to do. But thank you for the generosity with your time and sharing your expertise.

I want to go back, Ambassador Vetter, to something that you started out with that you talked about when you were doing these trade negotiations, that one of the difficulties was the Ministry of Agriculture essentially bucked you over to the Ministry of Commerce and the Ministry of Commerce bucked you back over to the Ministry of Agriculture.

Now some of that, I'm presuming, is bureaucratic stovepiping, but some of it is probably also an excuse for not dealing with things. So I wondered if you could sort of do a weighting there, a w-e-i-g-h-t-i-n-g? I mean how much of it is an explanation and how much of it is an excuse?

MS. VETTER: I think there's a little bit of both, but I think it is also a little bit of a statement of the political jockeying going on internally in that, you know, again, I think on the beef issue, China felt we made a promise that we hadn't lived up to. I think that was very--in terms of beef or poultry--and how had we dealt with them, and was that appropriate? And so that issue maybe is not, although it was very politicized, maybe isn't, isn't as good an issue.

But, you know, I think the Ministry of Agriculture really feels like in the order of things it needs to deal with that self-sufficiency issue comes before these other pieces, and I think the Ministry of Commerce, who's in charge of managing those trade relationships, and, you know, they send their representatives to the WTO to represent China, they're concerned about trying to influence policies to be in line with the WTO.

But I'm not sure at higher levels, that that takes precedence when China really has to decide. So it's not clear to me how much pressure they really are able to exert on the Ministry of Agriculture, and when you layer on things like this overall concern for food safety and concerns about rural unemployment and other things that are real political pressures, if the Ministry of Agriculture says, well, if I do that, ugh, look at all these problems it's going to cause, does the message you're not following the rules really have that much weight?

And that's why I tried to say like let's figure out the cause or the driver or how can we start to say transitioning to a more open, rules-based way of doing this actually in the long run helps resolve these problems--the transition issues, the, you know, rural employment issues, your resource issues. Those aren't going away.

You can figure out how to deal with them in a way that's a bit more in line with your rules, and we'll try and help get you there, or we can continue these areas of tension or fits and starts, and you move forward a little, and then you move back as the political winds blow.

So I see it in part a reflection of who has power internally in their political system, and what is sort of the short-term priority in management, and that we, the messages we receive are sometimes we have sympathy with your concern, but right now this is where we're going to focus our effort.

VICE CHAIRMAN BARTHOLOMEW: Thank you.

COMMISSIONER TOBIN: Madam Chair, I know we're out of time for questions here, but I'd like to relay to the staff one or two questions that they could pursue after.

CHAIRMAN CLEVELAND: That would be terrific. It's now 11:05. We will take a break for a few minutes. We'll be back at 11:20.

Thank you to all the witnesses. I feel much better informed. I appreciate your thoughtful testimony and your willingness to answer our extensive questions. Thank you.

[Whereupon, a short recess was taken.]

PANEL II INTRODUCTION BY SENATOR CARTE GOODWIN

HEARING CO-CHAIR GOODWIN: Welcome back.

For our second panel, we are happy to be joined by another outstanding group of witnesses and experts, and we will begin with Dr. Carl Pray, distinguished professor at Rutgers, the State University of New Jersey.

Dr. Pray is the President of the International Consortium for Applied Bioeconomy Research and focuses on agricultural science and technology policy in China, South Asia, Africa, and Latin America.

He will provide testimony this morning on China's domestic biotechnology research and the domestic politics of China's biotech policies.

Next, we will hear from Nathan Fields. Mr. Fields is the Director of Biotechnology at the National Corn Growers Association. Previously, Mr. Fields worked on private sector efforts to sequence the human genome and managed research and development efforts for various U.S. biopharmaceutical firms.

Mr. Fields will talk this morning about how China's biotech policies affect U.S. agricultural innovation.

We're also happy to welcome Dr. Holly Wang. Dr. Wang is a professor of agricultural economics at Purdue University in Indiana, where her research has focused on Chinese food safety and she has served in several academic leadership positions, including as President of the Chinese Economists Society.

Dr. Wang will testify on food safety conditions in China and the United States' own food safety regime.

Finally, we're happy to welcome Michael Robach. Good morning. Mr. Robach is the Board Chairman for the Global Food Safety Initiative and Vice President for Corporate Food Safety at Cargill.

He has worked with the World Organization of Animal Health and the Food and Agriculture Organization on harmonizing international food safety standards. Mr. Robach will testify on food safety challenges in China and international efforts to address those changes.

I want to thank the panel for their testimony and their willingness to be here today. I'd like to remind the witnesses, as best they can, to keep their remarks to seven minutes.

Dr. Pray, let's begin with you.

OPENING STATEMENT OF DR. CARL PRAY, PROFESSOR OF AGRICULTURAL AND RESOURCE ECONOMICS, RUTGERS UNIVERSITY

DR. PRAY: Thank you very much for inviting me.

This is, I was telling Mr. Fields, this is my first chance to testify down here, and it's been a great panel so far. Really, really interesting I think.

My specialty, as Senator Goodwin said, it is in science and technology policy, and lately I've been very interested in the role of international companies and the Chinese companies in developing and producing new technology that can be used globally.

So I was asked to talk about agricultural biotechnology policy in China, and I really look at these investments that have been made recently by the Chinese government and provincial and other governments as a real opportunity rather than a threat to American business and American agriculture.

The research is published in the best journals globally so it's available to all, and it can be used as a basis of innovations, both by our agribusiness companies, our biotech companies, as well as technologies that can be used by American farmers.

And I think the way forward in terms of really making use of this is to capture the spill-ins and potential spill-ins of that knowledge to U.S. agribusiness and U.S. farmers. And the way to do that is to ensure that our agricultural research and our biotechnology research itself is strong so that we can make use of that.

At the same time as it's an opportunity, the government protects the Chinese agricultural biotechnology industry from competition with American and European-based firms.

There's this list of which companies, which industries, foreign companies can invest in, and explicitly the Chinese government prohibits American and foreign firms from investing in breeding transgenic crops and commercializing them as well as they put the investments by foreign companies in plant breeding and some of these areas in the restricted category where the American firm has to be or the foreign firm has to be a minority shareholder in that enterprise.

And so these restrictions are important certainly for American companies and for the direction of intellectual property.

The questions--I'll try to touch on the questions that were sent out to me rather than just kind of blast through. The competitiveness of the Chinese agricultural research system has grown immensely, and in my written testimony I've shown you some graphs and tables that show that.

The Chinese Academy of Sciences, the Academy of Agricultural Sciences, the agricultural universities are top-rate institutions. Their equipment is often better than the equipment we have at Rutgers, and the scientists are globally trained and are great scientists, and I've had the pleasure of collaborating with many of them.

And if you look at the--I had some specific information on GMO research and on new kinds of biotechnology like this CRISPR Cas gene editing technology, which again they are leaders in, I believe. These things, though, have also had important impacts on U.S. efficiency and technology because the biggest genomics companies are companies like what used to be Beijing Genetics Institute, and is now BGI, and a spinoff from BGI called Novogene, which are the two biggest, two of the biggest genomics companies globally, and we use them extensively both for our medical and plant-based research.

So this rising competency in genome sequencing and CRISPR clearly are important tools that they're using extensively and are improving their capabilities and, as I say, also our capabilities to a certain extent.

In terms of support for the agricultural biotechnology research, the Chinese government, as I say, make massive investments in biotech research, probably more than the U.S. government now. At least some of the numbers indicate that's the case.

And they support this, the development of this industry with a regulatory system, which is imperfect but is aimed at providing some insurance for both farmers and for consumers that the regulatory--that these foods are safe. They also have encouraged the development of genetic engineering and commercialization in firms through a variety of practices, including large subsidies for research and for technology transfer, as well as the protection that we've mentioned from other firms.

Chinese consumers' views of biotechnology have been fairly positive. Only about 18 percent of urban consumers were really concerned about biotech crops, and even that concern was only when you asked them. There wasn't a lot of awareness of concern about it until about 2010, 2011, and there when there was this kind of perfect storm of things that went together that are also--that I can talk about in more detail later if you'd like.

Now there's a lot more concern, and in the supermarkets, you know, almost everything is labeled non-GMO and all that. So that concern has grown immensely. And Chinese have sought to manage these views, but they haven't really done so very successfully as far as I can tell.

Intellectual property rights is a huge issue for not only U.S. companies but also Chinese companies, and the protection of intellectual property rights on the books is the same as it is in the U.S., but it's all about enforcement, and that's where the challenges begin. And it's been very difficult to enforce the intellectual property rights on the few Bt, the few GMO traits that are out there, and also recently the non-approved GM traits, such as the insect-resistant corn, has spread extensively in northern China, so probably about half of the corn in northern China is GMO, even though it's not allowed to be GMO according to the laws and regulations.

Has it affected U.S. businesses? Does it impose a threat? Certainly there is threat in the sense that DuPont and Monsanto/Bayer, or almost Bayer, would be making more money in China if they were allowed to operate there, and they are operating in very small ways, but have not been, they are not really making any money there at all.

Let's see. I think I've lost track and probably used up my time. The--oh, I know, the other point I wanted to make about the competitiveness is that as far as the biotech industry is concerned, these same weak intellectual property rights, nontransparent regulations, and restrictions on foreign investment have also handicapped Chinese firms.

And so Chinese firms, you know, competitively relative to U.S. firms are not doing very well, and this protection that Chinese government put in place I'd say has not really worked, and the acknowledgement of that is that the Chinese government bought Syngenta--the third-biggest biotech company and the biggest ag chemical--pesticide company--I believe is an acknowledgement that the local firms just haven't been able to make it, you know, and so their policies have kind of been, you know, they've been counterproductive in terms of the goals, I think, that they have.

I don't see big obvious security risks in terms of Chinese ag biotech, not the research that I know about that's going on right now. I don't know what's going on with gene drives and some of these things that the Department of Defense is worried about, and so I can't really speak to those things.

So I think I've probably used up my time. I just would reiterate that, you know, that I think there are some real opportunities here for U.S. science and Chinese science working together, and that I think that there's pressure building up in China to reduce some of these restrictions on foreign technology, foreign biotechnology. Like in other areas that we've heard about this morning, Chinese companies want to get access to some of this technology, and they want better enforcement of intellectual property rights because they can't make any money in this area either.

And they would like to--the only way they'll be more competitive is if some of these things are strengthened.

Thanks very much. Sorry if I took a bit too much time.

PREPARED STATEMENT OF DR. CARL PRAY, PROFESSOR OF AGRICULTURAL AND RESOURCE ECONOMICS, RUTGERS UNIVERSITY

Agricultural Biotechnology Policy in China

Hearing of U.S. China Economic Security Review Commission on U.S.-China Food Policy. April 26, 2018

Carl E. Pray

Distinguished Professor of Agriculture, Food and Resource Economics

School of Environmental and Biological Sciences

Rutgers, the State University of New Jersey

Introduction

I have conducted economic analysis of Chinese agricultural research and technology since 1994. I look at the growth of Chinese agricultural biotechnology research as an opportunity rather than a threat. Their research, published in American and European-based academic journals, often in collaboration with American scientists, is available to American scientists in the public and private sector. It can be used to develop innovative technologies for American farmers. Chinese technologies such as hybrid rice have been used extensively in the U.S. to increase rice productivity in the U.S. Chinese universities are producing graduates who become graduate students in the US and go on to become the leaders of U.S. and Chinese research. The U.S. needs to ensure that these flows continue through investments in American agricultural research, strong graduate programs and funding collaborations between American and Chinese scientists. In addition, we need to develop policies that can help U.S. biotech industries build on this research to develop new products that can be sold in the U.S., China, and in the rest of the world.

At the same time, the Chinese government protects its agricultural biotechnology industry from competition with American and European-based firms. The breeding and production of transgenic crops is on the list of industries in which foreign investment is prohibited in China. Plant breeding and seed production are on the restricted list which means foreign companies cannot be majority shareholders (China, 2015).

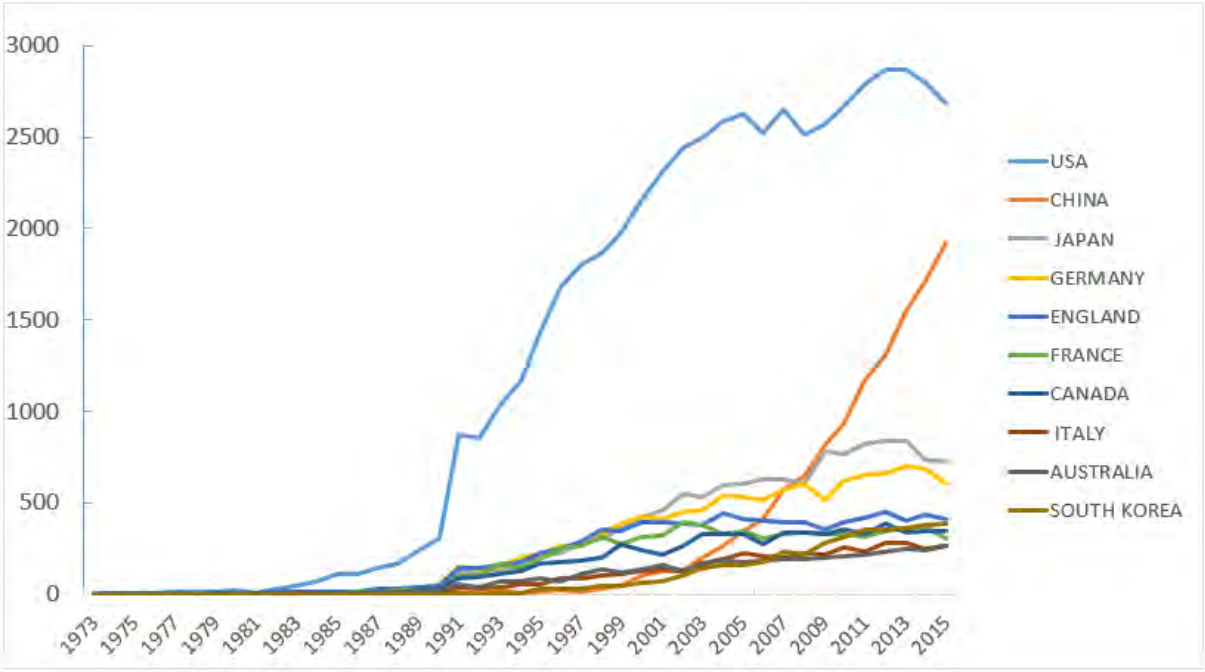
I have organized the rest of the presentation around the questions that the U.S. China Economic Security Review Commission sent me.

1. How competitive are Chinese agricultural biotech research facilities?

Biotechnology laboratories at government research institutions such as the Chinese Academy of Sciences (CAS), the Chinese Academy of Agricultural Sciences (CAAS), China Agricultural University. Provincial Academies of Agricultural Sciences and universities are very competitive in producing globally recognized science. Measured by agricultural biotechnology-related publications in the 10 most prestigious biology journals (*Science, Nature, Nature Biotechnology*, etc.), China has made impressive strides (Figure 1). Publications by Chinese scientists in

international journals started at very low levels in the 1990s. They surpassed Germany and Japan in 2007 and were moving towards the U.S. in 2015.

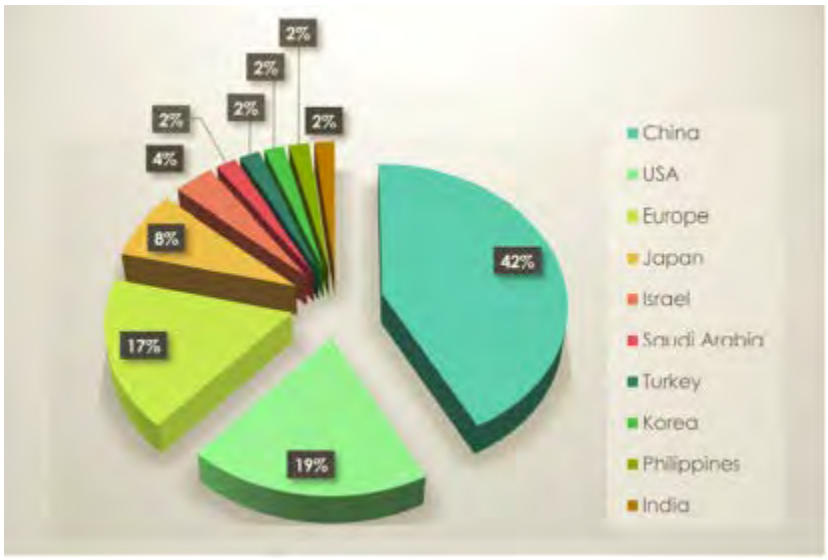
Figure 1. The number of publications in top journals on GMOs 1973-2015



Wang et al 2015

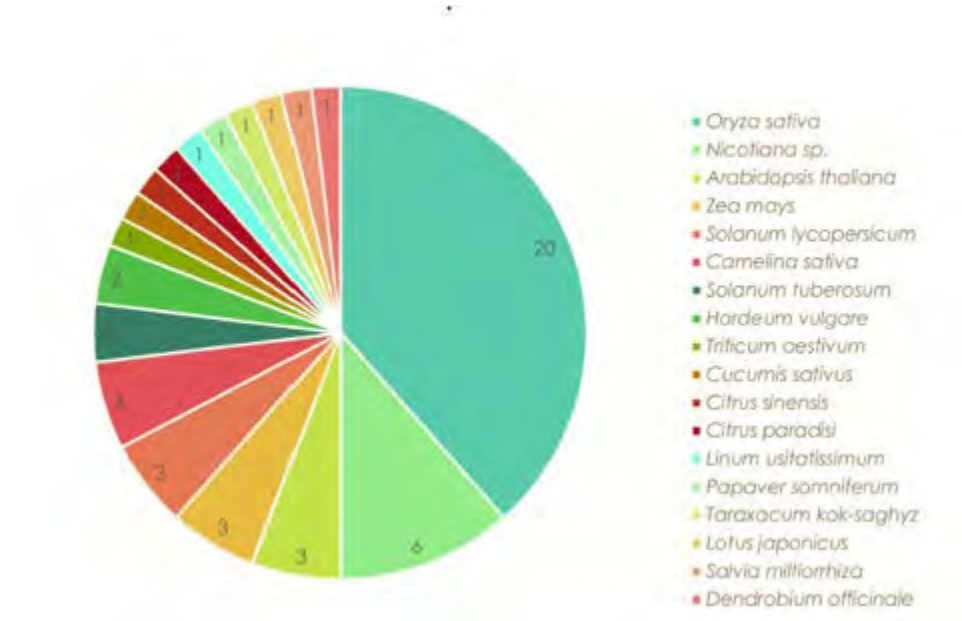
The competitiveness of Chinese research can also be seen by it's publications and patenting of one the latest research tools in biology, gene-editing with CRISPR Cas9 and similar research tools. A recent study of 52 publication using CRISPR to modify plants shows that China is the global leader (Ricroch et al 2017). Forty-two percent of the publications were by scientists in Chinese research institutes followed by 19 percent in the U.S., 17 percent in Europe and 8 percent in Japan (Figure 2). Given the importance of rice in China and Japan and that it is considered a model plant for monocots, it is not surprising that rice (*Oryza sativa*) is the number one subject of the CRISPR studies with 20 of the 52 publications (Figure 3). The commercial crop with the next largest number of publications is corn (*Zea mais*) with three publications.

Figure 2. Percentage of CRISPR publication by country.



Source. Ricroch et al 2017.

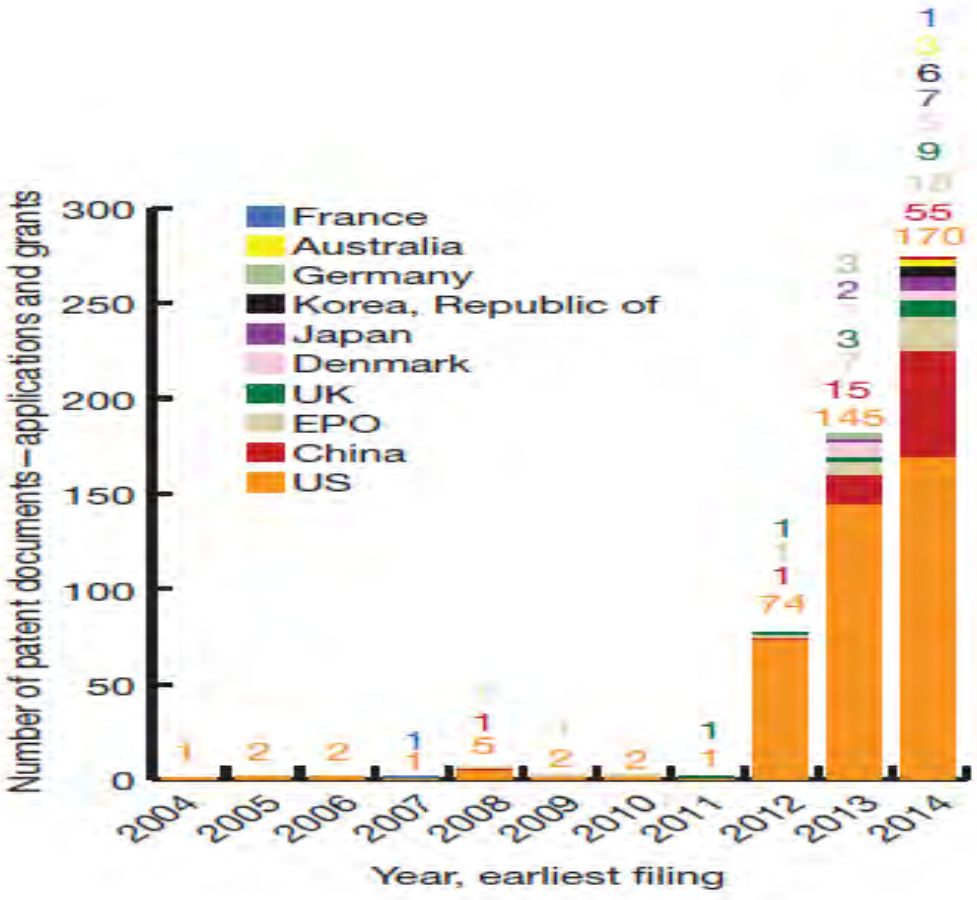
Figure 3. Number of publications by plant species studied



Source. Ricroch et al 2017.

Figure 4 shows the growth CRISPR-Cas patenting. While CRISPR patenting was still dominated by the U.S. in 2014, Chinese patenting has moved into second place. These patents are for tools that can be used for agricultural or biomedical research, but a surprising number of the Chinese patents are for agriculture as opposed to biomedical which dominates in the U.S. For example, the top four organizations globally with CRISPR patent families for plant modification are CAAS 39, DuPont 34, CAS 32 and Dow 15 (IPstudies 2018).

Figure 4. Growth of CRISPR patents



Source: Egelie et al 2017.

Biotechnology research in China has been much more successful at producing journal articles than in developing competitive technology for farmers. Bt cotton traits from CAAS and Monsanto that were released in 1997 are the only genetically engineered (GE) traits of a major field crop that Chinese farmers are allowed to grow. The other GE trait that has been

commercialized is a virus resistant trait in papaya from South China Agricultural University. No new GE traits for cotton have been approved for cultivation since 1997, and no new GE technology for major feed and food crops have been approved for cultivation in China.

In 2009 after the world food price crisis of 2007 and 2008, the government approved insect resistant rice (hereafter Bt rice) and high phytase corn (HPM) as safe for consumption and production in China. The Bt rice was developed by Huazhong Agricultural University around 2000 and produced by small local seed companies. HPM was developed by CAAS and Origin Agritech Ltd. Origin has the license to commercialize it. After a firestorm of opposition on social media to commercialization of GE food, especially Bt rice, the government shelved these technologies.

2. Is China's rising competency in genomic sequencing and CRISPR likely to improve their agricultural biotech capabilities?

These important research tools are already improving their capabilities. They are currently in use in most of the major government and university labs in China. They can dramatically reduce the cost of research and plant and animal breeding. China's capacity for genomic sequencing is also improving the efficiency of American and European research since two of the leading suppliers of these services in the U.S. and Europe are the Chinese firms BGI and Novogene.

CRISPR is being used extensively in China. Several new plant varieties such as disease resistant wheat were developed using CRISPR (Wang 2014). The government still has not decided how to regulate plants developed by CRISPR. If they are regulated as conventional breeding techniques, they are likely to be commercialized soon. If they are regulated as GE traits, they may not be commercialized for a while or they may be produced illegally.

CRISPR and genomics eventually will be important to Chinese biotech and seed companies. One of the leading agricultural biotech companies in Beijing, told me in 2017 that it had used BGI's genomics services in its corn biotech research, but no longer use it because the company had to focus its efforts on obtaining regulatory approval of GE traits rather than trying to develop new traits. In interviews with biotech and seed firms in Shenzhen in 2017 it was clear they were networking with BGI scientists and government biotech labs, but so far it has not been very important since these companies did little research to develop new traits. If the government does allow cultivation of GE and gene editing crops, they will probably use these services extensively.

3. What support does the Chinese government provide for agricultural biotech research?

Central, provincial and city governments invest heavily in agricultural biotechnology research. Agricultural biotechnology was an important component of three special research and development programs for key industries. The first focused on applied research in nine industries of which agricultural biotechnology was one. The program was designated "863" because it started in March 1986. The second, the March 1997 "973" program, supported basic scientific

research and continued through 2006. It was followed in 2006 by the third program: the National Science and Technology Key Programs. It was a much larger government program which focused on commercializing designated technologies. The agricultural biotechnology component is called the Special Program on New Transgenic Organism Breeding, which started in 2008 and is expected to end in 2020. The goal of this program is to commercialize Chinese GE varieties of five crops and three livestock species and is budgeted to cost U.S.$3.8 billion (RMB 24 billion) over 12 years (Hu et al., 2012).

The Chinese central government also supported the development of the biotech industry by instituting regulations to assure the safety of GE food production and food products. In early 1993, the Chinese State Science and Technology Commission (SSTC) released the first set of biosafety regulations, called the "Safety Administration and Regulation on Genetic Engineering" (Chinese State Science and Technology Commission, 1993). The Ministry of Agriculture (MOA) issued the "Implementation Measures for Agricultural Biological Engineering" in 1996 (MOA, 1996). The first approvals of GE crops for cultivation took place in 1997. In 2001 the State Council decreed a new set of policy guidelines, the "Regulations on the Safety Administration of Agricultural Genetically Modified Organisms" (Huang et al., 2003). MOA also announced new implementation regulations which covered biosafety management, imports and exports of GE foods and crops and mandatory labelling of GE food products, which took effect in March 2002 (Pray et al., 2006).

Government policies also encourage GE development and commercialization by Chinese firms. Government scientists are encouraged to develop, patent and then license GE technology to local firms. The Special Program on New Transgenic Organism Breeding described above subsidized biotechnology research and commercialization by local firms. In addition, these firms were protected from foreign competition by regulations that kept out research on and commercialization of biotechnology by foreign firms. The biosafety regulatory system allowed the importation of foreign GE corn, soybeans and canola for processing and consumption but not for sales as seeds for cultivation in China. Regulations on Foreign Direct Investment (FDI) protected Chinese biotechnology firms by prohibiting research on biotechnology or commercialization GE traits by foreign firms in China (China 2015).

The Chinese government hoped that these restriction on foreign investment in biotechnology in combination with the government research and regulatory policies would allow local firms to develop their own GE traits that would be competitive with foreign traits or commercialize GE traits that were developed by government research academies and universities. These policies have not been successful so far. This is consistent with economics research on foreign direct investment (FDI) which shows that firms in industries where FDI is restricted are less innovative than sectors where FDI is allowed. (Howell 2018).

The Chinese government and Chinese companies recognize the importance of foreign agricultural research and technology which has led the government to encourage state-owned enterprises (SOEs) and large private firms to buy foreign high tech companies with loans from government banks. ChemChina's purchase of Syngenta in 2017 is the biggest example of this, but

the Shuanghui Group's purchase of Smithfield Foods in 2013 is another because it included one of biggest pork genetics and breeding programs in the world.

4. **How does China's approval process delay the commercial release of U.S. biotech crops? Is China likely to reform this process?**

I will let the other speakers handle this question.

5. **How do Chinese consumers view biotech crops**?

Until 2012 most urban consumers believed GE food was either safe or they did not know. Between 2010 and 2012 Then the percentage of consumers who considered it unsafe increased from 18 to 45 percent (see Table 1). This change was based on a breakdown in trust in government food safety regulation starting with the poisoning of babies with milk adulterated with melamine in 2008 and regular reports of food safety problems in the press since then. When the government approved Bt rice for cultivation in 2009, the opponents of GE food were able to convince consumers that GE foods could be poisonous. This idea contributed to a social media firestorm of urban consumer opposition to GE food in 2010 (Huang and Peng, 2015).

Table 1. Consumers' perceptions on GE food safety for human consumption in urban China by year (in %, 2002–2012).

Year	Unsafe	Safe	No idea
2002	13	37	50
2003a	16	35	49
2003b	13	38	49
2010	18	29	53
2012	45	13	42

Source: Huang and Deng 2015

6. **Has the Chinese government sought to manage consumers' views?**

The Chinese government has sought to manage consumers' views, but not very successfully. It shut down some of its political opponents' websites that were saying that GE crops were an American plot to take over the Chinese food supply and weaken the Chinese army. Since President Xi Jinping took power, the government increased its efforts to educate consumers

about the benefits of GE food through the government media and by controlling attacks on the safety of GE food in government and social media. It also announced a pathway to cultivation of GE food which starts with commercial crops (cotton), then goes to "indirect" food (e.g. corn and soybeans that are fed to animals) and finally to direct food (rice).

7. What is the state of intellectual property protections for agricultural biotech products in China?

Biotech traits and biotechnology research tools can be patented. The terms of the patents are the same as those in the U.S. It is much less expensive to apply for patents in China than in the U.S. or Europe. Government tax breaks and subsidies support firms that apply for patents. New plant varieties can be protected using either patents or plant breeders' rights. China has special regional courts to handle intellectual property rights issues. It is my impression from talking to a few firms that foreign firms have been increasing successful at protecting their patents in court.

8. How widespread is biotech piracy among Chinese producers?

Enforcement of patents in general is improving. In agriculture, however, it is still weak. U.S. and Chinese biotechnology is extensively copied. Both the Monsanto and CAAS Bt traits for cotton have been used with no royalty payments since 2001 (Personal communication with seed firms in Shenzhen 2016). Bt cotton now covers about 60 percent of the Chinese cotton area. Both Monsanto and Origin Agrotech Ltd., which licensed the CAAS Bt, have given up on the Bt cotton business because they cannot enforce their patents. Recently Bt corn has spread widely in North China. Companies estimate that as much as half of the corn grown there is Bt corn even though it is still illegal. No one I interviewed knew where the Bt trait came from.

9. Does this pose a threat to U.S. businesses?

The current combination of biosafety regulations, weak enforcement of intellectual property rights and the large investments in government biotech research provides opportunities for some U.S. businesses but restricts opportunities for others.

The results of research by Chinese government agricultural research institutes and universities are available in English and Chinese language journal articles. The most sophisticated research is published in prestigious international journals because they give scientists prestige and many universities and institutes provide substantial cash rewards to scientists who publish in *Science, Nature* and other highly ranked journals. Any USDA lab, U.S. university, or biotech or seed firms with sufficient scientific capacity can use these results in their research and technology development.

U.S. firms can use this research to develop new GE crops and profit from them in the U.S. and Latin America. Chinese biotech and seed firms so far cannot use this biotech research because they cannot commercialize GE crops in China. Some Chinese firms have attempted to sell Chinese traits abroad. The CAAS Bt cotton trait was approved for cultivation in India. It

could not compete with Monsanto's stacked Bt trait for cotton in India and never has had a large market share (Pray and Nagarajan 2010). Chinese Bt cotton is also being grown in Pakistan, but no royalty payments to CAAS have been made for many years. Several Chinese firms have attempted to sell traits in the U.S. and Argentina, but so far none of them have made their way through the regulatory process.

American farmers have gained from this combination of policies because Chinese soybean and corn producers are less productive than they would be with GE traits. This allows U.S. farmers to sell more soybeans and corn to China.

DowDuPont and Monsanto are two companies that would have made more money in China if restrictions on FDI were lifted, intellectual property rights (IPRs) were enforced more effectively and more GE crops could be cultivated. The purchase of Syngenta by the Chinese state-owned chemical giant ChemChina could increase Syngenta's share of the Chinese seed and biotech market now that it is Chinese firm. Increased access to Chinese science, the ability to conduct biotech research in China and access to Chinese government banks could make it more competitive with DowDuPont and Monsanto outside China also. It's limitation, however, is that it is owned by a massive state owned chemical company which means that it responds less to market pressures for efficiency and innovation and will have to meet government goals such as creating more jobs in China.

10. Does this pose a security risk to the U.S.?

I do not see any obvious security risk in Chinese agricultural biotech research. Agricultural biotech research will continue to be supported. Support for medical biotechnology will grow even faster and will have spillovers into agriculture. I do not see a threat that China will take over the global agricultural biotechnology industry any time soon unless it buys DowDuPont, Monsanto/Bayer or BASF.

The Chinese government's attempt over the last 25 years to develop a home grown agricultural biotech industry that could be competitive in China and globally has failed. The policy instruments used - restrictions on FDI, weak IPRs, major government investments in research and regulations that do not permit planting of GE crops except cotton – ensured that Chinese biotech firms had no market for GE traits in China. Even when GE crops such as Bt cotton was commercialized, Chinese IPRs were too weak for firms to make any profits. The government acknowledged the failure of this strategy by buying Syngenta.

Conclusions

To make the most of Chinese investments in agricultural biotechnology, the U.S. needs to invest in our biotechnology research, our agricultural research and our innovation systems. Encouraging collaboration between Chinese and American scientists encourages more rapid development of new knowledge and technology that can benefit both countries.

Opening Chinese biotech markets for foreign investment, encouraging enforcement of IPRs and the development of transparent biosafety regulations in China will only happen with foreign political pressure. Chinese economic interest groups and companies elsewhere in the

world are also pushing for these reforms (Pray et al 2017). The most effective way to move this agenda ahead is to work with these groups and pressure the government for change.

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OPENING STATEMENT OF NATHAN FIELDS, DIRECTOR OF BIOTECHNOLOGY, NATIONAL CORN GROWERS ASSOCIATION

HEARING CO-CHAIR GOODWIN: Thank you, Dr. Pray.

Mr. Fields.

MR. FIELDS: Thank you, Chair Cleveland, Senator Goodwin, commissioners. Again, thank you for the--thank you for the opportunity to discuss China's agricultural policies, their import policies, and how they're impacting U.S. growers and U.S. growers of all major commodity crops. There are second and third order impacts that I'm looking to delve down deeper into here.

I am here representing the interests of the National Corn Growers Association. We represent over 40,000 dues-paying members and really over 300,000 growers that contribute to their state checkoff systems.

We are a federation of those state systems, and in each state they set up their own rules on growers contributing anywhere from a quarter to a full cent per bushel voluntarily into the funding system that helps represent them in their states and in Washington, D.C. So what I'm trying to say is that if I don't represent them well, they will not voluntarily give those pennies away per bushel. So I'm on the hot seat.

Also, I say this because we usually do try to put growers in these chairs. This is a little bit more of a technical issue, and it's also planting season so they're a little bit busy right now.

So I have spent the last 14 years representing the interests of these growers in areas of technical innovation, trying to bring new products to market, make sure it reaches market efficiently, and allows them to produce the most efficient crop globally.

U.S. growers take pride in their ability to produce more with less year over year and really supply global markets with plenty of grain, and we have plenty of grain right now.

A cornerstone for them is access to crop protection tools. And over the last 21 years, biotechnology has been, has really revolutionized how crop protection works. Our growers take really high priority in access to this technology and the continued development of this technology to maintain that competitive advantage which they have in the global market and also helps their operations increase their levels of sustainability, something that's a top of mind for foreign markets, domestic consumers, and the like.

Corn is one of the most valuable crops that can be grown at the large scale that we have in the U.S. It takes a significant investment to do so, so any tool that can reduce those costs or allow us to produce more, we're going to adopt it. We're going to adopt it quickly and make sure it's safe and in the marketplace to continue the improvements that we've seen.

So in my written testimony I go into--and you heard Tom Sleight earlier talk about how China purchases corn in fits and starts. It's always the potential market that's out there so it's--we always feel it's somewhat of a sleeping giant even though, as you heard with Ambassador Vetter, there is a lot of different, very nontransparent policies that they implement.

But I really want to start really with the 2011 growing season here in the U.S. China hadn't really purchased much corn in 2010, a little bit of an indication here or there. And U.S. growers really weren't concerned with the asynchronous delays. It takes about two extra years to get a product approved for import approval in China than it does here in the U.S.

If everything was going well, you would have seen this product Viptera, the Syngenta product ironically enough, would have been approved sometime in late 2011, early 2012, so by

the time you're harvesting in 2011 and shipments are going, if it's just a little bit of a drab, you know, a few hundred thousand bushels going to China, growers weren't concerned.

They said we need this technology. We need another, another launch of an insect-tolerant product to help preserve our yields. So that--but unfortunately that summer, well, fortunately and unfortunately, that summer China did start buying corn. They started buying corn in very large quantities, and that had an impact on exporters.

Exporters who wanted to sell to that market all of a sudden said, oh, my goodness, we need to reduce the risk. We have a risk factor here, and they requested, and some of them changed their policies on what kind of grain they would buy. They said please don't deliver Viptera.

Well, that put growers in an awful position. Some growers who had bought Viptera and contracted with these companies for delivery were now in breach of contract, and they had to work their way out of that. And this really was just the first kind of cut. This was the first impact of these delays in China, China buying corn and inconsistency in their policies.

Anyway that bell had rung. That product was on the market, but Syngenta in the next growing season began trying to take steps to try to make sure that their product would be sold away from those possible export streams. Exporters were operating in this environment where any shipment to China could be rejected. So there was an added risk factor that they couldn't build into their prices.

Lastly, all the other seed companies out there who were looking to launch products were watching this very, very closely. They had products in the pipeline, they had products that they wanted to bring to market, but they didn't really know how this was going to happen or how they were going to bring those into market. So their business plans started to change.

So China didn't approve Viptera in 2011 or 2012. Everybody else in Asia had. Japan, Korea, other international scientific reviews had gone just fine, but delays in China continued all the way till 2015. And China did continue to buy corn though in 2011, '12, '13, purchasing all that time even though there was the possibility of Viptera being in that stream.

In 2013, though, finally, we got out of a drought year. In 2012, 2013, we had a fantastic crop. Price of corn dropped dramatically. Then all of a sudden China decided to just cut it off and said, oh, wait, this is an expensive boat of corn. I think we found some Viptera in here. We're going to go ahead and turn that around.

They closed the China market. It had a negative economic impact on U.S. growers and really sent ripples up the waves of our value chain. And why they still weren't approving the trait, technically, scientifically, was still really unclear.

Other companies had other products coming to market. There was no way that they were going to launch the same way that they had before. They were going to take it step-wise, start on smaller acres, really steward these products, develop really expensive programs making sure that their products didn't get into export streams.

This limited grower access to new products. This limited the amount of acres that they could be on. This really began to eat away at the efficiency of the ag production system and how technology comes to market in the U.S.

Now in the midst of all this, there was also a wonderful set of lawsuits, and that precipitated out into a multi-billion settlement that is pending, and now you have seed companies building that kind of risk premium into the production, into their pipeline. That again diverts investment away from these crop protection tools. That hurts the grower.

Also, we've learned that China's 8th decree has further changes to their regulatory system. We're working with the technology companies and their regulatory bodies to kind of understand what that's going to look like, but what we do know is it's going to be even less transparent. There's another risk factor that's coming through that U.S. growers are looking at and saying, you know, are we ever going to get new products coming to market the way we used to?

I don't think the answer is yes to that. So this impact is real. That being said, you know, we do still want to work with our international counterparts. We want to rectify any scientific misunderstandings, understand, let the markets know and global markets know what the impact of this technology is, how the impacts of non-functioning regulatory systems can hurt not only the U.S. grower but global production of grains.

So with that, I'll pause and say thank you.

PREPARED STATEMENT OF NATHAN FIELDS, DIRECTOR OF BIOTECHNOLOGY, NATIONAL CORN GROWERS ASSOCIATION

Thursday, April 26, 2018

Nathan Fields

Director of Biotechnology and Crop Inputs for the National Corn Growers Association

Testimony before the U.S.-China Economic and Security Review Commission

Hearing on "China's Agricultural Policies: Trade, Investment, Safety, and Innovation"

Chair Cleveland and Vice Chair Bartholomew and members of the commission, thank you for the opportunity to discuss China's agricultural policies and how they impact U.S. growers of major commodity crops.

Background

I am here representing the interests of the National Corn Growers Association representing nearly 40,000 dues-paying corn farmers nationwide and the interests of more than 300,000 growers who contribute through corn checkoff programs in their states. The National Corn Growers is a federation funded by growers voluntarily contributing a few cents per bushel to their respective states and national organizations. We speak on behalf of our growers from across the Corn and Cotton Belt guiding our policies and positions to accurately represent the interests of the U.S. grower.

Production Basics

U.S. corn growers produced over 14.6 billion bushels in 2017, representing 47.5 billion dollars in value to the economy. Corn is traditionally the largest area row crop in the United States with more than 90 million acres planted in 2017 at a yield of 176 bushels per acre on average[1] nationally. Annually, we export roughly two billion of those bushels[2] to international markets contributing to the positive trade surplus in the agricultural sector. Due to the nature of the commodity system, every market helps generate demand and support the price of corn. That support translates to higher crop value and greater positive economic impact. Thus, the U.S. grower values all functioning markets, domestic and international, to maintain farm profitability and positively impact the U.S. economy.

Efficiency and Sustainability

Beyond simple production and valuation numbers, U.S. growers constantly strive to increase farm efficiency and sustainability. Corn is a resource intense cropping system and ensuring that all inputs required to produce a crop are not wasted, we depend on new technological development. Just ten

[1] USDA, NASS, Crop Production 2017 Summary, Jan. 12, 2018

[2] USDA, ERS Feed Outlook, Dec. 14, 2017

years ago, an acre of corn was only producing 151 bushels per acre on average[3], 25 less than in 2017. Those additional 26 bushels are produced with very similar inputs to 2007 under increased weather variability. This trend has continued consistently for decades; efficiency has increased on the heels of consistent technology development and adoption. U.S. growers pride themselves as the most effective producers of corn globally, and any restriction to access to new technology threatens that. If we lose both the tools we have now and ones being developed, our use of natural resources, our arable land and our water becomes wasteful having a negative impact on the economy and environment. Our competitive advantage, and even our food security, is based on the consistent development of new tools for growers.

Technology adoption

To go further into the technological developments in corn production, we have to start with the 1936 Corn Belt drought commonly known as the Dust Bowl. It was during this event that the value of a new type of corn breeding, developed in 1918, known as double cross hybrid corn was realized[4]. While adoption started in the mid-1920s, the robustness of this new breeding technique came though during times of high stress. Growers saw the value understanding how better seed through new technology could allow them to produce more through varied weather conditions started widespread adoption. From 1937 to 1957, yield almost doubled, from around 28 bushels per acre, to 48 bushels[5].

By the mid-1950s new breeding techniques such as single cross hybrids had been developed and adoption of hybrid corn crossed over the 90 percent mark. Concurrently, understanding nutrient management and the use of fertilizers further increased yield gains. By the mid 1960s yields were hitting 80 bushels per acre and farm equipment and further refinements in soil management allowed for even greater gains to be realized. When the next wave of technology hit in the mid-1990s, we were producing more than 120 bushels an acre. This progress carries through today with drought tolerant corn to cope with climatic stresses in much of the corn belt through July and August.

Biotechnology Era

In the late 1970s and into the 80s, scientific understanding of genetics and how DNA can be modified in plant systems was growing at a rapid pace. There were tools discovered and invented that could extract genes from one plant and place them into another outside of the standard breeding methods used to date. This new method of gene transfer was developed into two main classes of new tools set to push agricultural efficiency and productivity into a new era. In 1995, herbicide tolerant soybeans were introduced into the market and in 1996, insect resistant corn was commercialized. In the following two decades more of these products have come to market allowing growers to use more benign herbicides and fewer insecticides to protect plants, resulting in more efficient use of fertilizers, greater adoption of

[3] USDA, NASS, Crop Production 2007 Summary, Jan. 2008

[4] Richard Sutch , "The Impact of the 1936 Corn Belt Drought on American Farmers' Adoption of Hybrid Corn", May 2011 http://www.nber.org/books/libe10-1

[5] USDA, NASS, Historical Data

no-till or reduced till farming practices, and better protected root systems that have allowed plants to survive flooded and drought events like never before. Through the 2000s, agricultural productivity became relatively stable, higher producing and more efficient. This has contributed to greater food security, economic growth and a smaller environmental footprint for all producers. By 2000, more than 90 percent of soybeans planted were from biotechnology derived seed while by the mid 2000's corn reached the 90 percent adoption threshold. These tools were adopted as such an aggressive pace due how well the improved the economics of farming.

Global adoption of biotechnology derived crops has faced some challenges. The technology, while supported as safe by every major medical and scientific society, remains controversial to some populations. Lack of transparent outreach and education as the technology entered the market left some consumers skeptical. This resulted in political actions that have hindered access in markets like the European Union. Soon after herbicide tolerant soybeans were introduced and approved for import into China and EU, development of additional herbicide systems paused at the request of soybean growers. This pause was intended for the global community to catch up on the understanding and adoption of the technology and to minimize any disruption of U.S. access to foreign markets. This hesitancy resulted in one mode of weed control to dominate the market, in both corn and soy, with some negative consequences. Within the corn sector, many products came to market to protect against harmful insects during that timeframe. Corn is less sensitive to foreign demand, and our markets were primarily in East Asia, where acceptance was more progressive. While imperfect, synchronizing the regulatory approval across the corn markets has mostly been achievable allowing product development to continue. China had not been an issue through the mid-2000s as they were not importing corn despite the fact their regulatory system ran one to two years behind the rest of the Asian importers. This systemic delay would begin to cause market issues in the early 2010s that are still impacting growers today.

Weed and Insect Management

As we have outlined earlier, the need for new technology to increase sustainability, production and the economic health of farming operations is critical. New technology is also needed to ensure that current technology remains viable. In the case where one herbicide tolerant variety dominated the market, the growing population of weeds that became tolerant to the system began to impact farmers. Glyphosate resistance has had a negative impact on growers, primarily in the South, for more than a decade. Resistant weeds are harder to control, decrease productivity, introduce foreign material into grain and pose an ecological risk. Growers and researchers responded by implementing more aggressive weed management plans that take the more scientifically-sound approach of using multiple modes of action for weed control.

For insect control, resistance issues could develop if there are not a robust suite of products available for growers. Using multiple modes of action and changing products to control insect populations is critical for the functionality of current biotechnology derived products and their chemical supporting products. Growers depend and plan on new products to come to market to meet ever changing environmental pressures.

China and Regulatory Asynchrony

Since the introduction of biotech crops, the majority of importing countries have developed a regulatory review process that verifies the safety of the products for import or cultivation. As mentioned before, these systems can be synchronized so products can enter the market without disruption. This is due, in large part, to the robust resources around regulatory affairs deployed by the developers. As long as the approval of these products is scientifically based and occurs on a predictable timeline, the market can efficiently bring technology to commercialization. When these approval processes become less predictable and politically influenced, the resulting market disruptions can be costly to the entire agricultural value chain.

There are two regulatory regimes that have shown inconsistencies in timing and reviews. The first is the European Union, which consistently executes a transparent, scientifically based review and recommended approval for import. When these products need to then be voted on by the commission, delays occur. This "political hurdle" has created some market disruptions in the past, but there has traditionally been some diplomatic action that has resolved the asynchrony.

China, especially in recent years, has continued a trend toward delays, opacity in regulatory reviews and possible political or economic motivations for the delay of import of new products. The first issue is its regulatory regime requires a product be approved for cultivation in another country before the application process can even begin. Then, its process requires dossier review, importation of seed, in-country growth of the product, feeding studies and final reviews of those studies before import approval. This creates, approximately, a two-year delay from cultivation approval in the United States before a farmer could plant and deliver that product to an export market. With the fungible nature of commodity grains, seed companies are reluctant to introduce new products to the market until Chinese approval has been achieved. This denies farmers access to these products for years, limiting the tools they can use to combat weeds and insects. This, in turn, negatively impacts their production potential and efficiency, resulting in economic and environmental harm as well as risks to our national food security. The soybean market has primarily operated in the aforementioned fashion due to the significance of the Chinese market in relation to overall demand. For corn, it has been far more complex.

Corn Case Study – 2011-Present

The manner in which these issues impact the export market, U.S. growers, technology access and the rural economy can be demonstrated through the ongoing commercial disruption with one specific product. In 2011, a technology development company, Syngenta, brought a new product designed to protect corn against above ground insects to market. Market demand for an additional product, or mode of action, against these target pests was high, and performance of the product was positive. The product, Viptera, was widely launched to an estimated one-million-plus acres that growing season in what could be described as the last full commercial launch of a biotech product. Because of the events of 2011 and later, companies no longer launch new products so widely.

Prior to the commercial launch, Syngenta communicated with growers, processors and grain traders the timeline for when it would offer the product to market. The company was actively engaged in achieving regulatory approval in the major markets that import corn. Timelines were progressing as expected. The

two-year delay in China was not perceived as significant enough for growers to limit access to the technology as China was not purchasing much corn at that time. After the crop went into the ground that spring, China started showing interest in buying corn and the potential for a disruption became possible.

In reaction to China signing contracts to buy corn, some of the major exporters began notifying their purchase sites not to buy corn that contained the Viptera trait. This proved problematic for growers who had already planted Viptera and had also contracted with an elevator now not accepting the trait prior to this development. These growers could find themselves in breach of contract due to the shift in purchase policy. NCGA, along with other members of the value chain, worked through these short-term issues but, after the commercialization of the product, a baseline risk that Viptera could inadvertently end up in a shipment to China now existed. Syngenta remained committed to achieving import approval in China, but delays continued to occur. Therefore, that risk also continued to grow over the next few growing seasons.

China continued to purchase U.S. grain without Viptera approval through 2013, when it started testing shipments of corn, found the trait and subsequently rejected the shipments. The market impacts of these rejections and the reduced purchase of corn by China are the subject of a multi-billion-dollar lawsuit currently and are still debated in the industry today. What is not under debate is that these disruptions, and subsequent lawsuits, have had a chilling effect on grower access to technology. In the years following 2011, every new product that comes to market is initially is introduced only through a costly stewardship program and on extremely limited acreage in order to avoid any market disruptions. Every major seed provider has limited access to new products, resulting in decreased access to new technology and a weaker business plans for the development of new traits. Additionally, China's regulatory system continues to be inconsistent across all crops with this technology. Corn growers have been denied access to critical herbicide tolerant varieties to combat hard to control weeds, new insect products to battle below ground insects and have seen the pipeline for these new products slowed significantly. After years of continued data sharing and diplomacy, significant traits in corn, soybeans and other crops remain delayed in China's system while no other regimes have had similar issues.

Current Short Term Regression

The U.S. agricultural industry has sent countless envoys to China in attempts to clear the backlog of delays. Our trade associations have spent significant resources to ensure that international scientists reviewing the dossiers have the tools they need. This has expanded beyond the U.S.-China relationship as, globally, regulatory regimes are trending toward more open data sharing, universal dossier requirements and, hopefully, higher acceptance of reciprocity on approvals. In recent weeks, it has become clear that in China's Eighth Decree, it will be moving against this trend by bringing the technical studies for review inside its government. This elevates the lack of transparency of their system and increases the risk even further in bringing new products to market.

There is much speculation as to why China has decided to move in this direction. On its surface, it appears China simply wishes to exercise its right to sovereignty of its regulatory system and have tighter control over the material it tests. One could also reasonably surmise that this could be an attempt to foster domestic development of biotechnology derived or gene edited products by reducing the direct

regulatory burden on its own companies. Currently, there are groups in China trying to dissect what the impacts of the regulatory change will be. They will make a white paper available on this matter soon.

Our nation's agriculture industry leads the world as the most advanced, efficient production system. America's farmers take great pride in their ability to serve all markets. To maintain our nation's excellence, the U.S. need to continually develop and adopt cutting edge technology that meets the needs of evolving buyers. U.S. growers value international markets and hope to work with the Chinese government in modernizing all regulatory oversight for more effective trade. Unfortunately, current conditions restrict our progress, negatively impacting our entire value chain. America's corn farmers seek the continued support of the U.S. government in resolving these issues moving forward.

Thank you.

OPENING STATEMENT OF DR. HOLLY WANG, PROFESSOR OF AGRICULTURAL ECONOMICS, PURDUE UNIVERSITY

HEARING CO-CHAIR GOODWIN: Thank you.

Dr. Wang.

DR. WANG: Thank you, Senator Goodwin.

I will talk about food safety. So Chinese food exported to the U.S. market, how safe that is, and also how bad is food safety in the domestic Chinese market.

So first do we have vulnerabilities exist in the U.S. food safety regime with respect to food imports from China, and what can we do about that? So actually government has done a lot to ensure safety of food along the lines from the beginning that set the standard and monitored the production procedure and set the standard for the food product, and if anything going wrong, issue recalls, and/or follow-up in punishing the rule violators.

But it's very difficult to do this for imported food, China included. Like U.S. government, we cannot send people to inspect every Chinese producer who sends food to the U.S. market, and even though FDA is inspecting at port of entry, but only one percent got really selected and tested. You cannot check everything. And recall is even more difficult because most of the recalls in our country are issued by the suppliers, not the government, but foreign suppliers, they don't have information, they don't have efficient access to the channel to recall, and they could care less.

And even the last, to punish those violators who provide unsafe food, and what can we do if you find somebody even violating the laws? So what we do currently is banning, banning, put them on blacklist to make sure they don't import anymore.

However, you don't put them to prison, you don't follow-up with more legal punishments. So I guess on this area, front, we can do something. For example, that U.S. is already collaborating with China, sending some people working the country and monitor some of the producers, and actually we can use the current technologies, such like lot of Chinese producers have installed surveillance cameras so you can watch them 24 hours. So maybe we could use the technology.

And add border inspection, and instead of random sampling, we can have targeted sampling, maybe use some data technology like machine learning, big data, so that you know where the problem can come more likely. And also we can hold our U.S. importers accountable, make them require their suppliers to comply and maybe pursue some legal actions if anything wrong with that.

So, and the next question is does Chinese food exported to the U.S. market, it's more unsafe--okay--it's worse compared to other exporters? I guess my brief answer is not really. Well, one reason is because the Chinese imports only account for a small portion amount of imports. So Chinese is like under five percent, way after Mexico, 19 percent, Canada, 18 percent, and in the same cohort like Chile, India, and other countries.

And next, overall, all the food imports, that actually 19 percent value in food imports in our country, but only seven percent of the health problems are connected to the imported food. So overall, imported food are not, not really unsafe compared to domestic food.

And but, of course, that usually the safe, food safety criteria and the practice is worse for developing countries than developed countries. So I did some regression analysis using multiple years of data that look at the border, refusals for import food from China, compare that with Mexico and India.

So my regressions say that China has the least number of refusals. So Mexico is number one. Chinese number is only half of Mexico, and, of course, Mexico's volume coming into our country is more.

But China is also behind India. It's about 60 percent of them. Even though Chinese import value is a lot lower, so saying that, I'm not saying Chinese food is really safer, but it's really similar to the other developing country sources.

And the third country is how bad the food safety condition in China and does the government, Chinese government doing a good job, and what do they do there? So overall, food safety is an issue, but that issue came since China started its fast economic development about three decades ago, market provided incentive, and provide the materials and the technologies so that producer could have food adulteration.

And now you see that there are more reports, especially after 2009, that really, really notorious, infamous, notorious melamine case. That's only because people pay more attention, more are detected. So when I look at all these problems, the scandals, they are not systematically from large companies. They're really more from individual smaller ones.

And Chinese government passed its very first food safety law in 2009, and reinforced it, enhanced in 2013, very very strict. While there are some also large and sample-based surveys showing that the Chinese compliance rate increased from 70 to like 97 percent in recent years.

Well, but the biggest challenges still come from the large number of small segmented food producers in China. It's just very difficult to reinforce and make sure everybody, and there violation cost is very low. So Chinese government is still going to fight with them. Not a lot of the food scandals are initialized from small producers there.

Another question is how does the environmental condition affect food safety? Chinese environment is deteriorating. Water, air, and soil are all polluted. Yes, so there's untreated factory waste water and the city urban sewage water go into the underground water body, really polluting them. Heavy metals and all the pathogens, and they are used to irrigating. So the biggest problem is the Chinese grain production. So one thing is this cadmium is found in rice and that caused a big concern in Chinese market.

So other things actually as well--copper and the other heavy metals. And also the water. So the major Chinese import to the U.S. is their aquaculture. So seafood or fish I use loosely. I just call it seafood. It can be freshwater. So they are raised confined in a net cage along the coastlines or in the waters. But waters are polluted. A lot of antibiotics are used, and you find them in fish.

And even air contributes, a little less, but at the margin it shows that green leafy vegetables and teas are really prone to absorb these heavy metals from the air.

And the next question is how does the food safety play into China concerning about social stability and other things beyond the food? It is a problem. So as the media, you know, especially self media, spread a lot of things, facts or rumors, and people are really skeptical, and they don't trust the Chinese food system that extends the distrust to other government functions. So any scandals in government, inefficiencies can be blamed to corruption and other things.

So Chinese government realized that if they don't do much about food safety, make a better measurement, and they're going to lose the trust. That it will impediment their other functions.

So I guess, to summarize, what can I suggest for our governments to do to improve our--well, at least prevent damage on the food safety part related to Chinese imports.

And one thing is our government can use current technology. I mentioned the field like the data technology, like the other technologies, Internet, to better supervise the entire production chain and can also work with the Chinese government.

Actually food safety is--China and U.S. have the same interests on this side. So maybe sharing some of the testing technology with Chinese government and sharing some of the best production management of standards and rules. And make sure safer food is produced, the market, in Chinese market and exported to the U.S. market.

And FDA and USDA I note already established offices in China and work well.

And the very last thing is I will recommend that U.S., our industry, really need to guard our own reputation to provide a high quality food and to grab the high-end Chinese market so that they are competing with European, with other producers in the world. So in terms of food safety, we still have a better reputation. We got to do much to protect that.

Thanks.

PREPARED STATEMENT OF DR. HOLLY WANG, PROFESSOR OF AGRICULTURAL ECONOMICS, PURDUE UNIVERSITY

US-China Economic and Security Review Commission (USCC)

Congressional Hearing on

CHINA'S AGRICULTURAL POLICIES: TRADE, INVESTMENT, SAFETY, AND INNOVATION

Holly Wang, Purdue University

Thursday, April 26, 2018

Washington, DC

1. ***What vulnerabilities exist in the U.S. food safety regime with respect to food imports from China? How can U.S. food safety measures be improved to mitigate risk from food imports?***

U.S imported about $6.1 billion food and drink products from China in 2017, with the major categories as fish and shellfish ($2.7B), fruit and vegetable products ($1.6B), snack foods, and tea (US Census, 2018). There exist vulnerabilities in the U.S. food safety regime for imported food from foreign countries, including China and other countries as well.

The majority of food imported to the U.S. is not physically inspected at the port of entry, which is a vulnerability in the import system for potential safety problems from imported food. U.S. Food and Drug Administration (FDA) is responsible for the safety inspection of imported food. FDA has staff working at the U.S. ports of entry to inspect the products shipped over and also working overseas to inspect production and transportation facilities. Due to the cost of inspection, only a small sample of imported goods get inspected, 1% during 2006 to 2013 (Beach, 2016). For seafood, this is less than 2% (Ortega et al., 2015). Instead of completely random draws, FDA targets goods with high potential of regulation violation based on its experience in an attempt to maximize the catching of substandard products under limited budget. This opens the first door for problematic food products entering the U.S. market.

Another vulnerability is in the recall system. Recalls can be made voluntarily by private firms of their own products or by FDA. It rarely happened that foreign firms recall food products exported to other country's markets because they may not have quick information about the safety problems from foreign markets, they may not have good channels to issue recalls when working with layers of traders, or they may not care much about those issues. FDA issued recalls account for only a small percentage, and its recalls may not be delivered to end users efficiently as they only put those with very large impacts in major media, while seafood and processed fruits and vegetables from China are mostly small varieties. There is a lack of effective means to confine and mitigate the damages caused by problematic food already in markets.

Thirdly, even the imported food products are traceable to some extent, the punishment is often not sufficient to deter future violations. For example, unlike firms and individuals can be persecuted under the criminal law for food safety violations, FDA blocks firms that has a history of violating the safety rules from exporting to the U.S. but doesn't pursue legal or financial punishment against them in general because they are outside the country.

Measurements can be considered for each of the aforementioned vulnerabilities. Actually, USDA and FDA have made efforts along the lines. For example, agents have been sent to inspect the production sites in foreign countries, China, specifically, and third party certifications of such suppliers are required in some problem prone food categories. USDA and FDA have also worked with Chinese government to enhance Chinese domestic food safety regulation inspections. FDA branch offices were opened to aid the Chinese government in addressing potential safety risks of food exports to the United States (Ortega et al, 2014b). These efforts reduce the chance for substandard foods reaching the port of entry (Gale and Buzby, 2009). Random inspection can only inspect a small portion, either at the ports of entry or at the production sites. Now, surveillance cameras have been installed in processing plants widely and even farms in China, accessing these videos can be a supplemental to the physical inspection.

Traceability is important for effective recalls. Tracing the flows of the imported food and food ingredients can result in targeted recalls, should safety problems found. The 2011 Food Safety Modernization Act holds U.S. importers accountable to their foreign suppliers' compliance to the food safety regulations of our standards (FDA, 2011). Importers can then pursue legal persecution in the origin countries if their suppliers violate the food safety regulations at home or breaching the contracts.

2. *Do Chinese food exports pose a larger risk to U.S. consumers than exports from other countries?*

A short answer is not seriously. This is because the scale of Chinese food exported into U.S. is not large, and because food safety problems in the Chinese exports is comparable with those from other major food exporters outside the OECD developed country group in the US market.

Among the total U.S. food import of $137.8 billion, imports from China accounts for only 4.45%, remotely after the two largest exporters, Mexico, 19.0% and Canada 17.7%, and closely followed by a few exporters such as France, Italy, and India, etc. (ERS, 2016). Disease outbreaks in this decade associated with imported food accounts for about 7% among all outbreaks, much lower than the 19% share of imported food (Gould et al, 2017). The 7% outbreaks are primarily in seafood and produce, traced to Latin American and Asian countries, China among them. Statistics do show an increase in numbers of disease outbreaks caused by imported food and boarder refusals, the size is still far from significant.

Figure 1 obtained from Gale and Buzby (2009) shows a comparison of border refusal reasons between imported food from China and from all countries. The changes of categorical shares

among all categories between all counties and China over these years reflect the import volume relative shares.

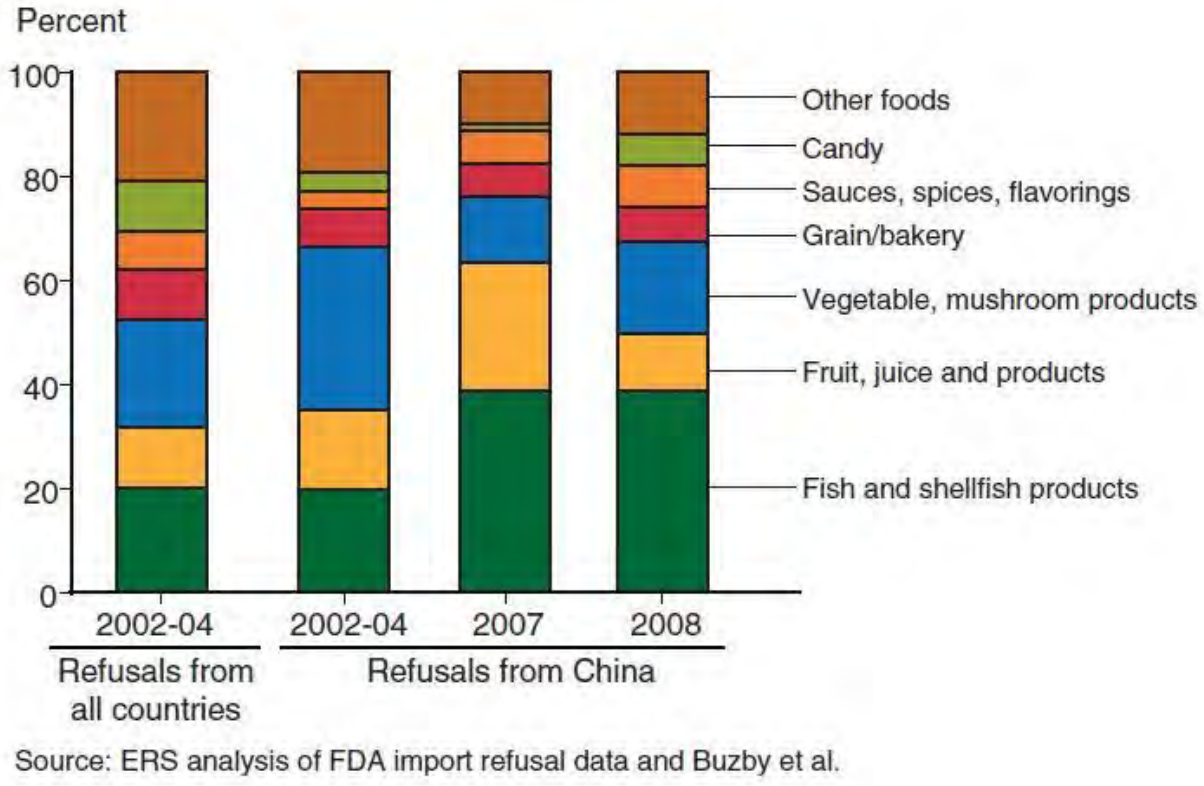
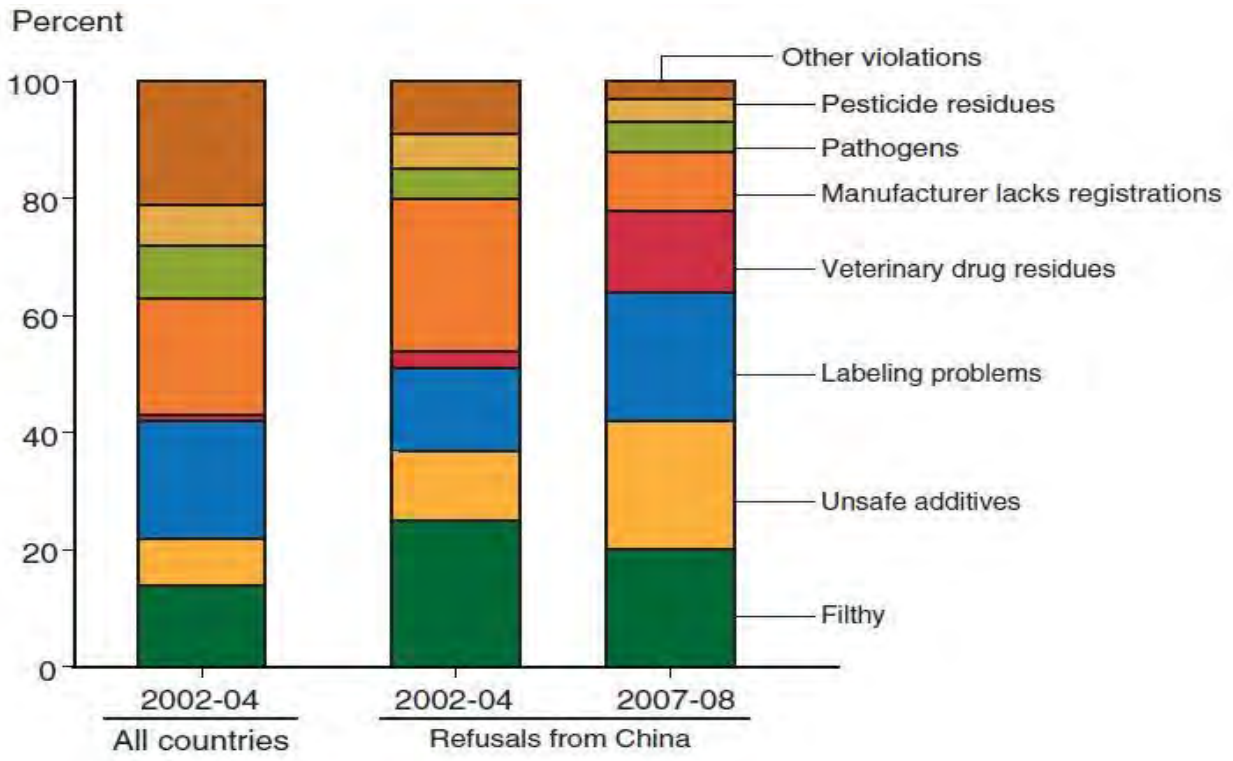


Figure 1. Share of FDA refusals by food category

In 2009, approximately 23% of the aquaculture imports originated in China and 16% were sourced from Thailand. Gale and Buzby's (2009) study on U.S. Food and Drug Administration (FDA) import refusals shows a large increase in the share of aquaculture product entry lines from China beginning in 2007, which coincided with the increase in Chinese fish and shellfish export to the U.S. (Becker, 2008). The primary culprits of refusals being filthy and the presence of unsafe additives, veterinary drug residues, and labeling problems (Figure 2).



Note: Chart shows share of violations in FDA import refusal reports. Many refused shipments had multiple violations.

[1]For a description of violation codes, see http://www.fda.gov/ora/oasis/ora_oasis_viol_rpt.html.

Source: ERS analysis of FDA import refusal reports.

Figure 2. Violations cited in FDA refusals of food imports from China

U.S. imports 91% of its seafood with a net import value of approximately $10.4 billion, and Canada, China, Indonesia, Viet Nam, Ecuador, and Thailand are the six major suppliers in the US market. Country of origin label (COOL) is mandated by USDA for seafood, and U.S. consumers use COOL as a signal for the level of food safety (Wang et al., 2013). There has been a higher food safety concern on imports from developing countries than developed countries.

Bovay (2016) published a recent study on the refusal data. He claimed for China that "the food industries with the most shipments in violation mirrored the industries with the most shipments in violation from all countries." Figure 3 from Bovay's study showed the import refusal numbers by food category for Mexico, India and China, they are consistent to each other for the relative import sizes of each country and each category. Bovay also concluded that although refused seafood shipments from China peaked in 2007 and vegetable category peaked in 2013, the patterns do not necessarily indicate increased problems with food safety of food products from China.

A regression analysis is conducted using the country of origin to explain the number of violations for these three countries while having the import value as a control variable, with combined data from Figure 3 and from the study of ERS (2016) over the period of 2005 to 2013. Results are shown in Table 1.

Table 1. Regression for the number of violations of import from Mexico, China and India

	OLS Regression		Panel Data Fixed Effect Regression	
	Coefficient	Standard error	Coefficient	Standard error
Import Value	-0.012	0.03854	0.017	0.017
Mexico	859.97***	370.75	50.87	NA
China	431.67***	118.09	-95.11	NA
India	553.48***	116.56	44.24	NA
Year	17.14	30.18	-2.02	19.71
Constant	NA		4580.65***	790.56

Date source: Author's own analysis.

We used both ordinary least square and panel data fixed effect models to check the country effects on the number of violations, when the size of the import and the time effects are controlled. Both regression consistently show that Mexico has the most serious violation problems followed by India and China is the lowest among these three countries.

Country and industry	Most common violations	Year									Total
		2005	2006	2007	2008	2009	2010	2011	2012	2013	
Mexico											
Vegetables and vegetable products	Pesticides	320	261	279	64	153	195	218	95	325	1,910
	Filth/filthy	400	192	137	57	213	104	79	78	68	1,328
	Salmonella	0	4	6	49	36	52	19	21	128	315
Candy without chocolate/specialty candy/gum	Filth/filthy	221	262	88	99	211	99	31	52	40	1,103
	Unsafe color	95	87	75	51	60	60	102	44	37	611
	Lacks nutrition label	33	14	17	28	87	45	36	7	12	279
Fruit and fruit products	*Salmonella*	33	67	21	20	5	49	535	130	32	892
	Filth/filthy	92	41	29	37	37	44	30	35	54	399
	Pesticides	22	31	38	8	25	36	60	27	69	316
India											
Spices, flavors, and salts	*Salmonella*	104	155	221	204	313	318	327	265	216	2,123
	Pesticides	21	4	10	13	17	190	128	161	48	592
	Filth/filthy	44	32	55	75	43	66	60	65	46	486
Bakery products/ dough/mix/icing	Filth/filthy	43	45	39	36	77	19	51	106	103	519
	Unsafe color	173	83	106	26	22	14	17	5	5	451
	Lacks nutrition label	33	49	36	23	36	30	18	20	17	262
Whole-grain/milled grain products/starch	Pesticides	0	0	1	0	0	0	88	425	321	835
	Filth/filthy	35	61	31	16	56	37	33	70	68	407
	Lacks nutrition label	4	1	9	12	21	4	11	7	2	71
China											
Fishery and seafood products	Veterinary drug residues	21	151	179	88	61	156	160	59	45	920
	Filth/filthy	50	68	128	57	85	98	156	57	79	778
	Unsafe additive	0	11	59	61	22	89	59	37	32	370
Vegetables and vegetable products	Filth/filthy	69	56	43	51	59	53	41	57	89	518
	Pesticides	124	20	17	12	19	39	48	73	61	413
	No information on scheduled process filed	27	51	30	21	46	20	23	26	27	271
Fruit and fruit products	Filth/filthy	34	39	47	27	76	77	29	23	10	362
	Unsafe color	15	45	63	22	47	61	44	32	25	354
	Fails to list saccharin	7	23	32	11	53	26	12	8	14	186

Source: USDA, Economic Research Service, based on U.S. Food and Drug Administration OASIS (Operational and Administrative System for Import Support) data.

Figure 3. Most common violations for selected countries and industries.

3. ***How have food safety conditions in China changed over the past 10 years? What are China's chief food safety challenges? What progress has been made in addressing these challenges and what shortcomings exist? Have China's policies been in accordance with its food safety goals?***

Food safety problems have existed since the fast economic development in China started to pollute the environment and provide market incentives to cut cost with access to unsafe materials and technologies. They were left unidentified for long until the worst incident, the melamine tinted baby formula, occurred in 2008. Chinese government took an immediate measurement to give strong legal punishments and passed its first Food Safety Law in 2009, to replace the old 1982 Food Sanitation Law.

Although more food safety scandals have been reported in the media since then, such as clenbuterol in pork or swill oil used in restaurant, they are mostly individual small business behaviors without large firms involved in a systematic way. The increased number is a result of more media attention, not necessarily representing more occurrences.

The Food Safety Law was updated in 2015, referred to as the strictest food safety law in history. In addition, Chinese government has paid continuous efforts in food safety supervision. The previously segmented supervision system with ten central government departments and ministries to monitor food safety has been recently synchronized to the State Administration for Market Regulation that incorporates the former food safety supervision functions of State Food and Drug Administration (CFDA) and General Administration of Quality Supervision, Inspection and Quarantine.

Chen and Zhang (2017) summarized the food control system and standards in China and compared them between the current and last decades. They found that China has quite comprehensive standards comparable to those in developed countries in Europe or North America. The regulation compliance rates calculated from national monitoring systems show a consistent improvement. The government is paying serious efforts.

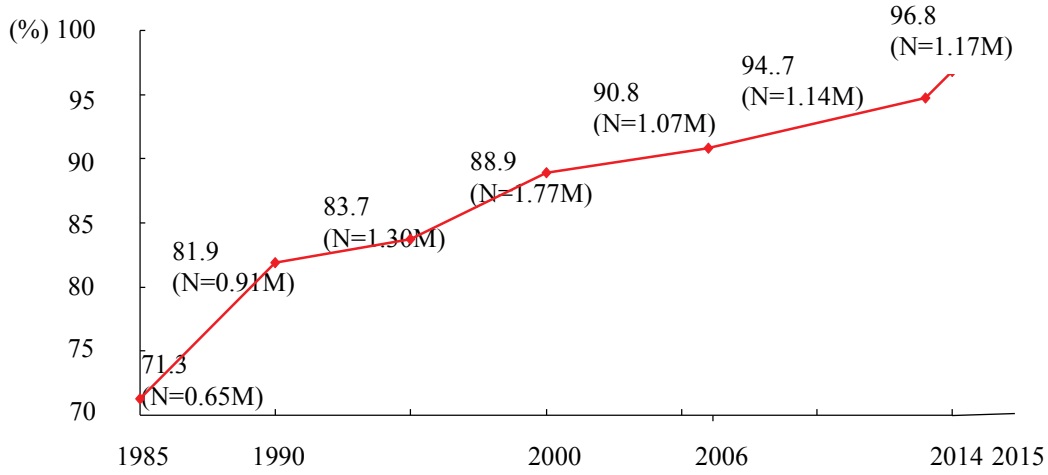


Figure 4. Changes in total food compliance rate in China (1985–2015) Note: numbers in brackets are sample numbers in millions. Source: Chen and Zhang (2017).

However, the food adulteration or food fraud exists as pointed out by Chen and Zhang (2017) and many others. The large number of segmented small scale farms and layers of small wholesalers and retailers in markets make it very difficult and costly to monitor, inspect and supervise by the government (Ortega et al, 2014). Although such type of violations are illegal and should be persecuted under criminal law, farmers are generally low income people, it is hard to persecute a large number of poor law breakers without causing social unrest.

The urban development has brought modern supermarkets to replace the old fashioned wet farmers market, and branded food products emerged as food processing firms grow. The government also promotes large agribusiness to serve as "dragon heads" to coordinate with small farmers, hoping they can do the first level of quality control and then it is easier for the government to supervise and inspect the larger firms. Traceable systems, safety certification systems, and recall systems have been established gradually.

4. *How do environmental conditions, such as soil and water contamination, affect the safety of Chinese food products?*

Chinese polluted environment, soil, water and even air, is a major factor causing unsafe food. Chinese grain production heavily depends on irrigation. Untreated sewage water, industrial wastewater, and agricultural chemicals pollute surface and underground water, which is used for agricultural irrigation. Chinese National Bureau of Statistics (NBS, 2013) showed that 17.7% of the 176,000 kilometers of rivers assessed by it was not safe for irrigation, but they are used anyway. Heavy metals such as chromium, copper, lead, zinc, cadmium and mercury are the major pollutants, with copper and cadmium contents increasing in the last few decades (Lu. et al, 2015). These metals come primarily from sewage and industrial waste water. Pollutants are absorbed by crops right after irrigation, or accumulated in the soil and will be picked up by crops in the future. At least 12 million tons of food were found containing high level of pollutants (Lu et al. 2015).

Heavy metals are also found in agricultural land at a high level beyond the safe threshold. The Ministry of Environment Protection published a survey in 2014 indicating that 16.1 % of arable land is polluted, and particularly excessive cadmium is found in 7% of surveyed sites. Cadmium in rice started to attract public attention and generate concerns recently because excessive intake of Cadmium over a prolonged period poses serious health risk, and rice, the major crop grown in the polluted area and a crop quite absorbent for Cadmium, is Chinese staple food. (Teng et al. 2014).

Broughton and Walker (2010) found that 70% of the world's farmed fish food came from China and it is the largest exporter. Diseases can be easily caused and spread among fish and shellfish raised densely in net cages in water polluted by sewage and other discharged wastes, and thus routine and overdose use of antibiotics to prevent and treat the diseases is common among aquaculture farmers. The drugs are even premixed in the fish feed with or without clear labeling to inform users. Antibiotics are found in the Bohai Bay in Chinese north coastal area carried by Chinese major rivers (Zou et al., 2011) and in the Beibu Bay in Chinese south coastal area (Zheng et al., 2012). The antibiotics polluted coastal water then affects the fish and shell fish raised in the area in turn. Heavy metals are another pollutant. They enter the water bodies

from industry wastewater and urban sewage, can be absorbed and concentrated in fish and shellfish, and then bring health hazards to consumers. Heavy metals have been found in fish at a higher level than the safe threshold (Wang et al 2012; Cheung et al 2008).

Air pollution can also contribute to unsafe food through crops, although not as recognized by the public as water and soil pollution. Chen (2014), a Chinese ecologist, explained how plant leaves can absorb heavy metals from the air in addition to the soil with scientific evidences, and claimed that leafy vegetables grown in air pollution areas such as near polluted cities, highways, industrial sites are prone to heavy metal problems. Leafy vegetables account for a major share of Chinese vegetable intake, and drinking tea is also very popular among Chinese, both of which can cause subtle health problems to consumers. The wide spread smog problems are only one indicator of the severe air pollution in China, which can directly damage food safety.

5. *How does food safety play into China's concerns about social stability, urbanization, and other high-level issues?*

The frequently occurred food safety scandals have damaged Chinese people's trust on the food system. It generates market opportunities for nontraditional food sources, from reputable sources such as long standing brands either imported or domestic, new sources with innovative production technologies such as organic farming with round the clock online surveillance video, to sources with attractive advertisement but ambiguous safety effect. It also dampens people's trust on the government administration.

Under this lack of trust for the food system, any exposure of a food safety incident not only ruins the firm's own reputation but also damages the market for the entire industry, which can be an overreaction from the unsecured consumers. Rumors can be spread out quickly over the widely used social media to an audience that is lack of scientific knowledge and critical thinking skills.

Large transaction cost is imposed in the economy, which may not be reflected in the GDP loss but definitely social welfare loss. For example, consumers have to spend a high price premium on food products labeled safer which are actually at the same safety level as the common products, just like the farms with 24-hour surveillance cameras in the fields connected to internet. They also pay high price premium to foods imported from credible sources, mostly developed countries. For example, bottled water and liquid milk transported from European countries are largely seen in Chinese markets.

It also destroys the traditional interpersonal trust. Chinese used to agree that farmers are the honest group of people, better than the profit seeking businessmen or the power seeking officials. Now, it is widely believed that farmers do not eat what they grow for sale because they intentionally use unsafe but profitable inputs, and most food safety incidents do originate at the farm level. Farmers' market is a place symbolized cheap and poor quality food instead of fresh and local grown high quality food. Small street vendors are considered the same.

Further, the public lost their trust to the government, or at least the administrative ability of the government (Jiao, 2013). Corruption is always to be blamed for any inefficiencies in the government administrative process. Food safety incidents passed through the government's supervision can often be interpreted as a result of the officials' intentional permitting the private sectors' illegal endeavors in exchange of personal benefits. People do not trust the food safety information provided by the officials and/or from the major media controlled by the government, and extend their distrust on all other topics from the official media.

Food safety can also be used to hold against imported food, especially food from particular countries. For example, U.S. as the largest food importing source country, food safety problems can have controversial effects on Chinese patriotism or nationalism. Psychologically rejecting genetic modified organism (GMO) in many U.S. products in Chinese market is one case, and boycotting U.S. brands like KFC and McDonald for food safety incidents in 2014 is another.

6. *The Commission is mandated to make policy recommendations to Congress based on its hearings and other research. What are your recommendations for Congressional action related to the topic of your testimony?*

Summarizing the discussion above, we can recommend the following. 1) Food safety problems in imports from China are at the similar severity as those from other major developing country exporters like Mexico and India, and there exists room for the government to further improve its control including increasing the sample size at the port of entry, monitoring the production process using web based technology, tracing the imported food to enhance the recall efficiency, and increasing the level of punishment to violators. 2) FDA and USDA shall collaborate with the Chinese government on food safety control in the area of standard setting, testing technology transfer, and best production practice sharing, which are to the best interests of China also as it will satisfy its domestic consumers' safety need and also improve China's reputation in the global market. 3) U.S. agribusiness shall be careful to protect the good reputation of its food products so that they can compete in Chinese higher end market with products from other strong international competitors.

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OPENING STATEMENT OF MICHAEL ROBACH, BOARD DIRECTOR CHAIRMAN, GLOBAL FOOD SAFETY INITIATIVE AND VICE PRESIDENT FOR FOOD SAFETY, CARGILL

HEARING CO-CHAIR GOODWIN: Thank you, Doctor.

Mr. Robach.

MR. ROBACH: Chairman Cleveland, Vice Chairman Bartholomew, Mr. Goodwin, and members of the Commission, thank you very much for the opportunity to testify today.

I'm here to provide some insights on food safety in China from the perspective of both my role at Cargill and at the Global Food Safety Initiative.

I'm the Cargill Vice President of Corporate Food Safety Quality and Regulatory, as well as Chairman of the Board of the Global Food Safety Initiative, or GFSI. And I appreciate the opportunity for us to have a conversation around how we can improve food safety in China through efforts in both countries.

We have over, as Cargill, we have over 50 locations and 7,000 employees in China. And this stands in as part of our overall portfolio of 1,500 food producing plants in 70 countries and over 150,000 employees worldwide.

GFSI is a global multi-stakeholder nonprofit organization. It's composed of the world's leading food safety experts from the agricultural, retail, manufacturer and food service companies along with certification and accreditation bodies, and then government, academic and international organizations, as well as service providers associated with the global food supply chain, that work together to identify the best food safety management practice across the agri-food supply chain and encourage the auditing and certification of those practices at food facilities worldwide.

We focus a lot on harmonization of standards, and we're based on the principles of Codex Alimentarius, the principles that come out of OIE, the World Organization of Animal Health, and the IPPC, the International Plant Protection Commission.

Both our organization, all our organizations that are signatories to the WTO SPS agreement, and so they really establish the international standards as it's related to food safety.

GFSI, our global partners, perform audits and certifications on more than 100,000 food operations in facilities in 160 countries annually, and the numbers are continuing to grow. Governments and regulators benefit from this third-party certification, and as much as oversight is achieved without the use of publicly funded financial and human resources because it's funded by the private industry but based on public standards.

Additionally, third-party certifications can complement national food safety control systems by providing information obtained through auditing and certification which can then be used by regulators in determining how they deploy their limited resources.

Certification has the benefit of transparency and is driven by GFSI aims at continuous improvement and flexibility and response to rapidly evolving market demands with the added advantage of these audits being carried out on an annual basis, including the use of unannounced audits. Reducing the audit burden and improving food safety management systems implemented in food production operations allow for greater cost efficiencies throughout the supply chain, and then give us as food producers more confidence in the integrity of our supply chains, regardless of where they originate.

GFSI and third-party assurances play a key role in advancing food safety in China and consequently for products exported to the U.S.

Prevention is a key component, and I'd like to talk a little bit about how third-party assurance has a proven track record and widespread global adoption, and that's the HACCP approach to food safety.

China has their own HACCP program that CNCA administers, known as China HACCP, and they went through a process with GFSI to compare their HACCP program to our benchmarking requirements, and in 2015, GFSI determined that China HACCP was technically equivalent to a GFSI certification, a major step forward in raising the standard of food safety throughout China.

Many governments have or are moving towards mandating HACCP because of its proven track record for enhancing the safety of producing food. And this is really about prevention rather than reaction.

Recently Congress through the passage of FSMA here in the United States has mandated that the FDA implement regulations requiring a HACCP like approach for all U.S. food production. China has also relied on this approach in their 2009 and 2015 food safety regulations. So things are working more in harmonization as time goes on.

And lastly, I would like to speak to the importance of a dialogue between the Chinese and the U.S. governments to resolve technical issues related to food safety that can impede trade. Organizations such as ours, such as GFSI, have been effective partners for enabling meaningful dialogue between industry and the U.S. and the Chinese governments.

One of the things that's missing in a lot of these conversations is the importance of public-private partnerships. And these are absolutely essential. Governments cannot solve this problem on their own. The private sector cannot solve issues on its own. We need to work collaboratively together to understand the complexities of these supply chains and how we can best serve consumers globally.

At GFSI, our focus is on safe food for consumers everywhere, and that's an important mission that if we could all just come to an agreement on that, I think we'd be in a much better place.

Over the last ten years, Cargill has partnered with the Chinese government to assist regulators in improving their capabilities and supervising food safety inspections by sharing best practices of food safety control throughout the entire supply chain in the United States, as well as European and South American countries.

Nearly 150 Chinese officials have participated in this program that has involved many other private and public sector partners and is built as an experiential food safety learning program for these officials.

We also spent time encouraging China and other countries to adopt international standards like those developed by Codex. And by adopting these international standards, the Chinese will be harmonized with globally recognized food safety standards that will facilitate international trade.

As two of the largest interconnected economies, both countries should have advanced food safety systems that are science based and risk driven.

Thank you again for the opportunity to testify, and I look forward to your questions.

PREPARED STATEMENT OF MICHAEL ROBACH, BOARD DIRECTOR CHAIRMAN, GLOBAL FOOD SAFETY INITIATIVE AND VICE PRESIDENT FOR FOOD SAFETY, CARGILL

US and China Economic and Security Review Commission Hearing

How can food safety in China be improved through efforts in China by U.S. agencies and stakeholders and how the United States can improve its food safety regime for imports?

Written Statement by Mike Robach

Cargill Vice President of Corporate Food Safety, Quality and Regulatory and

Board member for the Global Food Safety Initiative

April 26, 2018

Chairman Cleveland, Vice Chairman Bartholomew and members of the Commission, thank you for the opportunity to testify today. I am here to provide insight on food safety in China from the perspective of both Cargill and the Global Food Safety Institute. I am the Cargill Vice President of Corporate Food Safety, Quality and Regulatory. Cargill began doing business in China in the early 1970's. We now have a thriving presence in virtually every part of mainland China, with over 50 locations and over 7,000 employees. Our operations include 5 oilseed crush plants, over 31 animal nutrition factories, and an integrated poultry complex. Cargill China is also a supplier and trader of cotton, cocoa and chocolate, starches and sweeteners and refined oil.

I am also the current chairman of the board of the Global Food Safety Initiative (GFSI). GFSI is a unique, global multi-stakeholder non-profit organization, bringing together some of the world's leading food safety experts from agricultural, retail, manufacturer and food service companies, certification and accreditation bodies, government, academia and international organizations as well as service providers associated with the food supply chain to identify the best food safety management practices across the agri-food supply-chain, and then to encourage the auditing and certification of those practices at food facilities worldwide to provide "Safe Food for Consumers, Everywhere." The Initiative is governed by a Board of Directors made up of 20 executives drawn from major retailers, manufacturers, producers, and food service operators, among others. The Consumer Goods Forum (CGF), a global food industry network, is the parent organization that supported the creation of GFSI in the year 2000. Today, GFSI's global partners audit and certify more than 100,000 food operations and facilities in 160 countries annually and the numbers continue to grow. These include fish processing plants in Norway, avocado operations in Mexico, poultry processing plants in the United States, spice producers in India, and others throughout the world. Certification to a GFSI-recognized food safety management certification program facilitates market access and growth within the highly competitive food marketplace as well as compliance with government food safety requirements.

Governments and regulators benefit from third party certification in as much as oversight is achieved without the use of additional publicly-funded financial and human resources, because it is funded by private industry. Certification results may thus be used by regulatory agencies as a tool to optimize the use of budgeted resources and to determine not only the frequency of their own audits, but also the areas

to concentrate on during these audits. GFSI allows for consultation and access for representatives from the academic, institutional and governmental world, all actively participating and providing input into GFSI activities in their role as advisors to the GFSI Board. For each one of the GFSI recognized certification programs (formerly known as "schemes"), there are upon request, provisions for access by regulatory bodies to audit information and the certification results. Access by regulatory bodies may also provide additional private-sector benefits as described in selected government guidelines for improved access.

Third party certification provides compliance with the requirements for a certification process in the areas of facility application, certification, the recertification process and the withdrawal of certification. It also allows for compliance with generic government requirements for the attributes of a certification process.

Third party certification also has the benefit of transparency and, as driven by GFSI, aims at continuous improvement and flexibility in response to rapidly evolving market demands with the added advantage of audits being carried out on an annual basis and with the ability to modify contracts as a function of changes to the scope of production in a given facility. All GFSI recognized certification programs also require corrective action plans as a follow up on non-compliances and require a systems-based approach built on the HACCP principles, thus relying on prevention rather than reaction. Accreditation under ISO 17065 or ISO 17021/ISO22003 exists as a further safeguard for regulatory bodies.

Reducing the audit burden and improving food safety management systems implemented in food production operations allows for greater cost efficiencies throughout the supply chain. Manufacturers can then devote more resources and time to implementing benchmarked food safety and food quality principles and controls rather than spending it on preparations for repetitive and duplicative audits.

GFSI has collaborated closely with the Chinese market going back to 2008, and by 2013 formed a Local Group (LG) based in China, composed of approximately 40 companies, and organized into six task force groups working on multiple objectives. On January 2, 2018, the GFSI China LG, under the auspices of the Consumer Goods Forum China Representative Office, was officially registered in accordance with the new oversea NGO Administration law in China, and thus is in an even stronger position for GFSI to continue to collaborate with the Chinese government.

The overall goal of the China Local Group is to promote China food safety regulations by establishing a platform for communication, exchange and cooperation between government food safety administrative organizations and the food industry. In November 2015, GFSI and the Certification and Accreditation Administration of China (CNCA) announced that Chinese HACCP was "technically equivalent" to the technical requirements of GFSI Version 6. Technical equivalence is a new category specifically for government-owned schemes and is comparable to GFSI recognition for commercial schemes (now called certification programs). "The Chinese government [is] the first government to approach GFSI and submit their national certification scheme to be assessed against the GFSI requirements," GFSI announced at the time. GFSI has formally signed a Memorandum of Understanding (MOU) with CNCA to further the partnership.

How have food safety conditions in China changed over the past 10 years? What are China's chief food safety challenges? What progress has been made in addressing these challenges and what shortcomings exist? Have China's policies been in accordance with its food safety goals?

China's food safety conditions have considerably improved over the past ten years since the series of highly visible crises in 2008. Since the melamine contamination crisis, food safety has received high level attention from the Chinese central government and remains a top concern of its citizens. In March of 2017, The China State Council issued *The 13th Five-Year Plan on Food Safety*, outlining China's plans to launch a food safety risk alert system and aligning their food safety standards with international standards.

The improvements are largely attributable to updates in China's food safety laws and regulations. With its implementation, food safety has become a major political task for governmental organizations at all levels.

In response to the food safety scandals, China developed the Food Safety Law in 2009 to update policies and regulations from the outdated Food Hygiene Law of 1995. This was an important milestone in Chinese history because it modernizes their food safety approach from reactive to a preventative approach.

China revised their Food Safety law again in 2015. The revision included framework for regulators to follow the "four strict" requirements when supervising facilities: mandatory standards, regulations, punishment and accountability. The law also spreads food safety responsibility to both industry and the government.

In particular, the formation of the China National Center for Food Safety Risk Assessment (CFSA) is a landmark advancement in their food safety system for determining risk assessment. Combined with this risk-based approach, the four principles are in alignment with international best practices and recommended food safety management approaches.

Challenges and Progress:

While the Food Safety Law laid the groundwork for drastic improvements in China's food safety policies, the government has faced challenges in implementing the regulations. At the local level, regulators can sometimes be inconsistent in enforcement. Local policies can be vague and interagency coordination can be inconsistent. This is disruptive as it creates confusion around requirements and ultimately slows down operational processes and improvements. Large scale food producers may benefit from guidance through trade associations and other means, but small-scale food producers in rural areas lack the necessary guidance and direction on government policy, regulations, and standards.

The government is taking steps to address these issues by merging local fragmented food safety administration agencies up into CFDA. During the recent Chinese government re-organization in March 2018, the CFDA merged to a market administration ministry, which regulates both food safety and quality.

The Chinese government has already increased CFDA's funding for testing and monitoring. CFDA is also shifting away from a final product management approach to a more process management approach, thus being more consistent with a preventative approach. Some of the food safety standards are not science-based and related to food safety, such as requiring testing for moisture limits and acid values in certain food categories. The annual increase of the market sampling and testing by the government authorities

is burdensome for food manufacturers and provides a negligible contribution to the safety of the food supply.

Many governments have or are moving toward mandating HACCP because of its proven track record for enhancing the safety of producing food. China has decided to rely on an approach that encourages companies to seek HAACP certification on a voluntary basis using a third-party system, implemented by CNCA. For those companies that have obtained China HACCP certification, the government will rank them as the food producers with lower food safety risk and address inspection accordingly.

China has made significant gains in modernizing their food safety system, but the country's public image has not recovered from the scandals in 2008. The Chinese government and NGOs have conducted outreach to educate their public on improvements in the Country's food safety programs and consumers are recognizing these changes in the marketplace. Unfortunately, he consumer perception in United States has lagged behind that in China through not being informed about the substantial improvements in the food safety system being implemented by the Chinese government.

What vulnerabilities exist in the U.S. food safety regime with respect to food imports from China? How can U.S. food safety measures be improved to mitigate risk from food imports?

In early 2011, the United States enacted sweeping reforms to its system for ensuring safe food. The FDA Food Safety Modernization Act (FMSA) requires food companies, food importers, and the government to take specific measures to prevent foodborne illness in foods regulated by the U.S. Food & Drug Administration. Cargill supported the law's focus on illness prevention and recognizes its critical role in protecting public health. As a trusted industry leader on food safety, Cargill worked with FDA, along with our partners in industry and the public health community, to ensure FDA rules and regulations reflect a science- and risk-based approach to illness prevention. Cargill experts on technical and policy matters were instrumental in providing direction for the development of FSMA training materials, guidance documents, inspection procedures, and other activities needed to modernize the Agency's approach to food safety oversight. For example, we have directly engaged key FDA officials to help educate them in various areas of regulatory modernization, such as the recognition of the value of the 3rd party accredited certification approach endorsed and promoted by the Global Food Safety Initiative.

Food import trends over the past decade or so indicate an exponential growth of imported consumer-ready foods, such as fruit, vegetables, meats, seafood, and processed food products. Although the United States imports most bulk food commodities and perishable consumer-ready products, such as fruit and vegetables, from neighboring countries in the Western Hemisphere, the U.S. imports processed foods, spices, and other tropical products from more remote sources, with rising import shares for many countries in Asia. While the globalization of the food industry offers U.S. consumers a more affordable array of diverse food products year-round, it also increases access to markets for developing countries, such as China, India, and countries in Central America and Southeast Asia, which have registered rapid export growth to U.S. importers.

Over 200 countries and territories export food to the U.S. through about 300 land, sea, and airports. About 20 percent of the food consumed in the U.S. is imported, and for certain commodity types, a

much higher percent. For example, 80 percent of the seafood consumed in the U.S. is from foreign countries, and about 35 percent of the produce.

Perhaps one of the greatest concerns is that significant amount of imported food products is coming from countries with less well-developed regulatory systems or inadequate food safety oversight systems. Although the FDA has inspectors at both foreign and U.S. ports, it is well recognized that the minute level of inspection (<2%) and testing (<1%) can't be the first line of defense against keeping unwholesome, substandard and unsafe food from reaching food manufacturers and ultimately consumers.

With the huge volume of imported foods into the U.S. and the expanding number of registered facilities, the FDA cannot provide food safety assurances at the border. Due to this ever-increasing volume of imported food, the Food Safety Modernization Act of 2011 (FSMA) has mandated a risk-based preventive control mechanism to assist FDA in leveraging their resources with industry and with international partners who possess comparable food safety systems. The key premise of the import strategy is that foreign governments, growers, manufacturers, holders, distributors, and transporters of foods, as well as U.S. importers, will be expected to take proactive responsibility for assuring that safe foods are exported into the U.S. The burden of inspection and verification under FSMA is shifted mainly to include importing entities to take the responsibility for assuring safe foods under a program called the Foreign Supplier Verification Program (FSVP).

FSVP requires each importer to verify that its imported food is produced in accordance with U.S. food safety regulatory requirements, is not adulterated, and does not contain an undeclared allergen. The regulations specify that supplier verification activities are identified as risk-based measures and should be managed as such. This includes the activities of monitoring records for shipments, lot-by-lot certification of compliance, annual on-site inspections, checking the hazard analysis and risk-based preventive control plan of the foreign supplier, and periodically testing and sampling shipments.

To be effective, the FSVP program must be organized and implemented in a manner that will assure that it will be operating correctly and maintained appropriately by food business operators. An inspection process should be developed by the FDA to include defined inspection frequencies based on risk. Inspection frequency of products or ingredients supplied from a source for which there is no or known poor compliance history may be set at a higher rate than for products with a good compliance history. Similarly, food from suppliers with a known poor compliance history should be sampled at higher intensity. The inspection process should enable a compliance history to be created to help drive the inspection program.

In these cases, every plant may need to be physically inspected, until a defined number of consecutive plants meet requirements. Alternatively, inspection procedures can be developed to automatically detain product shipped from suppliers with a known poor compliance history and the importer may test to prove the fitness of each plant. Regardless how the FDA implements the FSVP, it is essential that is risk-based and enables the effective use of the third-party certification system.

Have Chinese food safety policies impeded U.S. food exports to China?

China's policies have improved over the past ten years to overall raise the bar for the safety of food products produced in country, but we still see barriers for US food exported to China. In particular, we see challenges in China's sanitary and phyto-sanitary (SPS) requirements and use of non-technical trade barriers.

For example, China lags behind other countries (e.g. U.S., Canada, Japan) in approving genetically modified (GM) events and has a zero tolerance on yet to be approved GM agricultural imports. If just one seed of a non-approved GM event is in a shipment of 50,000 tons, the entire shipment can be rejected. In today's world of global food trade and need for risk-based decisions, there is no such thing as zero risk. With crops being inadvertently mixed at silos, train cars, barges, ports and boats, it is an impossible expectation to have zero occurrence of unintentionally mixed grains, which is known as Low-Level-Presence (LLP).

CODEX has conducted a risk assessment that determined if a new GMO event/crop that has been approved according to international processes and is consumed at low levels, there is no human or animal health risk. The Codex recommendation is a shipment can contain up to 5% of the new GM event for the entire shipment and yet pose no potential health risk.

Industry would like to see all governments adopt a science-based regulation that allows for a very small percentage of shipments to include crops that contain GM events that have been approved in the country where the crop is grown but have yet to been approved in the destination country.

Recently, the approval for GMO certificate grains in China has markedly slowed down, and occasionally the application is rejected for some unclear reasons.

Many food ingredients such as enzymes, vitamins, amino acids, stevia glycosides and oligosaccharides are derived from genetically modified microorganisms (GMMs), but the GM genes and microorganisms are totally removed from the final products. These food ingredients are not evaluated as GM-crop processes in general and are widely used in the food industry. However, in China, the approval for the food ingredients derived from GMMs has been pending since 2009 because the safety evaluation process for genetically modified organisms employed for food use has not been defined. As a result, the new food ingredients derived from GMMs and the foods made with these ingredients have been in the US market for many years but cannot enter into the China market. The regulatory registration pathway is not available for the food industry in China.

In 2017, China implemented a new policy that required official Sanitary and Phyto-sanitary (SPS) certificates attached to imported food from all other countries. Meeting this requirement can often entail a lengthy process of analysis, registration, and certification. After significant lobbying by the food industry, the Chinese government finally agreed to a transition period of two years before implementation. However, this is only a temporary solution that will require a more permanent, practical solution.

How have the U.S. government, industry, and NGOs attempted to improve food safety conditions in China? Going forward, what is the best approach?

The US government, NGOs and industry have all had a role in improving food safety conditions in China.

NGO's have been incredibly effective partners for enabling meaningful dialogue between industry and the US and Chinese governments. They have facilitated a multitude of programs, seminars and activities to promote sharing best practices in food safety regulations and supervision system and industry best practices.

The US Trade and Development Agency (USDTA) is a government organization that has been effective in promoting dialogue between the two governments and industry. In 2017, USTDA and the U.S. industry sponsored a food safety training and exchange program which brought 23 CFDA officials to both Washington DC and Minneapolis, in which Cargill was a key industry partner. The delegation met with USDA, FDA and FSIS to discuss prevention, risk management, supply chain management, production controls and social governance.

For ten years Cargill also has partnered with the Chinese government to assist regulators in improving their capabilities in supervising food safety inspections at the port and share the best practices of food safety control throughout the whole supply chain in the U.S. and several other European and South American countries. Nearly 150 China officials have participated in this program that has involved many other private and public-sector partners and is built as an experiential food safety learning program.

Several U.S. industry leaders have also sponsored and participated in the development of a food safety capacity building training program with Shanghai Jiao Tong University to help the Chinese small and medium-sized enterprises.

In 2014 several U.S. industry leaders along with AmCham launched a CFDA program to help stakeholders enhance the understanding of food safety risk communication, and sponsored several policy research projects and local CFDA enforcement competency training programs.

The Commission is mandated to make policy recommendations to Congress based on its hearings and other research. What are your recommendations for Congressional action related to the topic of your testimony?

We appreciate the work the Commission has done to study the national security implications of trade and advance the economic ties between the US and China. As two of the world's largest interconnected economies, both countries should have advanced food safety systems that are science and risk based.

The Commission can move the needle forward on food safety measures by encouraging the US government to proactively work with China to eliminate unnecessary non-technical trade barriers, adopt a science-based risk driven approach to food safety, and for China to adopt globally recognized standards, like those found in CODEX.

We encourage the US government to continue to foster ongoing dialogue between the two countries. These discussions have proven to be constructive in moving the needle forward on food safety issues by sharing best practices and addressing key issues, like those associated with biotechnology.

Enhanced communication among corresponding US government agencies, industry associations and American enterprises operating in China, through the organization and execution of seminars and other information sharing venues involving stakeholders with international food safety experience and ability

to share best practices with Chinese government officials have proven very effective in improving the food safety capacity in China and in achieving a harmonization of regulations.

Finally, we encourage the US government to prompt the Chinese government to consider taking steps toward the mandatory implementation of HACCP throughout the food industry, while recognizing the value that the 3rd party certification system plays in achieving food safety improvements. In developing their food safety standards, China should follow suit with many countries and look toward those standards already found in CODEX.

PANEL II QUESTION AND ANSWER

HEARING CO-CHAIR GOODWIN: Thank you, sir.

Commissioner Wessel.

COMMISSIONER WESSEL: Thank you all.

Many questions come to mind about SPS, TBT, and a lot of other issues, but let me continue a line of questioning I think that started with the earlier panel, and China's approach to the acquisition of agricultural products, commodities on the world market, and its own food safety, food security concerns.

China, you know, its income levels rose so its desire for protein in their diet hit a tipping point. Pork is their primary protein source. So rather than opening their market a couple of years ago, they went out and bought Smithfield food understanding that part of this is about ractopamine use as well. In the first year after acquisition, 97 percent of all pork exports from the U.S. emanated under the Smithfield name. It's now down to 77 percent, but there are still questions about how family farmers are being able to access the system based on contract farming and a lot of other things.

China wants to be able to increase the yields of its crops and knows that--and I like, Mr. Fields, your comment that biotech is a crop protection tool--I hadn't heard that term before--that it knows it's going to have to use certain biotech technologies to advance its yields, its quality, et cetera. Rather than simply engaging in acquisitions on the free market, it has either tried to develop its own technologies, steal ours, or buying Syngenta when Chem China bought--a state-owned company bought Syngenta. In my discussions with some experts in the field, there seems to be a preference for Syngenta based seeds in terms of their development strategy. So Bayer and the others are left in the lurch.

From our own perspective, from whether it's corn or other products, and being neutral about whether one wants GMO, biotech products, et cetera, China has a development strategy that, you know, is advancing their own interests and capturing the rents rather than allowing free market activities to progress. Again, in my view.

I'd love everyone's comments on that. Do you see a similar development strategy, and if so, what tools, what approach potentially should we be taking to that?

Mr. Fields, do you want to start and then we'll go down the line?

MR. FIELDS: Sure. Absolutely. So, no, absolutely. I think your, your initial assessment about how they are acquiring technology with Smithfield and pork production, and how you are seeing that mirrored right away in crop biotechnology, crop breeding with Syngenta, spot on. They couldn't home grow it quickly enough themselves to catch up so they're purchasing some access to it and then throttling other world markets at the same time.

I mean we work, you know, biotech and all these technologies are readily commercialized in South America, too, so National Corn Growers Association, the growers from Argentina and Brazil, we go to China all the time to try and smooth these waters. But, no, this is, this is them playing catch-up, and when we talk about food security, food safety within China, this is how they're attaining it, and probably the more above-board way of doing that would be to, you know, participate in the open market, participate in licensing, participate in a more advanced intellectual property system that's more robust.

That's the ideal world. But that's not the world that we're living in. We're living in a, we're working with a partner, a market that is adept at negotiating at a level of intensity and with tools that we're not used to, and we continue to negotiate with that hand.

So I think from a National Corn Growers Association standpoint, we were very happy with TPP in some regards, not just direct market access. It was corn in all forms. There was a small economic benefit, but it was some recognition of intellectual property, some recognition of the safety of the technology that really, really held a lot of potential.

So, yes, the diplomatic dialogue can work. The diplomatic dialogue going on while private industry is engaged, that works as well. So that's, that would be my recommendation is to really push forward, not just the direct problem at hand, but some of the bigger intellectual property that affects a lot of the different industries out there.

COMMISSIONER WESSEL: Other panelists?

MR. ROBACH: We also have an issue with asynchronous approvals around the world, and that was problematic in the Syngenta case with corn. I know we were very much and are still very much involved in that situation.

So we have regulatory reform we need to talk about, and that's why I'm so passionate about harmonizing standards, and, you know, getting these issues to a more transparent state so that we understand what are the elements that have--

COMMISSIONER WESSEL: You're talking about on both sides?

MR. ROBACH: On both sides.

COMMISSIONER WESSEL: Okay.

MR. ROBACH: On both sides. This is globally. I mean--

COMMISSIONER WESSEL: No, no. I got--

MR. ROBACH: I'm including the Europeans in this as well. And, you know, we look at issues like MRLs with paraquat that's used to dry beans in South America and the issues we have going into Europe. This is a global issue. This is very large. This isn't just limited to U.S.-China relations, but I know that's what we're talking about today.

But this is symptomatic I think of a bigger issue where we need regulatory reform and regulatory harmonization so that we are truly operating against the same set of standards in a very open and transparent way.

COMMISSIONER WESSEL: Thank you.

MR. FIELDS: I will just add one quick comment here. I'm speaking on behalf of the corn growers. This is also an issue in the soybean side, and they import a lot of soybeans, and what they're doing is, it is economically questionable at times, but it is their strategy. It's very challenging, but I didn't want it not to be captured that I'm not just talking about the corn complex. The corn-soybean complex is all impacted.

MR. ROBACH: And we purposely took a group of Chinese regulators through our agricultural supply chain, our soybean supply chain in North America and South America so that they could actually see what we do and how the governments we work with, what they do to certify shipments, trying to eliminate some of the double jeopardy standards that we're being held to.

DR. PRAY: I guess I'm still sort of puzzling over the implications of the Syngenta purchase for a number of different reasons. I mean in one way, you know, Syngenta was never that big in the corn business to begin with. Some of their traits have been good, but I mean, you know, they were way behind Monsanto and DowDuPont for that matter in corn seed and also in some of the traits.

So, you know, the thing that intrigues me and further complicates this is that Chem China is this big huge conglomerate, state-owned enterprise. State-owned enterprises are not very competitive, you know.

In China itself, they're always, you know, the low, they're huge, but they're not very efficient, and so talking about the comment that the Ambassador made, you know, this is, there are costs to really promoting state-owned enterprises, and whether they're going to be really competitive and take over international markets, I'm a bit doubtful. Their advantage is they've got a long-term goal and they stick with it, and they don't really care that much about profits in some sense.

But at the same time, that makes them less competitive. You know, they're competitive in terms of making long-term investments, but not necessarily moving to the next technology, you know.

COMMISSIONER WESSEL: But they could be excluding us from their market, understanding that the world situation--

DR. PRAY: Right.

COMMISSIONER WESSEL: --the question is the rents we would like to get from our high quality safe food products we're not able to get.

DR. PRAY: Yeah, no. That's absolutely right. I just--we don't know what's going to happen.

Syngenta--sorry--when Chem China purchased Makhteshim Agan, the generic pesticide company, Israeli generic pesticide company, what they did with them--and that was about 2011 that that took place--they pursued a strategy there of moving Makhteshim people into collaboration with the Chinese pesticide companies that were owned by Chem China, trying to make them more efficient, trying to get more access, you know, from the Makhteshim standpoint, get more access to the Chinese market.

So I would presume that Syngenta will now have more access to the hybrid corn market and the trait market, and the other thing that they're good at is, well, obviously the pesticides, but also vegetable seeds.

COMMISSIONER WESSEL: Thank you.

DR. WANG: Food technology and food safety are related. And especially when we talk of GMs in crops and a lot of animal production technologies in livestock and meat. And I guess Chinese government are really focusing on food security, but the consumers worry more about food safety.

So the new rich middle class, they have access to the information outside. They learn the Europeans side. They learn what animal side, what animal rights people in the U.S. are fighting for. They learn all of those.

So the Chinese government now invests a lot in their own production. They acquire this technology. They could do the GM themselves, but they are not releasing them for commercial production in market because they don't want to really make their own domestic consumers very angry about that, to create that conflict.

So I guess we still need to struggle in between. So to what extent U.S., we, our entire agriculture industry is always standing in the front of technology development--to what extent that we can really push this new technology to the Chinese consumers? And it's not just persuading the government to say yes, we can import your GM soybeans, but it's also like the images in the market. So, so far there are several good U.S. food, good images, like Coca-Cola has been there, it's pretty good.

But Monsanto, there is always those rumors around the social media. They're talking all about the bad things about the company. So really I guess government and the private industry, we got to pay attention to consumer opinions in China.

COMMISSIONER WESSEL: Thank you.

HEARING CO-CHAIR GOODWIN: Vice Chair Bartholomew.

VICE CHAIRMAN BARTHOLOMEW: Thank you very much and thank you to our witnesses.

I'll start off just with two comments. As the graduate of a land-grant college, my university, myself, it's been a fantastic investment that our country has made in land-grant schools. Many of our witnesses today have either worked at land-grant schools or--I don't know if Rutgers is--is it? I know Purdue is. Yeah. Or are graduates of land-grant schools. So it's just terrific to see the continuing interest in agriculture and in rural America and what's working.

Second, and Dr. Pray, you won't like this at all, but bringing popular culture into the room, having recently seen Rampage, I cannot hear CRISPR without thinking about Dwayne Johnson.

[Laughter.]

VICE CHAIRMAN BARTHOLOMEW: I'm sure that will wear off, but--certainly it hasn't given a good face to gene editing at all.

And now on to more serious things. My questions sort of fall into two baskets--one on biotech. Dr. Pray, I was interested, you know, you talk about the opportunities of working together.

Following up on Commissioner Wessel, I mean how important is biotech to the U.S. economic future? And as we have seen China build its targeted sectors in one industry after another, through subsidies, through tariff barriers, through all sorts of things, I see them doing this in biotech too.

What's the impact on our economic future and innovation in this country with that? And I would add there that one of the things, Dr. Pray, that SOEs have, of course, is they have access to the deep pockets of the Chinese government, which makes it far more difficult for other companies to acquire, to make some of these acquisitions that the Chinese government can do. That's one set.

My second is on food safety issues. Dr. Wang, you mentioned tea and seafood being two of the major imports in the United States from China. Tea, of course, is susceptible to heavy metals, as you have seen. Seafood, also. We had a hearing--staff reminds me, it was actually back in 2007 in New Orleans, where we looked at seafood safety, and I have to say I don't think I've eaten tilapia since. So I mean there's an issue there.

I'm quite curious as how it sounds like there's not that much of a risk, but when you look at the practices in both of those sectors, there's still some pretty awful things going on. So if you could comment on that.

And then, Mr. Robach, also, in particular, but to everybody, regulatory regimes are important, but we have seen in one sector after another and one issue after another that with China, the challenge is not just regulations, it's compliance with regulations. And so I'd like you to comment on the best regulatory system in the world is not going to work if there are no costs to not complying, and if there's not a commitment to compliance. So if you could talk about that a little bit--or Rampage.

[Laughter.]

HEARING CO-CHAIR GOODWIN: No spoilers though.

[Laughter.]

DR. PRAY: Yeah. CRISPR is, it remains to be seen, you know, whether it becomes the GMO of the next generation of not. I mean the issue is how regulators regulate it, I think, and that is in part a reflection of what consumers want and are concerned about.

And so, you know, there are two potentials for, two potential ways of handling the gene editing. One is there's some kinds of gene editing that just knocks out genes that are there in place, which is much like the way we do a lot of plant breeding already, and that doesn't seem, at least for the U.S., it doesn't seem like that will be regulated any different from conventional plant breeding.

But the other thing is that you can use CRISPR to target the location you're applying new genes, and so make these, the whole biotech system much more efficient and much more effective. That one where you're bringing in new traits is likely to be regulated as GMOs, I think.

So that's going to be interesting. People are, a lot of small companies are jumping on the bandwagon of CRISPR and gene editing, hoping that it's going to be regulated as just knockouts or, you know, that kind of thing. And it remains to be seen, you know, how that goes.

How important is it to our economic future? Well, I mean I think that, you know, it's crucial to our economic future that American farmers continue to get access to really good technology. I'm not sure that it absolutely has to be invented in Rutgers or in Harvard or I don't know where, you know.

I think for a lot of these things, it really depends on--I mean I think it's figuring out how to get access to that. So it's the next step down, you know, who commercializes it and how it gets commercialized and things like that.

And my own view is that, you know, the Chinese have handicapped the regular biotech industry so much that they're not going to be very competitive for a while, and like I say, the big mystery still is Syngenta, and I don't have a good answer to that although I don't really worry that much that they're going to take over the world.

I mean in some areas it's going to make things more competitive. I mean Monsanto had 95 percent of the biotech traits that were sold in the U.S. and globally. I'm not sure that that's a great situation either, you know. I mean for Monsanto, it's great, but for the world, is it that great? I mean maybe it's better to have at least one company that's not part of DowDuPont and not part of, you know, of Bayer, which is a German company. Do we worry about that? Or BASF. I mean, you know, if we're going to worry that way, maybe we should worry about the Germans taking over our biotech companies. I don't worry about that so much.

VICE CHAIRMAN BARTHOLOMEW: Of course, I mean the Chinese government is fundamentally different than the German government. Germany is a democracy, and, you know--

DR. PRAY: Yeah.

VICE CHAIRMAN BARTHOLOMEW: --they do not pull the strings of companies in the way that the Chinese do.

DR. PRAY: I agree. But I'm just saying, you know, the Chinese government doesn't always do it right. I mean, you know, they're not perfect either. They pick industries, and, you know, and they can throw a lot of money at them, but that doesn't necessarily mean that they're going to be globally competitive industries that are going to take over. They're going to do well in China because the Chinese are going to give them a lot of advantages, but I don't know.

MR. FIELDS: To start off with the first reaction, a University of Illinois graduate so we have the Big 10 well represented here.

[Laughter.]

MR. FIELDS: --which is very nice, and I can say that about Rutgers, which it's--I still have problems with Penn State so--I remember the original Big 10.

But in referring to biotech and what's the future of biotechnology, so I'll start off by talking about the ecological situation that we're in with crop protection tools that, you know, the need to produce efficiently, the need to increase sustainability, is constant and there's a lot of forces in the market that push us that way.

Mother Nature is also quite another formidable force. So having a suite of crop protection tools that don't fail, that you have different modes of action, different choices for growers, is absolutely critical, and this reverberation through the marketplace has absolutely lowered those kinds, that kind of R&D into full transgenics where you're placing ideal genes that have been studied better than anything else within the breeding stock that impart either herbicide tolerance or resistance to insects, you have, you have really weakened that pipeline.

And partly it's China. Partly it was the self-reported arrogance of Monsanto thinking that the public really didn't need to understand the technology, that they would accept it because they had access to plentiful food. We're trying to not misstep on that when it comes to CRISPR and this next generation, and between the two areas that were outlined by Dr. Pray is the one in the middle, and that is, okay, so what if I can find a naturally occurring gene in corn that does help provide some resistance to herbicide or insects, and then I can use CRISPR to modify the really advanced breeding stock that we have going into the ground right now.

This is a gray area because you would be either transferring a gene or creating a gene that's not in that breeding stock, but it is in a natural variance of corn. So it's not just knocking out a gene. So there is this gray area, this area of potential, and that's where the investment, and that's where we would like to see that freedom to operate for the companies and for our growers because that's the way that we're going to keep on this train and keep developing tools for growers out there.

And also the implications of that beyond the row crops into the specialty crops where you don't have the robust R&D system, where you don't have the huge revenues that can support a regulatory oversight regime that was needed within the transgenics is absolutely critical.

So when you say biotech is the future, yes, it is as it evolves, and so I think that's pretty critical.

VICE CHAIRMAN BARTHOLOMEW: Food safety? Dr. Wang.

DR. WANG: Well, thank you again for recognizing the land grant.

[Laughter.]

DR. WANG: So China exports about $6 billion worth of food products to our market each year, and amount and the larger category is seafood, fish and shellfish, about 2.6, followed by fruits and vegetables combined, about 1.6. Tea is at the end, and not much.

So what I mean when I said food safety isn't that big a problem because of the scale and when you look at products of China, seafood, a lot of them are salmon--China doesn't grow salmon. So it's really processing. So the growing part is in Europe or Chile.

So, but let's take a closer look at the Chinese seafood import here. Yes, the food safety problem is there. Overall food grown in developing countries are more challenging than from developing countries even though compared to India, China is not that much worse. But the environment problem we mentioned is there. The water is polluted and antibiotics are overused.

When we look at our food safety problems, first, we look at a lot of health problem caused by say pathogens or immediately say swine flu--I'm sorry--bird flu or BSE. So the food,

seafood, the Chinese imported here, people eat cooked, not raw, so you tend not to see those immediate problems.

So the antibiotics, what is the long-term impact on humans' health? You don't document that with numbers. So, in that sense, it's hard, it's a little bit difficult to recognize that.

And another thing is when we look at the border refusals of Chinese seafood and the large categories are "filthy" and "mislabeled." Mislabeled is just technical issues. Filthy, that means it has foreign objects so maybe stones or sand or something. So I guess what we really need to test and emphasize on is what is the level of antibiotics that we should allow and test on that?

So on that part, I guess, people do need to pay some attention. We had some studies about the U.S. consumers, and they are skeptical. They do look at the country of origin for their fish and shellfish, and China is pretty much discounted. So I guess provided the information that our consumer can differentiate that.

VICE CHAIRMAN BARTHOLOMEW: Mr. Robach.

MR. ROBACH: Yes, thank you.

Implementation is always a challenge whether you're in government or whether you're in the private sector. You can have the best systems in the world, but if you're not executing and implementing, they don't mean much.

And this is a challenge in China, and it's recognized. I met last fall with Minister Bi as he was working with us at GFSI and encouraging us to continue to work with the Chinese FDA and AQSIQ in driving our GFSI programs, our capacity building programs, down through our supply chains.

So part of it is a public-private partnership in order to be effective, and that's working with the Chinese officials to demonstrate how what we're doing in the private sector can aid them in deploying their limited resources. Our process is really working with governments around the world, sharing with them the audit results, so then they can make determinations, hey, this is a certified facility; it's been certified against an international standard. I have confidence in that because I've seen it, I've seen it work. So now I can spend my time looking at those facilities that haven't gone through this process.

So it is an evolution, you know. We have about 25,000 inspected and certified facilities in China under the GFSI umbrella and that's one of our most rapidly growing markets.

The other thing we've done is we've partnered with CNCA, which is the accreditation and certification authority within China, and they've developed a process, a program called China HACCP, and then we have taken that China HACCP through our evaluation process, our benchmarking process, and we have determined that they're technically equivalent.

And so what the Chinese government is now doing is they're requiring these small and medium-sized enterprises to obtain China HACCP certification as a step forward. So it's a journey; it's a process. But I think it's a road that we have a clear path forward on, and we on the private sector are committed to continuing to work with the Chinese government to assure that happens because it really impacts the integrity of our own supply chains.

MR. FIELDS: And if I could just follow up with a last piece that you talked about, about the integrity of regulatory systems? You know that's critical. We support, we really look for regulatory systems to be completely science based. And when you threaten the integrity of a regulatory review that has political influence, that destructs the science. That destructs consumer confidence. That destructs global regulatory systems. So that's also a big concern.

When they're utilizing their regulatory system as a means to manipulate markets, that's getting quite political and can be quite dangerous.

HEARING CO-CHAIR GOODWIN: Thank you.

Commissioner Tobin.

COMMISSIONER TOBIN: Thank you, Senator Goodwin.

We've had a conversation here this morning, and part of it was led by your dramatic retelling of the story of 2011, the growing season, right, in which we, the United States, the growers, were held hostage, and then Mr. Robach, you have conveyed to us that some of this is this asynchronous approval systems that we have that we probably better try to more effectively synchronize.

And what I wonder, you've also emphasized private and public partnerships. So here we are in the halls of Congress. What, I'd like to hear from each of you, what specifically would you recommend that the federal government do to help deal with not 2011 but hostage situations going forward or, if not hostage, asynchronous systems? So what should the federal government do very specifically, and the private sector, what might they do?

And if I might, I want to offer one thought. I think, Mr. Fields, you worked in the pharmaceutical industry at one point. Have you looked at other industries, have you looked at how other companies like high-tech use the supply chain challenge of getting to market by using alpha testing and beta testing, and has that been thought of as a way to address the private companies' get-to-market strategy?

So I'd like each of you to respond to what we seek from Congress and also what you think would be valuable from the private sector?

MR. ROBACH: Well, I can talk specifically about what GFSI is doing and how we're pulling the U.S. government into the GFSI circle. We have started a program where in Berlin in 2016, we had 18 governments and intergovernmental organizations meet with the board of GFSI to talk about harmonizing standards, building capacity, and forming partnerships so that we can use our collective resources to train inspectors, auditors, and agriculture and food manufacturers on proper food safety management systems.

In 2017, in our meeting in Houston, we had over 30 governments and intergovernmental organizations. This past February, in Tokyo, we had over 50 governments and intergovernmental organizations, and I'm happy to say that both FDA and FSIS and AMS were involved in that process.

To me this is the dialogue that we need to continue to have because we live in an interconnected world from a food safety standpoint, and we have standards. We have the principles of Codex. We have the OIE standards and the IPPC standards. They exist, and so we know what it is we need to be operating against.

In the biotech space, we don't necessarily have that although we have the elements of what constitutes safe food, and to me the same sort of process should be undertaken in a public-private partnership dialogue using the principles of Codex to establish what are the appropriate elements for consideration to determine the safety of an event.

And then we as an industry need to do a much better job with our government partners in talking about consumer benefits. I think we got behind the eight ball early on. I worked at Monsanto in the late '70s and early '80s. I worked on BST so I was there when a lot of this was happening, and our focus was strictly on our customer, not on the consumer, and that was a big mistake.

We need to be talking about the good things we do from a food science or food technology, a biotechnology standpoint. But translate that into what is the benefit for the consumer. That is the bottom line.

COMMISSIONER TOBIN: In a way it's a broader way of thinking about the supply chain.

MR. ROBACH: Absolutely. Yeah, it's a holistic supply chain--

COMMISSIONER TOBIN: Yes.

MR. ROBACH: --from origination all the way through to the consumer.

MR. FIELDS: So, yes, I would absolutely agree with Mr. Robach in a lot of those elements. Actually Mr. Sleight this morning didn't have time to go into it, but when we're working with foreign markets, our sister organization is the United States Grains Council, and they're spearheading a very, very robust program, trying to get the data equivalency kind of requirements, that there is a global dossier that all regulatory agencies will--they can refer to. So companies can have that regulatory assurance that if we produce a standardized dossier for information for all the regulatory systems, they still maintain their sovereignty, still can do their own reviews, but there is an international standard.

What worries us is that with the 8th decree within China, they're going the opposite direction, where they're going to be bringing all of that internal and not transparent, actually what I would define as generally an opaque system.

So anything that the government can do to support good diplomacy, a strong Department of State, a strong Foreign Ag Service through USDA, and echoing Ambassador Vetter's comments this morning, to make sure that we know what we're doing right now, to have a good robust coordination and understanding the programs, that is how--that is how I think how Congress can go.

As for in the pharmaceutical industry, I'm going to be perfectly honest. I was the one making the drugs legally, and so--

[Laughter.]

MR. FIELDS: --I didn't work on the business side of it too closely.

COMMISSIONER TOBIN: Okay. I understand.

MR. FIELDS: So I can't--but I think there is a great model in the food safety industry that looks amazing and promising. So thanks.

COMMISSIONER TOBIN: Before I turn it to Dr. Wang and Dr. Pray, are those crop protection tools something that Chinese can purchase or buy? Or are they just U.S.?

MR. FIELDS: So on the chemical side, yes. There is international markets. They have their own regulatory regime to abide by. There's also the MRL issues so I mean it begins to get into a very, very complex web quickly.

As for the biotechnology base or the transgenic base pieces of that, yeah, technically they can't, they can't technically plant them, and there's a lot of speculation that can go into why they're not allowed to be planted in China, but that's, that's a whole other two-hour conversation.

COMMISSIONER TOBIN: Dr. Wang and Dr. Pray, what do we need to think about in terms of recommendations to Congress?

DR. WANG: On the food safety part, I would say this, the two countries have the most common interests on that so there's a lot of room to collaborate together as I mentioned earlier, like making the standard or sharing the best practice management, even sharing some of the testing and protection technologies on that.

Are you also asking about the trade conflicts lately that have happened beyond food safety?

COMMISSIONER TOBIN: No.

DR. WANG: Okay.

COMMISSIONER TOBIN: Nothing.

DR. PRAY: Of course the biotechnology thing has, you know, has turned into such a, you know, a fraught issue that, you know, the same, the same kind of collaboration is needed, but of course if Monsanto touches anybody, any of us academics, we're tainted, and people don't believe us anymore, I guess. Well, I don't know that they believed me to begin with.

[Laughter.]

DR. PRAY: But I don't really have a good suggestion to Congress right offhand. I mean the negotiating part and where the most discussion about, about, you know what's safe, bio-safety and biotechnology, is the whole Cartagena Protocol thing that really got the whole, the whole discussion kind of off track, you know, away from, you know, real food safety or, you know, sort of science-based issues to, you know, a whole bunch of ways of trying to slow down the use of GMOs.

And I mean we're not part of that. I don't know whether we should have been part of it. I mean the U.S. government is not. And we're certainly not going to get into it now. So I guess I'm--sorry, I'm not giving you a good answer on the biotech story. It's--

COMMISSIONER TOBIN: It's something that if there are thoughts in the next month or two--

DR. PRAY: Yeah.

COMMISSIONER TOBIN: --keep in touch with us on.

DR. PRAY: Sure. Yeah.

COMMISSIONER TOBIN: Thank you.

HEARING CO-CHAIR GOODWIN: Commissioner Stivers.

COMMISSIONER STIVERS: Thank you.

I want to focus on food safety. There was a recent national soils survey published by the Chinese government that showed 16 percent of all soil and 19th percent of all farmland was contaminated by chemical pollutants and by metals such as lead, cadmium and arsenic.

And Dr. Wang, you stated that your research shows that food products from China aren't, at least measured by food shipment refusals, aren't necessarily any more harmful than Mexico or India. And I happen to know that your research is accurate since you got your Ph.D. from Michigan State.

[Laughter.]

COMMISSIONER STIVERS: Where I also went to school.

[Laughter.]

COMMISSIONER STIVERS: But realizing that food safety concerns are more widespread does not make me feel any better, and I don't think U.S. consumers of food products should feel much better from those statistics.

But while we're a China Commission, and we focus specifically on recommendations and information to Congress, I'd like to go to some of your recommendations. First of all, and Mr. Robach, too, first, Mr. Robach, you had a couple of very interesting recommendations, I thought, or not necessarily recommendations but some data points.

You stated that in terms of current U.S. government activities that NGOs have been effective partners in some meaningful collaboration between the U.S. government, the Chinese

government, and private industry. Obviously there's a lot of constraints to NGOs operating in China, especially their ability to criticize the Chinese government policies, and, as we know in the United States, food safety, you know, steps to improve food safety have come a lot from the people, from the American people and from the grassroots of our country.

And so I question whether that's effective, but I'd love for you to expand a little bit on that point.

And you also mentioned that some efforts with the U.S. Trade and Development Agency, USTDA, work in that area, and I wonder if you'd comment on if you think those things are effective? Congress works with TDA, you know, very closely, and if you could expand on that? If there's a more concrete recommendation that we could provide, that would be great.

And Dr. Wang, in terms of your recommendations, I read through them, and they make perfect sense, and I'm wondering what the obstacles are? Is it just sheer scale of shipments, that we can't, that we can't do better on food safety? Is it a question of political will? Is it a question of resources? What are the obstacles to the recommendations that you put forward?

DR. WANG: Actually, I answer two questions. One is, is it actually safe and then what can we do? What prevents us from doing this? Yeah, the soil survey was done by Chinese version of EPA. So it's a government soil survey. Yes, the situation is there. But who got damaged most are the Chinese domestic consumers. So those are the grains, basically crops growing out of that land, that soil, and U.S., we don't import a lot of Chinese grains.

Okay. What we import most is the seafood and fish, and then it's the water pollution from antibiotics is a major issue than the soil, metal, whatever. Yeah.

So then how do we define safety? I mean how to draw the line antibiotic remaining in fish, what damage it causes people, so unlike the heavy metal can be poisonous to us. So I guess while it takes the science community to draw the line, so what line we want to draw, and then we said food below that line, we're not accepting. So without that line, it's difficult to refuse, reject all of those.

And I guess this is something needed, not only the science, society, we don't have agreement. So really need a lot of research behind and need to have international acceptable standard there.

So now you are asking so how could we--so what are the problems preventing it? I guess this is one of the problems. There is a lot of leeway, room, wiggle room for the WTO. I mean China can reject GMO. China can reject ractopamine in pork. These are all allowed.

So can we reject the seafood from China with so much percentage of mercury or metal or antibiotics? And I'm not a technical person, but I think that is an issue other than, you know, how to test them, how do you know find the bad guys?

MR. ROBACH: Yeah, and it's too bad that people confuse ractopamine with clenbuterol, you know. One is the first generation beta agonist. You know ractopamine is a much better second generation, and they're very, very different compounds. However, clenbuterol is abused in China, and that's the problem. That's why they banned it. It was the path of least resistance, and that's unfortunate that we couldn't get that cleaned up.

So back to the question about NGOs. Earlier this year, our local GFSI group in China, which is made up of 40 individuals who represent food companies and agriculture companies in China, were formally recognized as an NGO by the Chinese government, which allowed us to really become legal in all the conversations we've been having with the Chinese government over the last six or seven years.

And through that, that local group, we facilitated a number of conversations that have allowed us to bring both U.S. and China regulators together to talk about issues of common importance.

And we've done this because of a process we've gone through here in the U.S. working with NGOs such as Center for Science and the Public Interest, the Consumer Federation of America, and Pew Charitable Trust, where we and the private sector have partnered with them and working with FDA through FSMA, both through the actual writing of the legislation, but more importantly after the legislation was passed through the rulemaking process where we were able to work together representing both industry and the consumers with the agency to craft rules that were going to be effective and were going to be implementable and were going to result in safer food.

So that's the model that I'm referring to. Again, I'm getting back on my public-private partnership bandwagon, but it is absolutely essential for the public and private sectors to be working together and talking together to work through these issues because we're the ones that know how to do it, right, so we know how our agricultural supply chains work. We know how our manufacturing and our distribution works.

Government doesn't. They really don't know. So we simply have to be talking together in order for us to be more effective. I had a conversation with CDC last night because they're really having a problem with the romaine lettuce issue, and, you know, they banned, essentially said don't eat romaine lettuce from Yuma, Arizona. Well, that's easy to say when most of the romaine lettuce grown in the U.S. during the winter months comes from Yuma, Arizona.

That's a problem because it's not all the lettuce, but yet we're throwing tons and tons of lettuce away simply because we don't know, and that's because we don't have the conversation going on between the public and private sectors to understand supply chains.

COMMISSIONER STIVERS: Mr. Robach, were there any Chinese NGOs involved in these dialogues?

MR. ROBACH: Chinese--well, our, the GFSI group in China is a Chinese NGO.

COMMISSIONER STIVERS: Okay.

MR. ROBACH: And it's staffed by and run by Chinese nationals. So, yes, yes.

COMMISSIONER STIVERS: Okay. Thank you. I know I'm over time, but do you have a quick comment on TDA?

MR. ROBACH: I'm sorry?

COMMISSIONER STIVERS: The Trade Development--

MR. ROBACH: Oh, yes, yes. I'm sorry. These are, this has been helpful. You know we have operated both sides of the chicken and the beef question. We're the second-largest beef producer in the U.S., and we also have the largest state-of-the-art integrated poultry operation in Anhui province in China.

So we have a great deal of interest in being able to have access to the Chinese market for our beef products and also access to the U.S. market with our Chinese chicken so working with the organization, with TDA, to help facilitate those conversations and move USDA along.

HEARING CO-CHAIR GOODWIN: Madam Chair.

CHAIRMAN CLEVELAND: Mr. Robach, I'm going to keep you busy. So I have a couple of questions on the HACCP. You note in your testimony that it is technically equivalent to the requirements of GFSI, but it's a new category that was created specifically for government-owned schemes. And so I'm curious, are there differences between the version or

the variant that applies to government-owned schemes and are there other governments besides China that have pursued this avenue?

You want all the questions at once, or shall I--

MR. ROBACH: Well, let me answer that one first.

CHAIRMAN CLEVELAND: Okay.

MR. ROBACH: Because there is a quick answer. First, HACCP is Hazard Analysis Critical Control Point. So China HACCP was a program developed by CNCA in China for small and medium-size enterprises that maybe couldn't afford a full GFSI certification. So it's administered by the government.

Technical equivalence means just that, that the elements related to food safety management systems are equivalent to the GFSI benchmarking requirements. The reason we couldn't go through full benchmarking for a government-owned certification program is that the governance is in violation of GFSI separation.

So we don't allow accreditation and certification bodies to be certification program owners. It's kind of like they're the judge, jury, and executioner, if you will.

So we expect that there's a separation between that, and although the Chinese went to great lengths trying to demonstrate that, we knew at the end of the day, it all came up through the Chinese FDA, and so there's no way we could go through full benchmarking.

So we did offer the technical equivalence category, and, yes, right now USDA, AMS, the Agriculture Marketing Service, they have a produce safety certification program, and they are undergoing that evaluation with GFSI as we speak.

And we've had interest--I'll be down in Mexico City next week. SENASICA has a program that they would like to have considered for for technical equivalence. So it's a way for us to help raise the bar with some of these small and medium-size enterprises that wouldn't necessarily go through a full GFSI certification program.

CHAIRMAN CLEVELAND: Okay. So that leads to my next question, which is you also note later that China, that many governments are moving towards mandating the HACCP because of its proven track record in enhancing safety, but that China has decided to rely on an approach that encourages companies to seek voluntary certification.

And I'm curious. Based on that voluntary certification process, how many have sought this certification because I gather it sort of then confers a sense of a better product or a better company? How many have sought that since November 2015 when this went into place?

MR. ROBACH: I can't give you the exact number. I know that we have 25,000 certificates within GFSI in China, and I know that China HACCP is probably at least four to five times larger than that because they reach a much more diverse group of suppliers than we do.

And I can tell you that we have a relationship with Shanghai Jiao Tong University that does China HACCP training, and they've trained thousands of train the trainers so there are people out there in the hinterlands of China, you know, out there teaching these programs. So, again, I don't have the numbers.

CHAIRMAN CLEVELAND: A lot.

MR. ROBACH: But it's a lot.

CHAIRMAN CLEVELAND: A lot is good.

MR. ROBACH: But it needs to be more.

CHAIRMAN CLEVELAND: Right. No, I mean I sort of was thinking was it one or two, but that's good.

So the next question, and I'm not sure if it's just for you, or all, we had a session with FDA yesterday, and they talked about this merger that it's AQSIQ MOA and then the Chinese Food and Drug Administration is all being merged under one roof. And I think you mentioned that this merger may be creating a more opaque system.

I'm curious what you see as the implications in terms of improving food safety and security of this consolidation.

MR. ROBACH: Well, I'll start and then you can talk about it if you'd like. The, from my perspective, the integration of AQSIQ and CFDA is a good thing, and one of the reasons they're doing this is because for a long time China operated two systems. They operated a system for export, and they operated a system for domestic consumption. That is changing, and that's the reason that I'm told that they're going through this consolidation.

So that they're bringing it all under one umbrella so that there will be safe food for consumers everywhere. So regardless of whether that's going to be exported or whether it's going to be domestically consumed, it will be produced under the same set of standards, and to me that's a good thing.

I mean a single food safety agency makes a lot of sense to me. You know that's something you might advise Congress to think about as well. I'm a big proponent of a single food safety agency, and it just makes things a lot more straightforward, and we can better allocate limited resources against the areas of greatest risk.

MR. FIELDS: And from my perspective I mean I haven't been fully briefed on that. We just had an envoy of the companies and the regulated bodies go over to Beijing to really better understand what the implications are going to be. I'm going to get that briefing.

But from our initial take is that, yes, there is a risk there. Are there opportunities? Haven't identified those yet. But if I were to really look for a silver lining is that if they are looking to bring this regulatory review in-house, this is an attempt to aid domestic development of technology. So their domestic small companies don't have to build up their own regulatory departments, that the government will take care of it for them.

So in a perfect case scenario, if it did operate in an efficient way, yes, there is potential there. But that lack or that risk of not understanding what's happening behind or within the government, that is a risk that's kind of hard to take. Stay tuned.

CHAIRMAN CLEVELAND: Thank you.

HEARING CO-CHAIR GOODWIN: I will take the next round. I think following up on that discussion regarding the consolidation and integration of those two oversight agencies, I wonder what the panel's sense is of their efforts to address the lack of qualified inspectors?

And, Mr. Robach, I'd be particularly interested in hearing you talk a little bit more. You talked about the P3 initiatives, the public-private partnerships, to share best practices. Do you know of any private industry players who are also trying to share insight into how they can identify, recruit and retain qualified inspectors?

MR. ROBACH: Well, I can tell you within GFSI, we just finished our auditor competency model, where we set out both knowledge and skills criteria for people to be qualified auditors under GFSI certified programs.

We have shared that broadly with governments around the world, including our own, because I think it's one of the areas of greatest concern that we have in the private sector is the competency of our auditors, and it's the same concern that we share with governments in terms of the competency of inspectors around the world.

And so we have spent time working with CNCA, and now we will spend more time with CFDA in helping them identify what are the key components for an effective inspector.

A couple years ago, we brought a cadre of meat and poultry inspectors over to our Dayton, Virginia turkey plant and had them spend two weeks observing USDA inspection in our turkey facility, and these are the same inspectors now that are inspecting chicken back in our big plant in China.

And so I was very pleased to see the Chinese government take advantage of the offer to do that, and I know that there's continued conversations going on between the two agencies, as we look at more equivalency and especially in the meat and poultry space.

HEARING CO-CHAIR GOODWIN: Anybody else?

Let me follow up with an unrelated question. In some of our briefing materials, also another public-private partnership, Walmart and IBM have partnered with JD, I believe, to launch a pilot project using block chain technology that would allow a Chinese consumer to track food all along the supply chain. I know that was just announced at the end of last year.

I'd be curious to hear what the panelists' thoughts were on it and whether any progress has been made since the launch?

MR. ROBACH: There's a lot of interest in block chain. It's almost as cool as CRISPR.

[Laughter.]

MR. ROBACH: But, no, we actually did a block chain program in the U.S. this year with our Honeysuckle White Turkey program, which was a big, big success, and I think this technology is going to be very important for all of us around traceability and being able to track product back to origin.

The key is incentivizing people to participate in the program, especially when you're getting down to these small and medium-size enterprises, whether they're farms or individual processors. You got to figure out a way to get them to input the data because you got to have the data in order to track it. So that's going to be our challenge, and I know we've spent time with Walmart, a big customer of ours.

We spent time with IBM looking at what they're proposing. It is a potential solution, but block chain is pretty much generic technology. So there's going to be a lot of work done over the next few years in terms of how do we make this part of our complex networks. To do it like we did with turkey, the way that Walmart has done it with pork, very simple, very straightforward with an integrated process.

Now, all of a sudden you've got multiple inputs coming from multiple geographies. It gets inherently more complicated and complex, but it is a, it is a platform that I think will help us all in the long-term. We just got to figure out how do we operationalize it and how do we incentivize people to participate.

CHAIRMAN CLEVELAND: I have no idea what you just said.

MR. FIELDS: I'll go ahead and throw in AI and machine learning just so we can get it all.

[Laughter.]

CHAIRMAN CLEVELAND: And I'm leaving.

[Laughter.]

MR. FIELDS: No, I think, yeah, block chain does hold a lot of potential. There's an increase in that value stream. There's an increase in interest from the consumers on what it looks like and are they willing to pay premiums for understanding where their food comes from with that kind of a robust background.

Now that does also conflict with how the movement of grain, corn and soybeans, wheat and the like, occur internationally. There is efficiencies that are gained with the fungibility of those crops, and that fungibility allows us to be a low cost supplier.

Block chain is going to have to sit next to that in a certain way, and we don't know exactly how big that's going to get, but that is going to produce some growing pains.

Now, yeah, it's--it will be an adventure over the next ten to 15 years. Now, that being said, we do see development of companies that are embracing it. So Indigo is a startup out of California, and they're actually going as far as to the seed development crop protection pieces and everything from before the seed is developed. They're tracking that through the grower selling it to the food company.

So they're creating these prescriptions for basically the block chain mentality for food production and creating almost a specialty line that's next to or alongside the commodity grain system. So how they're going to mesh, how are we going to be creating two different classes or another slip stream of commodities out there, for awhile that's probably the way it's going to go.

MR. ROBACH: It could be like our European supply chain.

MR. FIELDS: Yes, it will be--

MR. ROBACH: Which I hope it won't be, but, you know--

MR. FIELDS: Yeah, it's a sea change.

HEARING CO-CHAIR GOODWIN: Well, you said participation would be a key part of it, and I suppose that's the same challenge with regard to the lack of inspectors when you're talking about the structure and composition in the market with thousands upon thousands of small producers.

How do you meet that challenge to get qualified inspectors that can cover and actually provide adequate and robust regulatory oversight, and then for this sort of technology, which I think consumers might be interested in paying for, how do you ensure that there's sufficient participation that makes it worthwhile? That's the benefit of block chain--so they tell me.

DR. WANG: Yes, there are a lot of players there, but there are many good ones that they want their business to stand out among others to have their names build and brand in the long-term. So now in China, several, some small producers already install this 24-hour around the clock surveillance cameras on their field, on their plants, so that consumers can watch all the time what they add or what they apply, what they not apply.

So I guess enough incentives provided connecting to the traceability, then the industry will foster maybe a fewer number of larger growing the good producers.

MR. FIELDS: And I'll just paraphrase because I don't want to say it word for word in this setting, but I'll paraphrase one of the comments that I've heard a couple of times from a grower in southern Illinois: I'll grow whatever you want; you just got to pay me. And that's what will drive that adoption.

HEARING CO-CHAIR GOODWIN: Thank you.

Commissioner Kamphausen.

COMMISSIONER KAMPHAUSEN: Two questions. Dr. Pray, in your conclusion, or I guess page eight, so not quite the conclusion, but you talk about how there is an asymmetry in the ability to exploit the fruits of Chinese science, which you say, which you assert is good, but that, at least at some institutions, is at least globally competitive, and that there is an opportunity for U.S. to actually maybe bring to market in a more rapid and cost effective way the fruits of Chinese science.

And I just want to make sure I understood that point correctly and give you an opportunity to elaborate on that and then give your sense about whether that's a fixed trend or whether we're seeing some adjustment there over time.

And then, secondly, primarily for Mr. Robach, the question of e-commerce. How does that intersect with your work? The last panel, Mr. Westman asserted, you know, more than a third of a certain demographic of Chinese consumers will be relying on e-commerce, and so interested in your thoughts on that?

And Dr. Wang, you may have some thoughts as well. I mean your testimony was about really imports into the U.S. on food safety, but I'm guessing you have some thoughts on that as well. So I'd love to hear your perspectives.

DR. PRAY: Well, the point about why, you know, U.S. farmers and U.S. companies can benefit from Chinese science, some kinds of Chinese science, more than the Chinese can really has to do with the fact that the Chinese in terms of the actual, the GMOs have not been able to commercialize GMOs.

And so it's been, it's been that kind of change. Now--I mean that kind of difference, and, well, yeah, and I mean it all comes from that, that part of it, I think.

Let's see. There was another part of it that I was going to respond to. I can't remember now.

COMMISSIONER KAMPHAUSEN: Policy change.

DR. PRAY: Oh, okay. Thank you.

That's right. That's right. Policy change. So the government in order to encourage some of the local companies to continue to work on, you know, like GM corn and stuff like that have promised the companies that, okay, if you are finally able to commercialize this stuff, we still won't allow Monsanto or anybody else internationally from coming in for like five years. So you'll have a five-year window in which you're the only one that sells the stuff.

Now, of course, that sounded really good until this, you know, insect resistant Bt corn came in from someplace and now has taken over half the market. So the Chinese companies that were thinking, okay, we won't have to compete with Monsanto, now they have to compete with this cheap insect-resistant corn, which probably is produced by the Chinese-owned state farms. It used to be the old army farms that seemed to be the ones that are supplying the hybrid Bt corn in China.

So, yeah, if, if the market opens up, then the Chinese companies could well come in, but like I say, they're at kind of a disadvantage it seems to me. They're well behind Monsanto and DowDuPont.

MR. ROBACH: E-commerce is a rapidly growing area in China. Alibaba has really taken off and has done a pretty marvelous marketing job over there. I'm also amazed that, you know, China is becoming a cashless society so everybody pays from their phone. It's just unbelievable.

But I can say that from personal experience, our poultry operation in Chuzhou has our biggest growth category for products, our products that we're selling through e-commerce. So we get orders that come in and we ship out frozen and sometimes deep-chilled poultry packages to people all over China. It's absolutely amazing with the high-speed trains that they have, and the logistics. You know we can be in Shanghai in two hours. We can be in Beijing in four hours from our facility. So it is a rapidly growing market.

You know, McDonald's is expanding rapidly through taking e-orders and then delivering. Delivery is absolutely huge in Beijing and Shanghai, Guangzhou, and it continues to grow. So it is, sets up a new set of challenges from a food safety standpoint in terms of packaging.

We could talk about cold chain or lack thereof, and, you know, the infrastructure challenges in order for this to continue to expand. The real--I know at GFSI, we've added Amazon to our board of directors so we now have their food safety leader on our board and participating and looking at scope extensions for certification so that we can be assured that we have programs in place that can at least address these emerging challenges.

DR. PRAY: I'll just say one little anecdote. In April, Alibaba paid $9.4 billion to buy Ele.me, or however it's pronounced, which is essentially an e-commerce thing in Beijing and Shanghai that, you know, takes McDonald's or whatever--

VICE CHAIRMAN BARTHOLOMEW: Are you hungry?

DR. PRAY: Yeah, "are you hungry" is what it stands for. And so there's a lot of excitement there if Alibaba is willing to put up $9.4 billion to buy this one startup.

DR. WANG: E-commerce is growing humongous. Alibaba mentioned its sales is bigger than combined of Amazon and eBay, more than that. They create a national like a Black Friday day only after two seasons. So now November 11 is the national like our Friday after Thanksgiving.

So when you mentioned about particular demographic, it's not like a top ten percent of rich people. It's not like that. It's like everybody 16 and up. So it's like young people--I'm a little bit old, but now I can, I still can do this. I buy Germany milk on my cell phone and my mom receive it in an hour in Beijing so delivered to her house.

So I mean, so as the--so the demographic really means young people, and as they grow up, more young people, soon it will be everyone, so it's the delivery and--so what does that imply to our agriculture?

So we actually did some of the studies there. It makes it more competitive. They were more products--when you say pork, ten different pork show up. Competition is cruel, and that's one thing.

And another thing is it provides consumers the information delivered by verbal thing. So when you go to market, you see the color and smell the pork and you touch it, but now here you can see all the description. This is Iowa grain fed pork. And this is pork from Netherlands. And this is from Germany. So I guess our producers need to learn this and adapt to themselves to differentiate them and competition description.

Another thing I've been thinking about this, about U.S. agriculture, we are so far the largest export to Chinese market is the large commodities. It's grains. They are not direct retail products reaching consumers. So, and that make it vulnerable. I mean they can--it can be used as the tools whenever there is a trade conflict come out.

So in the morning, earlier version, we talk about diversity and another thing is value added. That's for our industry. As we move into this branded Smithfield pork or ham, it is so much better, reach consumers directly, delivers in our quality, our characteristics, whatever the good things there, and also diversified, and also our agriculture industry, not just farmers, will benefit from the added value procedure.

HEARING CO-CHAIR GOODWIN: Thank you.

Commissioner Wessel.

COMMISSIONER WESSEL: Knowing that the worst place to be is between commissioners and lunch, I'll ask a quick question or two quick questions, I think.

Mr. Robach, you talked about block chain, and the traceability and all those issues. Several years ago and continuing there is the debate here in the U.S. about country of origin labeling and the desire of consumers to know where their products are coming from. Riffing off of Commissioner Bartholomew's questions, not questions, comment about tilapia, there is a great desire by our public to know.

Your company and many others was not supportive of country of origin labeling, but correct me if I'm wrong, you thought that block chain and the ability, the traceability, would be helpful. So what's the difference, and do you believe that the ultimate consumer should have access? That's the first question.

Second, just a question about an idea, and we were briefed yesterday, as Commissioner Cleveland talked about, by FDA, and we've done work in the past about inspection rates and risk-based approaches, et cetera, targeting big data.

One question might be whether we should look at a different risk-based premium approach, such that importers would have to bond for the liability or the risks in the products they're importing. So that essentially insurance companies, which would have to do the actuarial risk-based assumptions, could supplement what our government does and has a difficulty sometimes doing and getting access.

Presumably some of our insurance companies would work with here Chinese counterparts to assess the integrity, safety, quality of production there. If that was all above board, presumably the premium would be very low. For where importers could, had no visibility into the system, the premium would be higher and act as an incentive to drive people into accreditation, certification and evaluation.

So, first, country of origin. Second, what would people on the panel think about a risk-based premium approach to supplement, not to replace, what the U.S. government is doing? Is it a cost too high? Is the value worthwhile, et cetera?

MR. ROBACH: Around country of origin labeling, I think from a practical standpoint, we found the COOL rule, as written, was not going to be terribly helpful and would be at times confusing.

That having been said, I think from a transparency standpoint, you know, our feeling is that consumers have a right to know where their food comes from, and I think in the context of kind of a broader approach to food labeling, you know, that should be considered.

Certainly under smart label technology, you know, we have the ability to put a lot of different information on a label, but just highlighting country of origin labeling in the way that it was written, we didn't think it was going to be helpful and was going to be confusing, especially as we have a lot of product that moves across the border between Canada and the U.S. and Canada and Mexico at times. So that's kind of where we are on that.

I think from a broader perspective, you know, we're open to a conversation around what does enhanced transparency look like?

As it relates to imports and holding importers responsible and accountable for the products they bring into the country, I totally agree. I mean I'm responsible and accountable for things that I produce all over the world, and we make decisions based on our risk assessment. So I think having, again, talking about risk assessment then gets to be kind of a slippery slope because you have people that look at risk differently.

You need a science-based approach to risk assessment. I in particular was in D.C. last year with some colleagues from Canada calling for a joint U.S.-Canadian risk assessment authority, and taking risk assessment away from the regulatory agencies and make it an

independent body that really focuses on true public health risk, similar to the EFSA model in Europe. I think that's an appropriate thing to do.

I like the idea of using risk. I mean that's how we work with our insurance carriers. You know they look at what are our risk mitigation activities, what's our risk assessment, what do our programs look like, and then they tell us this is what your premiums are going to be. So I would, I would be very much in favor of that.

COMMISSIONER WESSEL: Any other views on that? Thank you.

HEARING CO-CHAIR GOODWIN: Any other questions from the Commission? I want to extend my appreciation on behalf of the Commission to the entire panel for your time and for sharing your insights with us today. I certainly want to also thank the witnesses from this morning's panel. It's been a very interesting hearing. So thank you very much.

We stand adjourned.

[Whereupon, at 1:15 p.m., the hearing was adjourned.]

STATEMENTS FOR THE RECORD

PREPARED STATEMENT DR. DAVID ORTEGA, ASSISTANT PROFESSOR OF AGRICULTURAL, FOOD, AND RESOURCE ECONOMICS AT MICHIGAN STATE UNIVERSITY

MICHIGAN STATE UNIVERSITY | Department of Agricultural, Food, and Resource Economics
College of Agriculture and Natural Resources

Testimony before the U.S. China Economic Security Review Commission

Hearing on "China's Agricultural Policies: Trade, Investment, Safety, and Innovation"

April 26th, 2018

David L. Ortega
Department of Agricultural, Food and Resource Economics
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My name is David L. Ortega, and I am assistant professor of global agrifood systems in the Department of Agricultural, Food and Resource Economics at Michigan State University. As a faculty member, my research program focuses on understanding consumer, producer and agribusiness decision-making to better inform food policies and agribusiness strategies. A significant portion of my work centers on food quality issues in China. I have made approximately 10 research trips to China, published 20 articles in peer reviewed journals on the topic, and served as a visiting scholar and instructor at two Chinese universities. With funding from the U.S. National Science Foundation, I conducted one of the pioneer studies that assessed demand for food safety in China. In the wake of a sequence of food contamination events that occurred in 2007 and gathered global attention, I implemented a series of research projects to measure consumer demand for food safety and estimated welfare changes from various policies in the Chinese meat and dairy sectors. I have also conducted an evaluation of the Chinese agricultural marketing system that identifies key factors contributing to food safety problems and offers a road map to remedy the situation. The expert view expressed in this testimony is my own. Thank you for providing me with the opportunity to testify.

Introduction

The food safety situation in China's agricultural and food marketing system is an issue of paramount importance with serious domestic and global implications. Throughout much of the second half of the last century, China's centrally planned, inward-looking economy was an insignificant player in the global trading system. Today, having gone from a sleeping giant to the fastest growing major economy in the world, China has become a significant player in global agricultural markets. Many economists have called China's emergence a ''positive economic shock,'' unleashing a consumer base and workforce of nearly 1.4 billion people into the global market and positioning it as a key supplier and consumer of food products globally. However,

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China's rapid growth and development has not occurred without setbacks and challenges. A series of globally recognized food safety scandals (e.g., melamine tainted milk and baby formula, contaminated pork) have brought increased awareness to China's inefficient food certification and inspection system. As a result, China's role in the world export market has suffered as countries have rejected its food exports for failing to meet rigorous food safety standards. Within China, heightened public concern over the safety of its food supply has raised questions regarding consumer confidence in the government-run food inspection system.

China's highly fragmented food supply chain is composed of millions of small farmers, traders, and retailers, many of whom operate unsupervised. The size and complexity of the supply chain poses a great challenge to the implementation of a comprehensive and effective domestic food safety system. Many of China's food safety problems can be traced back to the farm level, as some farmers still rely heavily on the use of highly toxic pesticides to cope with various production problems.[1,2] The use of antibiotics in the livestock sector has also led to a series of public health concerns focused upon the rise of new antibiotic-resistant pathogens.[3] China's food safety situation poses a significant risk to its domestic economy, threatens the safety of the U.S. food supply and at the same time presents an opportunity for high quality U.S. agricultural exports.

Food Safety and the Chinese Consumer

Over the past ten years, I have found that Chinese consumers *are very concerned* about the safety of the food products they purchase. Furthermore, they are willing to pay significant premiums to ensure the safety of their food.[4,5] The high level of concern regarding food safety can be linked to incidents involving pork and dairy products, most notably the clenbuterol contaminated pork and melamine-tainted dairy and infant formula incidents. These, however, are not isolated events. Reports of contaminated foods and incidents of food fraud have been frequently reported since China joined the World Trade Organization in 2001.[6,7,8] Although it might appear that Chinese consumers' confidence in the government is eroding, as reported in the wake of these events, my research found that consumers were confident in government food safety control measures. This indicates that there is a strong need for the Chinese government to provide adequate food safety and quality control.

In addition to government food safety assurance, Chinese consumers are, in some cases, also demanding third-party food safety certification and product traceability.[9] This suggests that the implementation of non-government food safety and quality certification programs will potentially generate a more robust domestic market. The realization of such a program in China will increase competition and potentially eliminate some of the inefficiencies that arise from a government monopoly on food safety certification. Demand for product traceability is growing for large Chinese agribusinesses. Processing facilities and packaging plants are emerging outside urban centers that are trying to capitalize on consumers' need for additional safety assurance.

Although Chinese consumers are highly concerned about food safety, it is worth noting that there are significant differences in their willingness and ability to pay premiums to cover the costs of providing food safety assurance. As Chinese per capita income continues to increase, and more people join the middle and upper classes, consumers will be more willing and able to obtain

better food safety information. This should give the government and private sector confidence and an incentive to invest in quality control for food safety.

Environmental and Soil Pollution

China's rapidly growing economy has also put heavy strain on the environment, with rapid industrial growth and a large population contributing to air, water and soil pollution. The use of untreated sewage and industrial wastewater for irrigation, as well as high agricultural chemical use and increasing livestock production waste, have led to soil contamination in many of China's agricultural areas.[10] Progressive monitoring between 1990 and 2007 has shown evidence of marked reduction in agrochemical use (specifically hexachlorocyclohexane and its isomers [HCHs] and dichlorodiphenyltrichloroethane and its metabolites [DDTs]) owing to governmental prohibition, significantly reducing the public health risk.[11,12,13,14] Nevertheless, despite efforts to reduce agrochemical use in China over the last few decades, China's agrochemical application rates remain among the world's highest, with a 2009 survey detecting 65 pesticides and herbicides in 16 provinces across China.[15,16,17] In addition to chemical contamination, concerns about heavy metal contamination in the soil have increased drastically, with evidence of excessive levels of cadmium, nickel, copper, arsenic, mercury and lead found.[18,19] Moreover, the rate at which heavy metals have accumulated has increased.[20,21] Health consequences of water and subsequent soil pollution are already occurring within China amongst the rural population, with increased rates of cancer morbidity in villages with the closest proximity to contaminated areas.[22] The risks of these contaminants entering the food system are also high. A 2012 survey found that 28.4% of rice exceeded the maximum residue concentration levels for lead and 10.3% exceeded cadmium levels.[23] To address China's soil pollution problem, Chinese officials announced intentions to draft legislation to fight soil pollution in 2018, hoping to meet the goal of making approximately 90% of contaminated Chinese farmland safe for crop production by 2020.[24]

Biotechnology

Recent advances in biotechnology, have raised the possibility of genetic engineering techniques being applied to improving the quality of food products. The adoption of genetically engineered crops in China has resulted in lower pesticide use and positive health and environmental impacts.[25] The advent of gene editing technologies is promising for the development of higher quality and safer foods. For example, Chinese researchers have been able to produce leaner pigs via the gene editing tool CRISPR Cas-9 without the use of traditional veterinary drugs or feed additives.[26] Whether this and other food products developed through advances in genetic engineering are commercially viable depends, in part, on consumer acceptance of the use of biotechnology in plant and animal agriculture, and how messages from scientists and innovators are received by consumers. Preliminary findings from my research in China show that, even with strong opposition to the use of biotechnology in food products, Chinese consumers are open to purchasing products that were genetically modified to improve their safety and quality.[27] These preliminary findings should be encouraging to scientists working in this area and suggest that consumers are likely to support breakthroughs in biotechnology that address their food safety concerns.

E-commerce

Factors affecting food safety go beyond production and distribution, and span into food retailing and emerging channels. E-commerce is changing the way consumers purchase food, obtain

product information and get access to safe, high quality food. China has the largest e-commerce market in the world, with online sales expected to grow from 17% of total retail sales today to 25% by 2020, and Chinese consumers are increasingly turning to the Internet as a medium of acquiring food products.[28,29] In contrast to American online food demands which are generally driven by convenience, the increasing interest in purchasing food online in China has been primarily linked to food safety concerns, with Chinese consumers placing greater confidence in the quality and safety of products purchased online.[30] The Chinese e-market place is dominated by Alibaba (Tmall and Taobao) and JingDong (JD), which jointly make up approximately 80% market share in business-to-consumer e-commerce sales.[31] These and other companies are rapidly adopting blockchain technology to fight counterfeit goods and add traceability and transparency to the food supply chain. For example, JD has partnered with IBM, Walmart and Tsinghua University to form the Blockchain Food Safety Alliance, a collaboration designed to improve food tracking and safety in China.[32]

Food Safety Regulation in China over the last 10 years

Food safety regulations in China have undergone regular evolution over the past decade. Following the series of food safety events that garnered global attention in 2007, the (2009) Food Safety Law of the People's Republic of China was passed. This was one of many government efforts aimed at remedying China's dire food safety problem. The provisions included establishment of an extensive licensing system throughout the food supply chain, record-keeping and traceability requirements, and reporting and accountability obligations for food and food additive producers and distributors. In April 2015, the Standing Committee of China's National People's Congress revised the 2009 law, imposing even stricter controls and oversight of China's food supply. The revised law placed more emphasis on the supervision and control of food production and distribution.[33] Notable changes included:[34,35]

- *Centralization of food safety oversight.* Enforcement of food safety was previously divided among different agencies. A centralized system was created under this law with the China Food and Drug Administration (CFDA) as the main supervising body.
- *Increased oversight of imported foods.* Manufacturers of imported food products, food importers, and importing agents are required to register with the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ).
- *More stringent requirements of e-commerce vendors.* Providers of third-party online food trading platforms were required to confirm that traders hold valid permits, register their identity, and report the trader in the event of a food safety violation. Foods imported through e-commerce are subject to the same regulations as foods imported through traditional channels.
- *Health foods oversight.* Products containing ingredients outside the approved list of food ingredients must be registered with CFDA.
- *Stricter regulation for baby foods.* Baby formula must be registered with CFDA and baby formula labels and ingredient composition must be recorded with local government FDAs.
- *Labelling of genetically modified foods.* Genetically modified foods must be accurately labelled as such, and the use of "non-genetically modified" labelling must be approved.

- *Increased penalties for food safety violations.* Fines up to 20 times a product's value will be sanctioned on individuals engaging in the production of foods or food additives without proper permits or failing to register health foods and infant milk formulas.

The most recent development in Chinese food safety regulation, as part of China's Institutional Reform Plan announced last month, is the establishment of a new State Administration for Market Supervision (SAMS). Approved March 17th, 2018, the Institutional Reform Plan establishes SAMS as a direct "subordinate agency" under the State Council, replacing CFDA, AQSIQ and the State Administration for Industry and Commerce.[36] This restructuring abolishes the three agencies in an effort to better coordinate regulation and enforcement of food safety and puts China one step closer to consolidating food safety oversight into one agency. The regulatory responsibilities which fell under those agencies will instead be consolidated into SAMS, except quality control for imports and exports, which will be transferred to the customs service. In addition, some food safety responsibilities which were not overseen by those agencies will still fall outside of SAMS. For example, regulatory power for ensuring the quality of farm produce will remain with the newly-expanded Agriculture and Rural Affairs Ministry.[37]

Addressing Food Fraud in China

Many of the food safety issues in China can be classified as incidents of food fraud, the practice of intentional deception for economic gain related to food.[38,39] Food fraud can occur in all stages of the supply chain and often cross international borders. Recent examples in China highlight the failure of traditional food safety and food defense systems and processes to address food fraud vulnerability. The deception in food fraud cases can be adulteration with non-food substances, substitution, dilution, stolen goods, tampering (including date-code tampering), diversion and gray market product (e.g., products sold outside of their intended supply chain or market), smuggling, unauthorized product or unauthorized refilling, misrepresentation or mislabeling, and counterfeiting of intellectual property rights.[40,41,42] Many food fraud acts occur outside the authorized supply chain, and often they do not involve adding an adulterant or contaminant that is monitored.

Although food fraud prevention is emerging as a unique area of interest due to the unpredictability and potential economic gain to fraudsters, food fraud events are not new. Due to globalization of production and distribution, modern food fraud events could be massive in scale and have regional or global impact. Addressing food fraud has led to a shift in focus from mitigation to prevention. Mitigation aims to reduce the severity of negative consequences, while prevention targets elimination of the root cause of the event and could eliminate or at least greatly reduced the likelihood of occurrence. While food fraud events do not always pose a public health hazard, exceptions do occur. For instance, investigations showed that, on two separate occasions, melamine had been deliberately added to raise the apparent protein content in pet food in the U.S. and infant formula in China.[43] In both cases, the melamine adulterant-substance caused adverse renal effects in cats, dogs and children, resulting in multiple pet deaths in the U.S. in 2007, and 6 child deaths in China, with another 50,000 hospitalized and 244,000 others affected.[44,45] Four individuals identified as being responsible for the contaminated pet food in the U.S., and their companies, were indicted by a federal grand jury.[46] In response to these events, a new risk assessment statement on melamine in food was carried out by national and regional authorities worldwide, with several countries proposing regulatory limits for

melamine in food and feed. The U.S. FDA published its risk assessment in 2008 following the infant formula scandal.[47] The Chinese government adopted the 2009 Food Safety Law and expanded food protection in the Protection of Consumer's Rights and Interests in 2014, with the important addition of "strict liability" for a food safety event, with severe punitive allowances of three-years to a life prison sentence for "serious harm to human health".[48]

This event highlights the effectiveness of routine monitoring for food fraud and the growing importance of timely responses based on risk assessment in limiting the proliferation of adulterated product. The response to this food fraud crisis has demonstrated that food safety is enhanced if all the stakeholders across the food supply share information and data in an effective and timely manner, as occurred with the prompt, public U.S. FDA response on pet food. Conversely, if companies fail to report consumer complaints, as was the case with the contaminated infant formula in China, many tragic illnesses and even deaths can result from these events.

Better than backward-looking food fraud detection is prevention. Addressing food fraud can be inefficient and elusive if efforts are focused on the traditional food safety and food defense systems and programs. By focusing on prevention, the challenge is simplified when looking at the event from the perspective of the fraudster and the fraud opportunity. The countermeasures become clear when the focus shifts from the problem outwards to the countermeasure (rather than from current technologies or laws inward to the problem). For companies or countries to address the root cause of fraud, efforts should expand to include food science and technology, social science, criminology, and business decision-making. Criminology provides theories to understand the problem and to evaluate countermeasures to preserve food integrity. Business decision-making and decision-science helps to address the question of "how much is enough?" Overall, the complexity of food fraud vulnerabilities will lead to a fresh and important focus to food protection: shifting from "risk mitigation" to "vulnerability prevention".[49]

Chinese Food Safety Implications for the United States

China is a major supplier of food products to the United States. Behind Canada and Mexico, China since 2005 has been the third largest source of imported food products for the United States, accounting for over $6.1 billion worth of U.S. food imports in 2017.[50,51] Though total imports have been subject to considerable volatility in terms of growth, overall food imports from China have grown approximately 20% since 2008.[52] Seafood and aquaculture imports from China are especially important, representing 78% of the tilapia and 50% of the cod consumed domestically in 2014, and totaling over $2.78 billion worth of seafood imports in 2017.[53,54] Processed fruit and vegetables, fruit and vegetable juices, snack foods and fresh vegetables, especially onions and garlic, also currently make up a substantial portion of the food imported from China.[55]

Very few of the highest value or highest volume imports from China are fresh, unprocessed food products. Instead, imported foods have largely already undergone some processing prior to shipping or are intended for further processing upon entering the United States.[56] The bulk of those processed products are direct consumables like fruit juices and frozen fish and vegetables. However, food additives and ingredients that American consumers may not regularly recognize as being present in the food supply chain also make up a substantial portion of U.S. imports from

China. For example, China supplies 83% of U.S. imports of xylitol, a common sweetener in candies and chewing gums. It also supplies nearly half of U.S. imports of ascorbic acid, which is isolated vitamin C, commonly used as a preservative.[57] Other ingredients widely distributed through the U.S. food system are also primarily sourced from China. In 2017, 137 million pounds of sauces and 128 million pounds of spices were imported from China, along with 70 percent of U.S. artificial vanilla imports.[58,59] These ingredients can often be overlooked by consumers when evaluating the origins and safety attributes of their food.

Despite an increased presence of U.S. food safety inspectors in China, U.S. monitoring of Chinese food suppliers and processors remains largely inadequate. Food safety in the U.S. is primarily overseen by the U.S. Department of Agriculture's Food Safety Inspection Service (FSIS), which is responsible for egg, poultry and meat safety assurance, and the U.S. Food and Drug Administration (FDA), which oversees all other products.[60] The FDA inspects only 1% of food shipments that arrive at U.S. ports.[61] China topped the list for seafood refusals for drug-related violations, making up 37% of seafood refusals.[62] Between 2012 and 2014, China was among the top three countries with the highest number of entry lines refused (along with India and Mexico), though high volume and prioritization of Chinese imports for inspection may contribute to refusal totals as much as propensity for violations.[63] Under the U.S. Food Safety Modernization Act (FSMA), the FDA also became responsible for establishing foreign offices to conduct risk-based inspections of food and other production facilities. While the foreign offices were able to successfully increase the number of inspections conducted between 2010 and 2014, the FDA has not been able to meet the annual targets mandated by FSMA. The U.S. General Accounting Office (GAO) found that inspections of imported food from China regularly fell short due to insufficient funding of the FDA.[64] As a result, data limitations continue to constrain what we know about the safety of imported foods from China.[65]

Emerging Market Opportunities for U.S. Products: The Pork Example

Economic globalization has opened up new international markets—especially in emerging economies—for U.S. food products. At the same time, sociocultural differences and political events, both domestic and abroad, pose challenges for market access and promotional efforts. With a rising appetite for animal protein, China presents a growing market opportunity for U.S. livestock products. While increased demand for U.S. meat in China looks promising, more research is needed to better understand this growing market. Political and socioeconomic differences between mainland China and its special administrative regions, such as Hong Kong, often complicate market entry for U.S. products. As a result, many firms have historically relied on grey, unofficial channels as access points for bringing foreign food products to the Chinese domestic market.[66]

As the world's most populous country, China is also the world's largest food consumer. My research on how the Chinese dinner plate has changed over the past half century shows a rapid increase in meat consumption in the past few decades.[67] This can be explained by rising incomes that have allowed Chinese citizens to buy higher protein foods and better food availability as mainland China has become more urban.

China as a Pork Importer

The average Chinese consumer eats roughly 80 pounds of pork per year, which is more than the 64 pounds per year for the average American consumer.[68,69] Given rising appetites for pork, Chinese consumers are no longer focused solely on domestic pork products. Although the share of imported pork to total pork supply is still low (~3%), China has been a net pork importer since 2008.[70]

Multiple factors have led China to increase pork imports. In my research I classify these as either production- or demand-related.[71] Production-related factors are mainly a result of the unstable nature of China's pork industry. Chinese producers face a number of challenges, including scarce arable land, rising production costs, and various hog disease problems.[72,73] In particular, disease outbreaks and food safety events have tarnished the reputation of domestic pork suppliers and helped increase China's pork imports.

Demand-side factors have also driven the increase in pork imports. Rising incomes have resulted in Chinese consumers demanding higher quality and greater assurance of food safety, boosting sales of imported pork. Some of my early research in China found that food-safety-sensitive consumers in Beijing and Shanghai were willing to pay for U.S. pork, implying that imported pork may be an alternative for urban consumers who seek safer and higher-quality food products.[74] Increases in urbanization and improvements to infrastructure and transportation have led to the proliferation of supermarkets in small cities and the use of cold storage both at home and in retail outlets. As a result, imported pork and processed pork products have become widely available. Busier lifestyles in China resulting from economic and social development imply that consumers have less time to purchase and prepare fresh food. Consequently, fast food restaurants, convenience foods such as refrigerated meat products, and online retailing are becoming more popular in urban China.

Given production and demand drivers, China is a promising market for global pork suppliers. The emergence of imported pork is expected to increase market competition and provide consumers with origin- and quality-differentiated products. Chinese consumer preferences for imported pork will be affected by both the origin country's reputation for food quality and its reputation in international relations and current events.[75] A major concern for U.S. meat industries wanting to enter this market has been whether Chinese consumers prefer domestic pork to U.S. pork. A number of studies have documented what is now known as "domestic country bias," a behavior that is manifested in both product perceptions and buying intentions.[76,77,78,79] Concern can thus arise on two fronts. Chinese consumers may perceive U.S. pork as superior in some respects and yet still elect to purchase domestically produced product as a result of bias. Or domestic country bias may altogether prevent an objective evaluation of imported product, leading the consumer to make a purchase decision on the basis of characteristics largely divorced from the product itself.

While Chinese concerns over food safety present an opportunity for U.S. products, the food safety situation also complicates market entry due to new and changing laws and regulations. Imported products are facing higher barriers to trade due to tightening food safety standards, which are easier to enforce for imported products than for the domestic market. As a result, U.S. meat exports to China have been at the center of controversial trade restrictions and political disputes in the recent past. China bans the importation of U.S. pork that is raised with the use of

ractopamine—a feed additive that promotes lean meat production and is used in the U.S. pork sector.[80]

Despite these challenges, the future of American meat exports to China looks promising. In 2014, Smithfield Foods Inc., the largest pig and pork producer in the U.S. was acquired by China's WH Group (formerly known as Shuanghui International)—the biggest Chinese purchase of a U.S. company to date. Over most of the past decade, Smithfield has been the major U.S. pork exporter to China, though these shipments have been largely unnoticed by Chinese consumers, as they have been comprised of frozen pork that ends up in meat processing and food service channels. This merger, however, has positioned U.S. pork in China's profitable chilled/processed pork market that is mainly sold in supermarkets.[81]

To penetrate and expand into the Chinese market for meat, poultry, and other animal proteins, U.S. industries need to 1) to recognize Chinese consumers' food culture and preferences with regards to taste, texture, and cuts, and 2) emphasize the established safety and quality reputation of U.S. products. Furthermore, as excess demand for animal protein continues to increase under domestic production constraints, the U.S. meat industry is well positioned to capitalize on the growing potential of the Chinese market. Research that I have conducted finds that demand for U.S. pork can be significantly increased by highlighting its quality and safety attributes.[82] Thus, promotional efforts on this front are needed in order for U.S. meat industries to capitalize on this emerging market opportunity.

Effects of Recent Trade Events

The March-April 2018 U.S-China trade announcements have dealt a significant setback to U.S. pork exports to China, increasing uncertainty, and affecting the profitability of U.S. pork producers. On April 2nd, China imposed a 25 percent tariff on U.S. pork and other agricultural goods.[83] This action comes as a response to the Trump administration tariffs on all imported steel (25%) and aluminum (10%) products, except those originating from Canada and Mexico. China's Ministry of Commerce stated that their tariffs were intended to balance the losses caused to Chinese interests as a result of the U.S. 232 Trade Action on steel and aluminum.[84] To put this into perspective, the U.S. sold China 525 million pounds of pork in 2017 worth $1.1 billion, representing nine percent of U.S. total pork export volume last year. China/Hong Kong is the United States' second largest international pork market by volume and third largest by value.[85] For China, which is largely self-sufficient in pork, this only makes up 1% percent of pork consumption.[86] The 25% tariff will make U.S. pork significantly more expensive than other imported pork in China, and if this tariff persists, will erode U.S. market share. As of April 13th, the length or the effect of these tariffs was not known. However, this situation has led to a rise in uncertainty, which can have lasting consequences on China-U.S. trade relations.

Conclusion and Recommendations for Congressional Action

Given our food imports from China, food safety issues should be of paramount importance to U.S. consumers, policy makers and the food industry. Similarly, the food safety situation in China presents market opportunities for U.S. products in this growing market. Our understanding of food safety issues in China, and how to best protect the safety of the U.S. food supply from this threat is limited by a lack of surveillance, data and research on the topic. Thus, there is a *critical need* for the U.S. Congress to take action to support activities aimed at protecting the

safety of our food supply and to adequately fund research that informs evidence-based policies on this very important issue. My specific recommendations include:

- Provide support for USDA FSIS activities to ensure that imported meat, poultry and egg products are safe, wholesome, and accurately labelled. This includes a thorough and detailed evaluation of Chinese regulatory systems in advance of any product being exported to the U.S.

- Increase resources for FDA to effectively inspect the increasing volume of Chinese food imports. This includes increased inspections and additional testing for processed foods, food additives and ingredients.

- Convene a food fraud task force with the goal of forming a public-private-partnership to develop and implement a food fraud prevention strategy.[87]

- Provide support for federal and regional programs that inform U.S. food producers about export market opportunities and changing Chinese import requirements.

- Implement trade policy that promotes and supports U.S. agricultural export market development, and healthy trade relations.

With these recommendations I conclude my statement. Once again, thank you for the opportunity to testify.

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PREPARED STATEMENT OF AMERICAN SOYBEAN ASSOCIATION AND U.S. SOYBEAN EXPORT COUNCIL

Statement of the American Soybean Association
and U.S. Soybean Export Council
to the
U.S. China Economic and Security Review Commission
April 16, 2018

Introduction

This testimony is on behalf of both the American Soybean Association (ASA) and the U.S. Soybean Export Council (USSEC).

ASA is the national organization that represents U.S. soybean farmers on policy. USSEC is the international representative for U.S. soybeans maintaining a global network of international offices to help build a preference and ensure market access for U.S. soybeans and soybean products. We appreciate the opportunity to submit written testimony and commend you for holding this hearing to review the agricultural trade relationship between China and the United States.

In 2017, U.S. farmers produced record 116.9 million metric tons of soybeans and exported the equivalent of 62 percent of the crop, valued at $28.7 billion. For the last 20 years, soybeans have contributed more to the U.S. trade balance than any other agricultural product. We are very proud of this record, and of our role in helping to feed a growing world.

China is the world's largest soybean importer, buying over 93 million metric tons of soybeans in 2016/2017, mostly from Brazil, the U.S. and Argentina. In 2017, China imported 36.3 million metric tons of U.S. soybeans, 62 percent of total U.S. exports and nearly one-third of our annual soy production. Over the next 10 years, Chinese demand for soybeans is expected to grow annually by the size of our entire export market to the EU.

The U.S. Role in Developing the China Soybean Market

The U.S. government and farmers have partnered for decades and spent millions of dollars to establish foreign markets for U.S. soybeans. China is perhaps our most impressive success story. U.S. soybean growers opened an office in Beijing in 1982. At that time, China did not have a vertically-integrated animal feed industry, and livestock production lacked health and nutritional standards. China has the largest swine herd in the world but, at the time, much of it was backyard-based and its ration did not include soybean meal. Similarly, while China produces more fresh water fish than the rest of the world combined, none of its fish feed included soybean meal 20 years ago.

Through a long-term and comprehensive program to demonstrate the value of soy-based feeds, USSEC and its international marketing predecessor helped build demand for soybeans to the level China imports today. Since 1995, while feed use in China grew by 140 percent, soybean meal used in animal feed rose an unprecedented 839 percent. And we've seen the amount of soybean meal used in aquaculture feeds grow from zero just 20 years ago to 7 million metric tons this year. The value of U.S. soybean exports to China has grown 26-fold, from $414 million in

1996 to roughly $14 billion in 2017. Potential tariffs would put years of work to expand markets, and the livelihoods of thousands of U.S. farmers, in jeopardy.

Concern about a Trade War

Since early last year, the U.S. soybean industry has been very concerned about getting into a trade war with China. This concern was heightened when President Trump announced his decision to impose tariffs of 25% and 10%, respectively, on steel and aluminum imports. Our fears were confirmed after the Administration announced tariffs on an additional $50 billion of Chinese imports under Section 301 when China stated its intention to place a 25 percent tariff on imports of U.S. soybeans and other products. With this announcement, retaliation is no longer a "what if." The prospect of an escalating trade war has already created significant uncertainty in the U.S. soybean market and has driven up premiums for Brazilian soybeans from $10 to $30 per metric ton.

Economic Impact of Chinese Tariffs

Retaliation by China against U.S. tariffs would undercut prices received by soybean producers and further hurt the already depressed farm economy. Crop prices are down 40 percent since 2013, and farm income has fallen by 50 percent. Operating margins are slim, and farmers cannot absorb additional hits to the farm economy.

According to a study for the U.S. Soybean Export Council conducted by Purdue University, soybean exports to China could drop dramatically if China chooses to impose a 25 percent tariff on U.S. soybeans. Using an advanced version of the Global Trade Analysis Project (GTAP) model developed at Purdue, the study projects that China's soybean imports from the U.S. would fall by 65%, total U.S. soy exports would drop by 37%, and U.S. soybean production would decline by 15%.

It has been argued that trade in agricultural products is fungible, and that the loss of one market to a competitor will be replaced by other markets which that competitor will no longer sell to. In the case of soybeans, this argument fails to recognize that our largest competitor, Brazil, is continuing to expand soybean production on new lands. Brazil is already the world's largest soybean exporter, including to China, and would respond quickly in the event U.S. trade actions trigger retaliation against our soybean exports. We simply cannot accept the risk a trade war would create for our industry.

In addition to the concerns of U.S. soybean farmers, other commodity producers are at risk of losing critical sales to the China market. As a result of the prospective Section 301 and Section 232 tariffs, China has also threatened to retaliate against pork, sorghum, wheat, corn and beef. Last year, the value of China's imports totaled $1.1 billion for U.S. pork, $1 billion for cotton, $1.1 billion for sorghum, $450 million for wheat, $150 million for corn and $11 million for beef. Actions that threaten these markets have the potential to upend the farm and rural economy and put the livelihoods of farmers in jeopardy.

Opportunities to Improve Trade

Today there is an opportunity to make substantial progress towards a "reset" with China on a number of matters. While China is such a significant player in global soybean trade, there are a couple of issues that have created considerable frustration for players along the U.S. soybean value chain. The first is biotech approvals. China's regulatory framework for approving biotech traits for imports is asynchronous by design but also is slow and arduous lacking predictability, transparency and scientific justification for some of the requirements. The slow approval of new biotech traits has resulted in U.S. farmers and other farmers around the world to not have the latest technologies available to address very real issues, especially pest controls. This brings up another issue that has emerged in trade with China; weed seeds. China's Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) raised concerns to USDA APHIS about weed seed content in U.S. shipments. Through negotiations, it was determined that a short-term solution would be to make an additional declaration on the phytosanitary certificate. This additional declaration has created uncertainty in the trade due to the lack of a specific assurance and process on the Chinese side for how such shipments will be handled. We believe additional clarity could be achieved to help ease the concerns of the export companies to ensure uninterrupted trade. In addition, improved biotech approval procedures would also help reduce the weed seeds in shipments by allowing farmers access to new technologies.

Conclusion

Soybeans are the Nation's number one agricultural export and the soybean industry is an essential part of helping lower our trade deficit with China. We believe that expanding market access can play a vital role in increasing our agricultural trade surplus. We would like to see the United States and China work towards a solution that allows soybean farmers be part of the solution instead of collateral damage from a potential trade war.

PREPARED STATEMENT OF HOWARD MINIGH, PRESIDENT, CROPLIFE INTERNATIONAL

Howard Minigh
President & CEO

TESTIMONY OF MR. HOWARD MINIGH

President & CEO, CropLife International

Provided to the U.S.-China Economic and Security Review Commission Hearing on "China's Agricultural Policies: Trade, Investment, Safety, and Innovation"

26 April 2018, Washington, DC

Chairman Cleveland, Vice Chairman Goodwin, and distinguished Members of the Commission, thank you for the opportunity to submit written testimony to this hearing on China's Agricultural Policies: Trade, Investment, Safety and Innovation. We appreciate the Commission's recognition of the plant science industry as a valuable contributor to the discussions today and we hope that you find our input useful as you develop policy recommendations for consideration by Congress.

I represent the seven funding members of CropLife International – the largest global companies engaged in research, development and commercialization of innovative crop protection products, seeds and plant biotechnology traits. CropLife International champions the role of agricultural innovations in crop protection and plant biotechnology to support and advance sustainable agriculture worldwide. Our members bring innovative agricultural solutions to the world marketplace that allow farmers to grow more crops, on less land, using fewer resources. The world needs farmers, and farmers need plant science. CropLife International and its far-reaching global network is proud to be at the heart of helping farmers grow and engage in international, national, and local dialogues that support sustainable farming.

Situational Overview

China is the largest importer of agricultural biotechnology products in the world. At the same time, import approvals for agricultural biotechnology products in China take longer than any other country worldwide, and the timelines associated with these approvals continue to lengthen. For many years, and despite numerous unfulfilled commitments by senior leadership in China and advocacy by CropLife International, its value chain partners and governments of all major grain exporting countries, China's regulatory system for plant biotechnology has remained unpredictable and unworkable. The unprecedented and unpredictable delays in regulatory decisions impede adoption of needed agricultural innovations, deprive growers in the United States and other cultivating countries of new technologies to improve productivity, and have the potential to disrupt global trade.

At present, CropLife International members have ten agricultural biotechnology products in the final stage of import approval for use as food or feed in China, with initial regulatory submissions dating back to 2011 to 2013. All ten products have many approvals in other major import and cultivation markets (a minimum of nine other countries), all of which were obtained in a fraction of the time the products have been pending in China. All ten products have been fully deregulated in the United States, not only for use as food and feed, but also for cultivation. Compounding the long delays, China does not allow new product applications to MOA until there is an approval (or deregulation, in the case of the United States) in the country of origin. This adds at least another two years to the overall timeframe in China. For the ten currently pending products, this means they have been in the regulatory process in China for an average of 7 years and 4 months (88 months) - orders of magnitude longer than the timelines associated with the majority of countries around the world.

The impact of these approval delays in China is keenly felt by CropLife International members because, as part of our commitment to product launch stewardship, our members commit to obtaining regulatory approvals for new products in major import markets prior to commercialization. Our members made this commitment to support the smooth flow of commodity trade around the world, but it is dependent on the regulatory systems of those major markets being functional systems that lead to decisions in predictable timeframes.

China's Ministry of Agriculture (MOA) approved two new agricultural biotechnology products for import as food and/or feed in June 2017 and two in July 2017. There has been no movement on approvals since July 2017. In fact, there has not been a meeting of the National Biosafety Committee (NBC), the administrative body that reviews regulatory submissions for agricultural biotechnology products, since June 2017. CropLife International members watch and wait as the months pass, with no action to schedule an NBC meeting and no news on when they can expect this meeting to happen - all while the planting season in the United States starts without allowing farmers access to these new products that remain held up because of the delays in China's agricultural biotechnology approval system.

Delays in approvals of these products mean delays in marketplace competition that would benefit U.S. farmers and consumers by providing choice and diversity. The persistent delays undermine global agriculture by limiting the production tools available to farmers around the world, jeopardizing market access for agricultural products imported into China, and reducing long-term private sector investment in agricultural production technology. As the world's largest importer of agricultural commodities, it is vital that China responsibly administer its biotech regulations, and fulfil the requirements set out in their own legislation to avoid continued delays.

Chinese Investment in Agricultural Biotechnology

The Chinese government invests heavily in its domestic biotechnology industry, and has identified biotechnology as a strategic emerging industry. Since 2008, the total amount of Chinese government investment in its domestic biotechnology industry is estimated to be RMB24billion (approximately US$3.8 billion), with much of this funding matched by private industry. This significant investment far exceeds public sector investment in biotechnology in any other country in the world, including the United States. The stated priority is to conduct research and development on biotech crops relevant for use within China, and there are significant efforts to develop biotech crops for local cultivation.

In 2016, China's State Council released the 13th Five-year Plan for National Science and Technology Innovation, which sets the goal of commercializing locally-developed Bt-cotton, Bt-corn, and herbicide-tolerant soybeans by 2020. President Xi has referenced these goals in public speeches numerous times, and it remains a clear priority for the country. However, none

of these statements or investments have led to changes in policy, or movement toward public acceptance, or streamlined regulatory systems for agricultural biotechnology crops in China.

China's Approval Process for Agricultural Biotechnology Crops for Import

China's regulatory approach to agricultural biotechnology is outlined in the State Council's "Administrative Rules for Safety of Agriculture GMO" of 2001 (revised in 2017) and is implemented by a number of MOA measures, including, *inter alia*: MOA's Ministerial Decrees 8 [2002] "Administrative Measures on the Safety Evaluation of Agricultural Genetically Modified Organisms", revised in 2016 by MOA Decree 7 [2016]; and, MOA Decree 9 [2002] "Administrative Measures on the Safety of Agricultural GMO Imports". MOA has primary responsibility for the approval of agricultural biotechnology crops for import and domestic cultivation, as well as the development of related policies and regulations.

As indicated above, the first step for new agricultural biotechnology crop import applications in China - before an application can be submitted to MOA – is the product must be approved (deregulated) in the country of origin. No other major importing country has this requirement. After this first step, MOA Decree 9 [2002], which specifies that MOA should respond to an application for a biosafety certificate within 270 days, requires the applicant to submit an application to MOA's "Administrative Examination and Approval Office". The application must include certifications that the exporting country allows the use and sale of the product in its domestic market, and that the product has undergone tests showing no harm to animals, plants, or the environment. The NBC then considers the application for a permit for local studies, including environmental safety (field trials) and food safety (animal feeding) that must take place in China. Once that local study permit is approved, authorized domestic institutions conduct the relevant local studies, using government funding, to verify data provided by the applicant. The NBC then receives reports issued by the domestic institutions and reviews them at the final stage of approval. If the application passes this final NBC review, the applications are then subject to MOA's administrative review before receiving a final approval and biosafety certificate. If the NBC has additional questions or requests additional data, the applicant must resubmit the application with the required data for review at the next NBC meeting.

There is also an overarching law in China called the Administrative License Law [2003, as amended, ALL] that requires government agencies to make an administrative license decision within 20 working days after accepting an application. It also specifies that requests for additional information or materials shall be made in a one-time single request, preventing government agencies from making piecemeal and repetitive requests to delay the process. The effect of the ALL is that any NBC decision must be communicated to applicants within 20 days of passing NBC review and that repeated requests for additional information by NBC members is not permitted. MOA has not been observing the requirements of ALL.

This convoluted approval process invites delays at every stage. First, as indicated above, an approval must be obtained in another country prior to the application being accepted by MOA. This is the first delay of at least 24 months. Second, the NBC typically asks multiple questions during the application process for field trial permits, sometimes requiring resubmission more than once, resulting in additional delays. Third, feedback from the NBC meetings is usually not provided to applicants within the 20-working day timeframe required by the ALL, causing further delays. Then, during the field trial process, applicants rely on Chinese institutes to undertake the field trials and issue required reports in a timely manner, which is also a source of delay. Next, the application for final safety certificate (final approval) goes through the same process of submission, delay in communicating questions to applicants, resubmission, waiting for an NBC meeting to be convened, more questions, resubmission (again). In fact, for the ten products currently awaiting final approval in China, the NBC has reviewed the applications and asked

questions on three of the pending applications five times. Most of the questions concerned data already available to MOA for several years. On top of all these delays, the NBC meets only twice per year, so if questions are asked and resubmissions are required, applicants must sometimes wait six months for the next NBC meeting for responses to be considered.

These delays – requiring a country-of-origin approval, scheduling only two NBC meetings per year, slow communications of NBC meeting results and MOA decisions to applicants, asking redundant questions often unrelated to the intended use of the product - create the cumulative delays that cause CropLife International members to delay bringing innovative new products that increase productivity to American farmers. Global trade could be impeded if new agricultural biotechnology crops are introduced to the global marketplace without import approvals in the world's largest biotech crop importer.

Notably, the government of China recently undertook a restructuring of its government agencies, and the current MOA will be renamed the Ministry of Agriculture and Rural Affairs. The scope of work of the new ministry will incorporate relevant rural affairs and rural investment management responsibilities of the National Development and Reform Commission, Ministry of Finance, Ministry of Land and Resources and Ministry of Water Resources. While there are no stated plans for this new scope of work to have an immediate impact on agricultural biotechnology regulatory oversight, creating more bureaucracy within an already heavily-tasked Ministry will likely draw resources away from this area of work. Minister Han Changfu remains as the Minister of this newly-formed Ministry of Agriculture and Rural Affairs, which leads CropLife International and its members to expect more of the same policy approach overall.

The above is intended to illustrate the lack of predictability, transparency and timeliness of China's biotech regulatory process. Continued recycling of questions is used as "justification" for non-science-based delays in regulatory decisions. This stifles innovation by CropLife International's members and denies farmers in the United States and other cultivating countries access to productivity-enhancing new technologies that have been approved for years in cultivating and import markets around the world.

Regulatory Trends in China

Recently, China's State Council revised various regulations on administrative procedures with the stated intention of streamlining a number of regulatory processes. As part of this effort, the State Council revised the Administrative Rules for Safety of Agricultural Genetically Modified Organisms, originally released in 2001. Despite their stated intentions and commitments to the United States and other major trading partners that this process was for streamlining purposes, the revised regulations create greater uncertainty in the biotech approval process in China. The changes authorize technical institutions in China to conduct field trials and feeding studies on behalf of the applicants. This shifts financial responsibility – and thereby the complete oversight - for the conduct of safety trials from the product developers to the Chinese government. As these changes begin to be implemented, our members are already challenged in complying with these developing changes in the application process.

CropLife International members are concerned that this movement toward greater authority of MOA officials in the conduct of approval reviews creates more opportunity for delay, greater unpredictability in outcomes, and overall a sense that China is moving away from its commitments to streamline regulatory processes.

Intellectual Property

In order to ensure food security, China needs modern technologies. The area of agricultural innovations has significantly expanded in the last twenty years, not only in the field of genetically

modified crops but also in sophisticated methods of plant breeding based on advanced technologies that employ DNA markers and genome sequencing.

Continued investments into agricultural innovation require a system that provides for a reasonable return on investments through effective intellectual property protection. The CropLife International member companies invest heavily in research and development to bring forward new innovations that drive long-term agricultural productivity, environmental sustainability and rural development, ensuring that farmers and consumers have access to these innovations, including in China.

For agricultural innovations, such effective intellectual property protection consists of plant variety protection rights and patent rights. Plant variety protection rights protect the new variety as a whole, but not any specific trait or essential genetic element, which are aimed to be used in a multitude of plant varieties or crops. These specific traits can only be protected by a patent.

Although in principle, agricultural biotechnology plants are patentable under Chinese patent law, the scope of the granted protection is (too) narrow. In addition, under the current Chinese patent system it is difficult to get homology for gene or protein claims. Furthermore, the patentability of native traits (knowledge of the genetic basis of native traits enables comprehensive screening of a broad base of both well-adapted and exotic genetic diversity and facilitates the introduction of the genetic diversity underlying these traits in order to develop improved varieties), as well as products resulting from gene editing technologies requires further clarification and refinement. CropLife International is of the view that the narrow scope of biotech patents and lack of clarity related to patents on the newest technologies undermines the effectiveness of the patent system as a driver for further innovation, and limits the availability of new products for farmers and consumers in China.

With regards to the issue of biotech piracy, CropLife International would like to point out that product security is an issue and there are several reported cases of germplasm theft. Taking into account that enforcement of trade secrets in this area is very difficult, effective means to act against these illegal activities are currently lacking.

Proposed Recommendations for Congress

CropLife International recommends that any solutions to the issues outlined above must be sustainable and long-term. Our advocacy for reform is focused on fixing the broken regulatory process in China, not one-off transactional approvals of individual products in the long pending queue. Our members have worked for years in an unpredictable, “one-off” situation, whereby pressure from exporting governments mounts until MOA approves one or two pending products at a time, relieving the pressure for those products only, but not providing any longer-term solution to the approval delays. There always remains a substantial backload of applications, with a trickle of approvals each year. This is not a path toward progress, but rather continues our members’ inability to predict when they can bring new innovations to the marketplace. This has a significant negative effect on our members’ economic performance, as biotech research is heavily front-loaded in product development programs that, on average, extend 13 years from discovery to initial commercialization due to years of delay in import approvals in China.

One of the major causes of delays is China’s requirement that an agricultural biotechnology product have an approval in the country of origin before an applicant may submit it for consideration in China. The has the effect of creating a minimum two-year delay for product approvals before the product even reaches a Chinese regulator’s desk. CropLife International recommends that the United States prioritize advocacy with China toward the goal of allowing for review of new agricultural biotechnology products in China at the same time the reviews are

occurring in other major importing countries, which would have the immediate effect of reducing the delays by at least two years.

In addition, significant delays occur in obtaining feedback following NBC meetings, as well as the multiple times questions are asked by NBC members on each application. CropLife International recommends that the United States encourage China to abide by the requirements of the ALL, which would require the NBC to ask all questions at one time. In addition, ALL requires that feedback is provided to applicants within 20 working days of an NBC decision. Following the ALL provisions would therefore significantly reduce approval delays in China.

Lastly, CropLife International recommends that the United States work with China to minimize its requirements for in-country studies to approve import of biotech crops. Our members are applying for import for food and feed only, yet China requires numerous in-country field and animal feeding studies that are not appropriate for such applications. In-country environmental trials should only be required if the safety assessment specifies potential environmental risks. In addition, China should – like many other countries currently do – recognize animal feeding studies conducted outside China and eliminate the need for in-country studies. CropLife International suggests that China's regulatory process should distinguish between import approvals and in-country cultivation approvals. This would greatly clarify the approval process and minimize delays due to duplicative and/or unnecessary in-country testing requirements.

In summary, CropLife International appreciates the Commission's attention to the significant negative impacts that China's agricultural biotechnology import policies have on U.S. farmers, technology providers, value chain members and consumers. I am hopeful that there will be progress in developing approaches and policies that minimize such negative impacts. CropLife International is committed to continuing our work with the United States and other countries that export agricultural commodities to ensure an understanding of the benefits our members' technologies can bring to global food security and sustainability. It is our hope that the United States will work with China to facilitate the acceptance of emerging agricultural innovations, and support market access for these technologies in China and in other markets worldwide. Thank you.

Sincerely,

Howard Minigh
President and CEO
CropLife International

PREPARED STATEMENT OF JOSEPH DAMOND, EXECUTIVE VICE PRESIDENT FOR INTERNATIONAL AFFAIRS, BIOTECHNOLOGY INNOVATION ORGANIZATION

U.S.-CHINA ECONOMIC SECURITY REVIEW COMMISSION
HEARING ON "CHINA'S AGRICULTURAL POLICIES: TRADE, INVESTMENT, SAFETY, AND INNOVATION"
THURSDAY, APRIL 26, 2018

TESTIMONY OF JOSEPH DAMOND, EXECUTIVE VICE PRESIDENT, INTERNATIONAL AFFAIRS, BIOTECHNOLOGY INNOVATION ORGANIZATION

The Biotechnology Innovation Organization (BIO) appreciates the opportunity to provide testimony to the hearing on "China's Agricultural Policies: Trade, Investment, Safety, and Innovation." We hope our contribution will assist the U.S.-China Economic Security Review Commission's efforts to advise Congress on the impact of Chinese policies and regulations on U.S. agricultural interests.

BIO is a non-profit organization with a membership of more than 1,000 biotechnology companies, academic institutions, state biotechnology centers, and related organizations in almost all 50 States and a number of foreign countries. BIO's members research and develop health care, agricultural, industrial, and environmental biotechnology products. The U.S. life sciences industry, fueled by the strength of the U.S. intellectual property (IP) system, has generated hundreds of drug products, medical diagnostic tests, genetically engineered crops, and environmentally beneficial products such as renewable fuels and bio-based plastics. BIO's members engaged in the research, development and commercialization of crops derived from biotechnology are negatively impacted by a regulatory system in China that is not timely, transparent, predictable, or science-based. The impact of the Chinese regulatory system is felt not only by BIO members, but by their farmer customers and other downstream segments of the supply chain.

OVERVIEW OF REGULATORY CHALLENGES FOR BIOTECHNOLOGY DEVELOPERS

U.S. agriculture is a critical component of the U.S.-China bilateral trading relationship, representing over 15 percent of total U.S. exports to China, and is among the few sectors with a positive trade balance. For U.S. grain and oilseed exports – over 12 percent of total U.S. exports to China - the timing and predictable implementation and enforcement of existing Chinese laws, regulations, and official guidance with respect to the GMO approval process is vitally important to ensuring a functional and rules-based trading relationship.

Biotechnology traits are synonymous with modern agriculture. Since the first commercial traits were introduced in 1996, the technology has allowed farmers to realize higher yields, particularly for corn and soybeans, while simultaneously requiring fewer inputs. Over the past 22 years U.S.

adoption of biotechnology has soared to over 90 percent of total corn and soybean acres, a testament to the value and importance of the technology to the agricultural production community. With over 30 percent of U.S. soybean production exported to China, and the volatile Chinese demand for U.S. corn and corn products, regulatory approval for biotechnology traits directly impacts market access for these products.

Agricultural commodity trade is commonly handled in bulk, and aggregated as commodities move through the supply chain. U.S. grain and oilseeds are traded globally and because agricultural biotechnology is heavily regulated around the world, biotechnology companies begin the international regulatory approval process several years prior to the commercial launch of a new agricultural biotechnology product in the United States.

The goal of U.S. biotechnology firms is to synchronize international import authorizations. However, current Chinese practice mandates that the Chinese approval process cannot begin until the product has been deregulated in a country of origin. This precondition creates a significant gap between authorizations in cultivation countries and China, as well as between most other importing countries and China. As a result, biotechnology companies often delay the commercial launch of a new biotechnology trait in the United States, so to reduce the potential for grain shipments to China from being rejected.

BIO members are committed to the stewardship of agricultural biotechnology products, including attaining regulatory approvals for novel agricultural biotech traits in export markets prior to commercialization. Our members endorse this practice in order to allow for the smooth functioning of the global grain trade. This system only works when the regulatory regimes of major importers, such as China, are functional[1].

Over the past few years China's regulatory approval process has become increasingly asynchronous and a choke point in bilateral trade. The process is opaque and mounting delays require high-level political intervention to advance approvals. The biotechnology industry is concerned that these delays are not based on science, but rather are being influenced by factors outside the risk assessment process. Whatever the cause, the impact on the U.S. value chain is substantial and widespread.

There are currently 10 products awaiting final approval in China, with an average wait time of 5 years and 4 months from the time the products were submitted in China, or about 7 years and 4 months from the time the products were submitted for approval in the cultivation country. Each

[1] A "functioning" regulatory system is science-based, with clearly defined timelines and processes for regulatory review and decision-making, and for appropriate protection for proprietary information and data. In a "functioning" regulatory system, the regulatory and decision-making processes must be predictable and not subject to undue political influence. The term "predictable" includes, without limiting the definition, that the regulatory system accepts submissions in the ordinary course without preconditions related to the regulatory status in other countries, and the regulatory process for import authorization is completed routinely within 30 months or less. Since regulatory systems continue to evolve and change globally, countries' systems may become functional or dysfunctional. Over time, a country should develop a track record of systematic authorizations with consistent and predictable timelines and processes. (BIO Product Launch Stewardship: https://www.bio.org/sites/default/files/Product-Launch-Stewardship-11272012.pdf).

of these products have been approved and have been legal to cultivate in the United States, and several other countries, for many years. The products under review are also legal to import for food, feed and processing in other major markets for many years, thus the technology developers are only waiting for import approval from China before full commercialization. These products include beneficial traits for soybeans, corn, canola, and alfalfa that can help farmers increase their productivity and reduce their cost of production at a time of declining farm income. Chinese regulatory delays factor heavily on U.S. farmers planting decisions, as a biotechnology provider may opt to delay commercialization of a new biotechnology seed variety prior to Chinese authorization. Delayed access to new technology limits U.S. competitiveness, reduces investment in U.S. innovation, and erodes patent life and intellectual property protection for U.S. biotechnology companies.

China's Biotech Regulatory Framework

The Ministry of Agriculture (MOA) is the lead agency responsible for the approval of agricultural GMOs for import and domestic production, as well as the formulation of GMO regulations. MOA's authority covers all activities concerning agricultural GMOs, including approval and licensing with respect to the research stage, field trials stage (including intermediate trials/confined field trials, environmental release and production trials), production and processing, distribution, marketing, import and export, and labeling. MOA's National Biosafety Committee is the regulatory body that evaluates domestic and foreign applications for biosafety certificates for biotechnology products. This committee is composed of about 75 experts from a wide variety of backgrounds and various ministries, research institutions, and universities.

The 2001 State Council regulations and the 2002 MOA Import Measures provide that MOA will determine whether to approve an import application within 270 days after receipt of an application. In practice the approval period takes significantly longer, for myriad reason, such as the sequential nature of the process and the fact that MOA routinely requests applicants for additional data that is unrelated to the intended use of the product

MOA's precondition on commencing a risk assessment, protracted pace, and complete uncertainty and lack of clarity with regard to the milestones and requirements of the regulatory system devalues the return-on-investment for agricultural research and development, and prevents American farmers from accessing critical new production tools. Additionally, this system precludes seed companies from being able to accurately plan for product launches, causes the loss of valuable years on patent lifetimes, and leads to excessive costs related to managing stewardship and separate production channels. ***These factors effectively reduce American competitiveness in agriculture, and have an impact on American jobs, the U.S. trade deficit, and the economic viability of rural America.***

Systemic Solution
The Biotechnology Innovation Organization continues to seek a systemic solution to the challenges with China's regulatory system. This means:

1. China should move all products through the regulatory queue; products in the final stage should be approved without delay and other products in earlier stages should advance. China should align current data requirements to international standards, and return to a predictable and timely regulatory process.

2. China should develop scientific rationale distinctions between import approvals and in-country cultivation approvals. For import approvals, the following changes should be made:
    a. No requirement that a risk assessment begin only after the product is deregulated in a major production market - China should accept submissions as soon as the data is generated to conduct the appropriate risk assessment.
    b. The MOA convenes formal National Biosafety Committee (NBC) meetings at least quarterly to consider applications and issue approvals and the MOA provides feedback to applicants within 20 days of an NBC recommendation
    c. In-country environmental trials should only be required if the safety assessment identifies environmental risks. In the case when in-country environment trials are needed, the overall process and timeline should be largely streamlined and shortened.
    d. China should recognize the safety studies conducted outside of China and eliminate the requirement for in-country molecular and food testing.

In the absence of systemic change, farmers will continue to be denied access to beneficial technologies and BIO member companies will be hindered in their capacity to increase investments and increase jobs in the United States.

RECENT HIGH-LEVEL CHINESE COMMITMENTS TO THE U.S. GOVERNMENT

The governments of the United States and the People's Republic of China have engaged in high-level negotiations since 2014 to address these issues. Despite commitments, including Presidential level agreement, commitments remains largely unfulfilled.

In November 2014, during 25th Joint Commission on Commerce and Trade (JCCT), the U.S. and China agreed on the need to intensify science-based agricultural innovation for food security, and committed to strengthen dialogue to enable increased use of innovative technologies in agriculture.

Less than a year later, on the margins of President Xi's State Visit in September 2015, the U.S. hosted the inaugural meeting of the Strategic Agricultural Innovation Dialogue (SAID), in which both countries committed to strengthen cooperation and create an enabling environment for

agricultural innovation in the two countries and the world at large. In addition, China's Minster of Agriculture, Han Changfu, and then U.S. Secretary of Agriculture, Tom Vilsack renewed the Memorandum of Understanding between the Ministry of Agriculture and Rural Affairs of China and the U.S. Department of Agriculture. The objective of the MOU was to promote comprehensive, sustained, and balanced development of agricultural cooperation between both countries.

Most importantly for the topic at hand, the U.S. and China, during SAID, conducted in-depth discussions on the administration of agricultural biotechnology, and committed, as part of the Summit communique to further improve approval processes, specifically:

> Both sides reaffirmed the importance of implementing timely, transparent, predictable, and science-based approval processes for products of agricultural biotechnology, which are based on international standards. Both sides committed to strengthen policy formulation and information exchange, share experience in and practices of research and development, regulatory administration, and safety approval of agricultural biotechnology; further revise and improve regulation, based on comprehensive consultations with domestic and international stakeholders; and, enhance capabilities in safety administration and safety approval of agricultural biotechnology products.[2]

Following the SAID, the U.S. and China met again in June 2016 for the Strategic and Economic Dialogue (S&ED), in which both countries reaffirmed and added definition to their commitments at the SAID. To implement its commitment to improve the approval processes for products of agricultural biotechnology, there was agreement that:

> China is to revise the Regulations on the Safety Evaluation of Agricultural GMOs (Decree 8) and related measures. China's revisions are to be consistent with the outcomes of the administration of agricultural biotechnology agreed in September 2015 at the U.S.-China Leaders' Meeting. China is to review applications of agricultural biotechnology products in a timely, ongoing, and science-based manner, and complete final approvals in line with the relevant laws and regulation upon the completion of assessments by the National Biosafety Committee.[3]

Despite efforts by the U.S. to hold China to its commitments, the failure of China to implement a timely, transparent, predictable, and science-based approval process, as evidenced by the numerous products not advancing through the system, necessitated a new approach by the U.S. to incentivize reform in China.

In May 2017, President Trump and President Xi agreed to advance U.S.-China economic cooperation with a 100-day action plan under the framework of the U.S.-China Comprehensive Economic Dialogue (CED). Subsequent meetings led to consensus on addressing issues in areas

[2] The White House. *FACT SHEET: U.S.-China Economic Relations.* Washington, D.C. September 25, 2015.
[3] U.S. Treasury Department. *2016 U.S.-China Strategic and Economic Dialogue Joint U.S.-China Fact Sheet – ECONOMIC TRACK.* Washington, D.C. June 7, 2016.

including agricultural trade, financial services, investment, and energy. Under agricultural trade, there was agreement that:

> China's National Biosafety Committee (NBC) is to hold a meeting by the end of May 2017, to conduct science-based evaluations of all eight pending U.S. biotechnology product applications to assess the safety of the products for their intended use. No additional information unrelated to safety assessment for intended use is to be requested of the applicants. For any product that does not pass the safety evaluation at the NBC meeting held in May, the NBC is to operate with transparency by providing in writing to the applicants a complete list of requested information necessary to finalize the safety assessment for the products' intended use, along with an explanation of how the requested information would be relevant to the safety of the products' intended use. The NBC is to hold meetings as frequently and as soon as possible after an application is resubmitted in order to finalize reviews of remaining applications without undue delay. For the products that pass the safety evaluations of the NBC, China is to grant certificates within 20 working days in accordance with Administrative License Law of the PRC.[4]

To date, only 4 of the 8 products have received final approval, and China has not held another NBC meeting since June 2017. The objective of the 100-day plan was to establish good faith between the U.S. and China and enter into a one-year plan intended to address systemic issues in the regulatory system. In the absence of approval for all 8 products, the governments were unable to continue the process towards resolving this issue that has challenged U.S. farmers, seed technology companies, and exporters.

During the past four years, and to two administrations, China has made and failed to uphold commitment after commitment to implement a timely, transparent, predictable, and science-based approval process for products of agricultural biotechnology. The impact of which is most felt by U.S. farmers as they are unable to access new technologies that would benefit them in the increasingly competitive global marketplace.

CONCLUSION

In conclusion, the BIO requests the U.S. Government to hold China to its unfulfilled commitments to systemically address the deficiencies in its regulatory system for products of agricultural biotechnology. American seed technology companies, farmers, and exporters need a timely, transparent, predictable, and science-based approval process to unleash American innovation and enhance the competitiveness of U.S. farmers and exporters, thereby creating jobs and reducing the trade deficit with China.

[4] Department of Commerce. *Joint Release: Initial Results of the 100-Day Action Plan of the U.S.-China Comprehensive Economic Dialogue.* Washington, DC. May 11, 2017.

APPENDIX I: U.S. Agricultural Exports to China, 2007-2016

PUBLIC COMMENT FOR THE RECORD

Submitted via email by Jean Public on April 7, 2018

china is our enemy. it wants to be no one and is no one right now. we n eed to establish a trading policy that does not include buying from them. we are at a financial deficit with this country at this time. we should make sure we don't owe them any money and stop trading with china. we can do business with many many other countries and should do so. we also need to establish here in the usa the ability to make any product we need in this country. this idea of bringing it all over on ships is stupid, anti environmental to the maximum and makes china rich while our country suffers. make it here. if we need it make it here. this comment is for the public record. please receipt. jean publiee jean public1@yahoo.com