Update on Chinese Ag Economy

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Huxley, IA, June 15th, 2017
The new Mike Duffy
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 http://card.iastate.edu/farmland/
  agriculture and the environment

China Ag: quarterly Ag DM articles
China’s Provinces

My Hometown
My Hometown: Shenxian, Shandong Province
Intensification of Land-Use in China

Greenhouse – plastic film - Shandong Province
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
China’s Importance in U.S. and Iowa Ag Trade

Source: Hart and Lee 2015
US Ag Exports by Destination Country 2001-2016

Source: Choices 2017 Q2 Issue
China’s Ag Imports by Source Country 2001-2015
China, U.S. reach trade agreement on beef, poultry and natural gas

The agreement would also ease import restrictions on agricultural goods, including ending 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 move Ross said 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. biotechnology product applications; pave the way for allowing American-owned suppliers of electronic payment services to begin the licensing processes in China and facilitate the entrance of Chinese banks into the U.S. banking market, among other measures.
USDA Secretary Sonny Perdue’s comments

• “This is tremendous news for the American beef industry, the agriculture community, and the U.S. economy in general. We will once again have access to the enormous Chinese market, with a strong and growing middle class, which had been closed to our ranchers for a long, long time. .... 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”
Before 2012: China imports 0.5% of global beef
In 2017: 12% (950K MT)
2016 total US beef export: 1190K MT
Potential additional 1-3% boost to US beef exports
2002: US has 12K MT Beef Export to China

Source: Derrell Peel
CattleNetwork, 2017
US Ag Exports to China Increased Significantly since China joined WTO in 2001

Source: Choices 2017 Q2 Issue
## China vs. US

<table>
<thead>
<tr>
<th>Category</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>
</tr>
<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</td>
<td>83.6 million sq.ft.</td>
<td>61.8 sq.ft</td>
</tr>
<tr>
<td>Average Farm Size</td>
<td>2.0 acres</td>
<td>433.6 acres</td>
</tr>
</tbody>
</table>

*CARD (Center for Agricultural and Rural Development) - Zhang 2015 Ag Policy Review*
Of Maize and Markets: China’s New Corn Policy

Source: http://www.quandl.com/

Iowa State University
Extension and Outreach

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

Source: USDA FAS Grain: world markets and trade
China’s Stockpiles of Major Ag Commodities Oct 2004-Sept 2016
US Exporters of Corn to China hurt by China’s efforts to diversify import suppliers
Of Maize and Markets: China’s New Corn Policy

http://chinaag.org/services/production/
Richer households demand more meat and convenience foods
Richer households demand more meat and convenience foods
US Loses Market Share as China Increases Meat Imports from the World

Source: Choices 2017 Q2 Issue
China’s Evolving Agricultural Support Policies
Mina Hejazi and Mary A. Marchant

U.S. Agricultural Exports to China Increased Rapidly Making China the Number One Market
James Hansen, Mary A. Marchant, Francis Tuan, and Agapi Somwaru

Food Security in China from a Global Perspective
Funing Zhong and Jing Zhu

The WTO Dispute on China’s Agricultural Supports
David Orden, Lars Brink and Mina Hejazi
GMO in China

转基因产品有哪些？

大豆
玉米
油菜
番茄
棉花

转基因大豆油占我国九成市场

美国
出口占总产量的45%
约3730万吨
转基因大豆占总产量的93%
15%认为不安全
64%不确定
21%认为安全
60%可以接受
转基因蔬菜水果谷类

中国
大豆油占51.7%
1160.2万吨
转基因大豆油占90%
主要作物：大豆、玉米

Source: Sohu.com

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Center for Agricultural and Rural Development
GMO in China: Controversy/Divide

China Wants GMOs. The Chinese People Don't.

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
## Crop Insurance in China

**world’s 2nd largest market 2007-2014**

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres Covered for major crops (US acres)</td>
<td>37.9 million</td>
<td>182.2 million</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Corn: 67.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rice: 64.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wheat: 61.8%</td>
</tr>
<tr>
<td>Premiums (US $)</td>
<td>0.69 billion</td>
<td>5 billion</td>
</tr>
<tr>
<td># Households Insured</td>
<td></td>
<td>214 million</td>
</tr>
<tr>
<td>Indemnity Paid (US $)</td>
<td></td>
<td>3.4 billion</td>
</tr>
</tbody>
</table>

2013 flood in Heilongjiang: paid $900 per household, 62% of annual average income; 59.7% insured households get payments

*Source: Wenhui Chen 2014*
Crop Insurance in China

world’s 2nd largest market 2007-2014

How it works now?
- Insures based on production cost
- Pay-up coverage level: 75% of production cost
- Risk covered: weather (not market)
- Vegetable, pork price loss insurance trial
- 2nd insurance market (similar to FarmerMac)

Future developments/trials
- Weather-based index insurance
- Price-based index insurance
- Yield/revenue-based insurance

Source: Wenhui Chen 2014
Chinese Co-Op
No-longer the Soviet -style

Before 2007
- Supply and marketing cooperatives
- State-dominated semi-governmental with little or no farmer voice or choice

Nowadays
- In 2008: 24.6 million HHs – 10% of all rural HHs
- In 2008: 180,000 registered cooperatives
- 9.9 million formal members – could vote, paid fee
- 13.9 million informal members – loosely associated

Source: Song et al. 2013
Chinese Co-Op
No-longer the Soviet -style

2007 Cooperative Law
Promotes economic collaboration among smallholder farmers to create economies of scale and set up more regularized supply channels
- Offers exemption of VAT payments on inputs sold to members
- 13% VAT discount on purchases from cooperatives
- Require 80% of members are farmers

Source: Wenhui Chen 2014
Chinese Co-Op
No-longer the Soviet-style

How it works
Objective: “make markets work for the poor”
Joint procurements of inputs & collective marketing of outputs

- 74% provide information, tech, inputs to members
- 7% offer credit service
- 22% cooperatives sell produce of members collectively
- 40% coordinate market transactions
- 15% provide certification of a trademark
- Negotiate with supermarkets – vegetables & pig
- Some have own processing plants [e.g., corn starch, noodles]

- Less common type: community-based, diversified co-op, CSA, organic

Source: Song et al. 2013
China’s overseas investment in farmland worldwide

Source: the Diplomat
Global Land Grab - 2012

Grabber

Grabbed Area (100,000 ha)

- 3 - 6
- 6 - 10
- 10 - 20
- 20 - 30
- 30 - 80

Source: Rulli et al. 2012 PNAS
Federal Reserve raises interest rates for second time in a decade, expects 3 hikes in 2017

By Jim Tankersley  December 14 at 3:30 PM

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The Washington Post
Is China a Currency Manipulator?

Real effective exchange rate: inflation-adjusted exchange rate against all trading partners, weighted by trade volume
Growing Trade deficit w China

The US trade deficit shifted from other East Asian economies to China during that time.
Impact of Trade War with China and Mexico on US Economy

45% tariff on China, 35% on Mexico
Aborted in one year

Source: Peterson Institute
**U.S.-China trade war games?**

**Figure 16: China’s imports from the US, by sector, 2015**

<table>
<thead>
<tr>
<th>Import values (billion USD)</th>
<th>Share in US’s exports (%)</th>
<th>Share in China’s imports (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical machinery</td>
<td>19.8</td>
<td>8.0</td>
</tr>
<tr>
<td>Aircraft</td>
<td>17.6</td>
<td>11.8</td>
</tr>
<tr>
<td>Mechanical appliances</td>
<td>15.9</td>
<td>9.0</td>
</tr>
<tr>
<td>Automobile</td>
<td>13.2</td>
<td>8.6</td>
</tr>
<tr>
<td>Seeds and fruits</td>
<td>13.9</td>
<td>47.0</td>
</tr>
<tr>
<td>Optical products, incl. LCDs</td>
<td>11.3</td>
<td>9.5</td>
</tr>
<tr>
<td>Chemicals</td>
<td>7.0</td>
<td>8.9</td>
</tr>
<tr>
<td>Plastics</td>
<td>6.3</td>
<td>8.2</td>
</tr>
<tr>
<td>Nonferrous metal products</td>
<td>6.0</td>
<td>13.8</td>
</tr>
<tr>
<td>Pulp</td>
<td>3.9</td>
<td>39.1</td>
</tr>
<tr>
<td>Pharmaceutical products</td>
<td>3.3</td>
<td>6.7</td>
</tr>
<tr>
<td>Cereals</td>
<td>2.8</td>
<td>12.9</td>
</tr>
<tr>
<td>Mineral fuels</td>
<td>2.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Prepared animal fodder</td>
<td>2.3</td>
<td>18.1</td>
</tr>
<tr>
<td>Wood products</td>
<td>2.2</td>
<td>23.3</td>
</tr>
<tr>
<td>Ores, slag and ash</td>
<td>1.9</td>
<td>14.5</td>
</tr>
<tr>
<td>Leather</td>
<td>1.6</td>
<td>45.2</td>
</tr>
<tr>
<td>Steel products</td>
<td>1.5</td>
<td>8.0</td>
</tr>
<tr>
<td>Rubber</td>
<td>0.1</td>
<td>16.7</td>
</tr>
<tr>
<td>Cotton</td>
<td>0.1</td>
<td>10.8</td>
</tr>
</tbody>
</table>

*Source: Deutsche Bank, UN COMTRADE*
Iowa Farmland Value Portal

twitter #ISUland value

http://card.iastate.edu/farmland
Iowa Farmland Value Portal
www.card.iastate.edu/farmland

twitter #ISUlandvalue
Thank You!

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