Recent Developments in China and its Impacts on US Agriculture

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A Quick Introduction:
Dr. Wendong Zhang

– Grown up in a rural county in NE China
– Attended college in Shanghai and Hong Kong
– Ph.D. in Ag Econ in 2015 from Ohio State
– 2012 summer intern at USDA-ERS on farm economy and farmland values
– Research and extension interests:
  land value/ownership www.card.iastate.edu/farmland/
  agriculture and the environment

China Ag: quarterly Ag DM articles
My hometown: Shenxian, Shandong Province

Greenhouse – plastic film - Shandong Province
China’s demographics – large is beautiful

1.39 bn
Population
54% urban

453 mn
Households

415 mn
Millennials
(30% of population)

217 mn
Gen Z
(18% of population)

1005 mn
Working age population

79 mn
College graduates

1042 mn
Smartphone subscribers

US$ 606 bn
Online retail market size

Note: Millennials are those born in the 1980s & 1990s, Gen Z: born after 2000s
Source: BBVA Research, China National Bureau of Statistics
<table>
<thead>
<tr>
<th>Parameter</th>
<th>China</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>1350.4 million</td>
<td>318.9 million</td>
</tr>
<tr>
<td>Gross agricultural production</td>
<td>555.2 billion $</td>
<td>232.4 billion $</td>
</tr>
<tr>
<td>Share of Agriculture in Total GDP</td>
<td>10.0%</td>
<td>1.3%</td>
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<tr>
<td>Share of Agriculture in Employment</td>
<td>35.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Number of Farmers</td>
<td>241.7 million</td>
<td>3.2 million</td>
</tr>
<tr>
<td>Number of Farms</td>
<td>200.2 million</td>
<td>2.1 million</td>
</tr>
<tr>
<td>Total Farmland Area</td>
<td>406.8 million acres</td>
<td>914.5 million acres</td>
</tr>
<tr>
<td>Corn Production Area</td>
<td>89.7 million acres</td>
<td>87.4 million acres</td>
</tr>
<tr>
<td>Soybean Production Area</td>
<td>16.9 million acres</td>
<td>76.3 million acres</td>
</tr>
<tr>
<td>Wheat Production Area</td>
<td>59.6 million acres</td>
<td>45.3 million acres</td>
</tr>
<tr>
<td>Total Size of Vegetable/Herb Greenhouses</td>
<td>83.6 million sq.ft</td>
<td>61.8 million sq.ft</td>
</tr>
<tr>
<td>Average Farm Size</td>
<td>2.0 acres</td>
<td>433.6 acres</td>
</tr>
</tbody>
</table>
China

$21.4 billion U.S. Agricultural Exports, 2016

Top 5 U.S. Exports
1. Soybeans ($14.2 billion)
2. Course Grains* ($1.0 billion)
3. Hides & Skins ($949 million)
4. Pork ($578 million)
5. Cotton ($550 million)
*Excluding Corn

Export Growth
2006-2016

$6.7 billion

219% Increase

$21.4 billion

#1 Among U.S. Agricultural Export Markets, 2016

Source: FAS Global Agricultural Trade System (GATS) BICO HS-6
Share of U.S. Agriculture Exported in 2016

- >70% Cotton
- >70% Tree Nuts
- >30% Grapes
- 15% Apples
- >20% Cherries
- >50% Wheat
- >50% Rice
- >50% Sorghum
- 15% Corn
- 20% Pork
- 15% Dairy
- 15% Poultry
- 10% Beef

More than 20% of total U.S. agricultural production is exported annually.

Source: USDA-FAS Global Agricultural Trade System (GATS)
US Ag Exports by Destination Country 2001-2016 ($ Billion)

Source: Choices
2017 Q2 Issue
US Ag Exports to China Increased Significantly since China joined WTO in 2001 ($ Billion)

Source: Choices 2017 Q2 Issue
China's Ag Imports by Source Country 2001-2015 ($ Billion)

Source: Choices
2017 Q2 Issue
US Loses Market Share as China Increases Meat Imports from the World

Source: Choices
2017 Q2 Issue
A steadily increasing disposable income, albeit at a moderating but robust pace, with wide urban-rural gap.
Share of food in rural China’s per capita consumption basket is declining, offset by higher value purchases.
Urban Chinese prefer to travel, stay connected, buy protein rich food, durable goods & recreation
Richer households demand more meat and convenience foods.
Richer Urban Chinese Likes Safer Imported Food
Especially dairy, children’s food, nuts, fresh meat
China, U.S. reach trade agreement on beef, poultry and natural gas

China just agreed that the U.S. will be allowed to sell beef, and other major products, into China once again. This is REAL news!

8:20 AM - 12 May 2017

31,340 Retweets
126,239 Likes

The agreement would also ease import restrictions on agricultural goods, including China’s ban on beef imports that was imposed in 2003 after a case of mad cow disease.

The Bush and Obama administrations have sought for years to get it removed.

In exchange, the U.S. would allow the sale of cooked Chinese poultry — a step that could be done safely. "We do not intend to endanger anybody's health or safety in the U.S.," he said.

The agreement would also streamline the evaluation of pending U.S. biotech product applications; pave the way for allowing American-owned supplier payment services to begin the licensing processes in China and facilitate the entry of Chinese banks into the U.S. banking market, among other measures.
“When the Chinese people taste our high-quality U.S. beef, there’s no doubt in my mind that they’ll want more of it” – Sonny Purdue
How China hopes a transplanted Iowa farm will help transform its aging ag industry (and boost Iowa trade as well)

The China-U.S. demonstration farm that recently broke ground is a prominent symbol of Xi Jinping's attempt to gently modernize rural China.

How a different Iowa visit changed China

Kenneth Quinn, Iowa View contributor

Published 4:02 p.m. CT Jan. 5, 2017 | Updated 2:04 p.m. CT Sept. 20, 2018

IOWA STATE UNIVERSITY
Extension and Outreach

Des Moines Register

CARD
Center for Agricultural and Rural Development
China sets 2020 target for nationwide ethanol use to cut corn stocks
Of Maize and Markets: China’s New Corn Policy

Wu and Zhang 2016
Ag Policy Review
Of Maize and Markets: China’s New Corn Policy

Wu and Zhang 2016
Ag Policy Review

Source: USDA FAS Grain: world markets and trade
China's Ethanol Industry in 2016

4th largest producer – 1 Bil gal.
- After US, Brazil and EU
- Corn ethanol 64%
- Also uses cassava, sorghum, corn stover
- Imported 225 mil. gal, mainly from U.S.
- Tariff rose from 5% to 30%

China consumes 40 bil. gal gasoline; 1 bil. gal ethanol in 2016
China’s projected corn import potential and the role of ethanol

Li Hayes Zhang 2017
Ag Policy Review
GMO in China

Soybean: 90% of soybean oil is GMO in China;

Started importing GMO corn in 1997 (2.88 mil MT) -> 80 mil MT in 2016

Corn   Papaya Tomato
Cotton   Rapeseed

Source: Sohu.com
The Chinese have long been wary of genetically modified organisms. The country allows imports of genetically modified corn and soybeans for animal feed. But it’s held off on domestic commercialization of those crops.

Over the past year, China has signaled it would relax that stance. This week it released its latest five-year plan for science and technology, saying it would push for the commercialization of biotech corn and soybeans in the next few years.
GMO in China: Controversy/Divide

Yongyuan Cui

Larry King in China; Key opponent voice of GMO

GMO corn illegal
Farmland Acres Owned by Chinese Owners as of 2016
China aims to build a global infrastructure network
“Belt and Road” infrastructure projects, planned and completed (March 2017)

Belt and Road Initiative
High-Speed Rail in China

Planned Network of High-Speed Rail Lines to Be Built By 2030

Source: National Development and Reform Commission

China High Speed Train Network Map

- Main Cities
- Speed of 300 km/h or above
- Speed of 200-250 km/h
- C train: intercity train
A corny tale

China imports a farm from Iowa

A slice of the Midwest outside Beijing

**Presentations**


Iowa Farmland Value Portal

#ISULandValue

Release: Dec 12th

http://bit.ly/LandResults2017
Thank You!

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