Global Pork Market
~Perspectives from the U.S.~

Challenges & Opportunities

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Challenges – and Opportunities for the U.S. Pork Industry

- **Production expansion**
  - Profit-driven; growth industry

- **Lower hog/pork prices**
  - Cheaper inputs partly offsetting

- **Productivity challenges, like PED, PRRS**
  - Increased biosecurity; scientific advances on the horizon

- **Stagnant domestic consumption & competing proteins**
  - Changing tastes & preferences offer opportunities

- **Low producer profit margins**
  - Focus on value-added, processed, branded products
Challenges – and Opportunities for the U.S. Pork Industry

- **Stagnant exports & growing global production**
  
  - Challenge to increase: global pork consumption, U.S. market share & market access

- **Strong U.S. dollar**
  
  - Some stability this year, but Fed policy likely to support USD

- **Lack of new trade agreements**
  
  - What’s in store with the new Administration? Risk of falling behind

- **China driving global trade today**
  
  - And likely in the future; larger share of U.S. production eligible, but other challenges remain & expect near-term slowdown in total imports
Big picture- supply

- **Export growth is essential** to ensure producer profitability
  - need to meet international consumer and government demands and requirements

- **U.S. comparative advantage** as a low cost producer but pork is traded on a cut-specific basis

- **Significant growth in EU production in 2015- led by Spain- along with Russia’s ban = changed the trade landscape**

- EU pork industry transformation & potential for future production growth?
  - Benefit from exclusive access to the massive European market, as well as access to much of the world

- **Brazil has tremendous opportunities** and ability to meet international customer’s demands, but production & exports subject to challenges, from FMD to infrastructure to currency-driven export surges impacting feed prices
2016 Slight drop in pork production driven by decreases in China: China, EU & US > 80% of World’s Pork

Global Pork Production

- China
- European Union
- United States
- Other countries

Source: USDA/FAS Feb 2016
Production growth expected in 2017

- China
- EU
- U.S.
- Brazil
- Russia
- Canada
- Mexico
- Japan
- Korea

meaning lower prices
U.S. to Lead Pork Production & Export Growth?

Forecast Growth in Production & Exports
2025-2015

Source: OECD/FAO Agricultural Outlook 2016-2025—for the main exporters

www.USMEF.org
Forecast Growth for Top Pork Exporters

Cumulative Export Growth

Thous mt


-200 -100 0 100 200 300 400 500 600

U.S. EU Canada Brazil

Source: OECD/FAO Agricultural Outlook 2016-2025
Big picture—demand

- **Consumption growth should continue** as a function of
  - income growth, population growth, and access to affordable pork

- **Production growth** expected in both high-cost and low-cost production areas
  - potentially limiting trade in the near term

- **Longer-term, developed markets also offer import growth potential**
  - as tariffs are reduced and domestic production slowly declines
  - consumption also still growing in places like Korea

- **Russia remains largely out of the picture**
  - but ASF also a major challenge
It’s still a $ story- Meat consumption increases as incomes rise

Source: World Bank, USDA/FAS – consumption in carcass weight equivalent

www.USMEF.org
And that $ is increasingly in the Asia Pacific region.

Share of the Global Middle Class

Source: OECD Development Centre
Global pork imports: record-large in 2015 and again in 2016, driven by China

Top Pork Importers, including variety meats

China’s share of imports

Source: Global Trade Atlas, USMEF estimates
Can global exports maintain the new high established this year?

Top Pork Exporters, including variety meats

Source: Global Trade Atlas, USMEF estimates, U.S. market share is noted

www.USMEF.org
Global hog prices- opportunities and fierce competition

Global Estimated Hog Carcass Prices

U.S. $/pound

<table>
<thead>
<tr>
<th>Country</th>
<th>Aug-15</th>
<th>Aug-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>$2.50</td>
<td>$2.00</td>
</tr>
<tr>
<td>Korea</td>
<td>$2.25</td>
<td>$2.00</td>
</tr>
<tr>
<td>China</td>
<td>$1.75</td>
<td>$1.75</td>
</tr>
<tr>
<td>Taiwan</td>
<td>$1.50</td>
<td>$1.50</td>
</tr>
<tr>
<td>Chile</td>
<td>$1.00</td>
<td>$1.00</td>
</tr>
<tr>
<td>Mexico</td>
<td>$1.00</td>
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</tr>
<tr>
<td>EU</td>
<td>$1.00</td>
<td>$1.00</td>
</tr>
<tr>
<td>Brazil</td>
<td>$0.50</td>
<td>$0.50</td>
</tr>
<tr>
<td>U.S.</td>
<td>$0.50</td>
<td>$0.50</td>
</tr>
<tr>
<td>Canada</td>
<td>$0.50</td>
<td>$0.50</td>
</tr>
</tbody>
</table>
EU exports shifted with the loss of the Russian market, and are surging!

Source: Global Trade Atlas
While U.S. exports are flat

US Pork & Variety Meat Exports: Jan-June

Metric tons


Source: Global Trade Atlas

www.USMEF.org
China’s imports are supply/price driven

EU pork exports to China & China/EU Hog Price Ratio

- EU pork to China
- China/EU hog price ratio

www.USMEF.org
And Europe remains the dominant supplier

Pork & Variety Meat Exports to China/Hong Kong

1H Total: 1.75 mmt, double the volume shipped in 1H 2015

Source: Global Trade Atlas, USMEF est
But this time around, China’s supply shortage was driven by structural change, not disease issues, so what’s next?

- 13th 5 Year Plan: Pig production in transition
- Large profits = expansion/rebuilding
- Lower corn prices
- Imports to slow as prices drift lower
- Pork demand questionable, but generally optimistic outlook for consumption - urbanization
- EU maintains cut-based advantages
- Relative prices key to determining profitability of using imported pork
- Variety meat demand to remain strong
- Slow shift away from hot pork
Is European pork a competitor to U.S. pork?

U.S. Share of Pork Imports

Source: Global Trade Atlas, USMEF est, excludes variety meats, 2016* mostly Jan-June
Japan: diverging trends

Imports from Spain: 55,750 mt, +29% yoy & 4-fold increase over past 5 years!
## Top Export Markets in Common

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Primary Destinations for Pork &amp; Variety Meat Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td><strong>Mexico, Japan, China, Canada, Hong Kong, Korea, Australia, Colombia, Philippines, Dominican Republic, Honduras, Guatemala</strong></td>
</tr>
<tr>
<td>EU</td>
<td><strong>China, Japan, Hong Kong, Korea, Philippines, U.S., Australia, Vietnam, Taiwan, Ivory Coast, Thailand, Singapore, New Zealand, Ukraine</strong></td>
</tr>
<tr>
<td>Canada</td>
<td><strong>U.S., China, Japan, Mexico, Korea, Philippines, Taiwan, Australia, Hong Kong, Chile, New Zealand, Colombia</strong></td>
</tr>
<tr>
<td>Brazil</td>
<td><strong>Russia, Hong Kong, China, Singapore, Uruguay, Angola, Chile, Argentina, Georgia, UAE</strong></td>
</tr>
<tr>
<td>Chile</td>
<td><strong>China, Japan, Korea, Russia, Mexico, Colombia, Peru</strong></td>
</tr>
<tr>
<td>Mexico</td>
<td><strong>Japan, U.S., Korea</strong></td>
</tr>
</tbody>
</table>
Our pig prices converged in 2014

Spain & U.S. Hog Carcass Prices

Convergence factors: 1) PED virus, 2) loss of Russian market, 3) strong U.S. dollar, 4) production growth, 5) sluggish intra-EU demand, 6) EU export surge, 7) China imports
U.S. regaining competitiveness now

• Continued expansion in U.S. production and Spanish production??

[Graph showing EU/US Hog Price Ratio from 2008 to 2016]
Pork trade between the EU & US

U.S. imports of EU pork
EU imports of U.S. pork

Source: GTA, USMEF estimates
Change in EU & US pork production & exports & annual average hog prices

Year-Year Volume Change & Annual Hog Carcass Prices

EU prdxn
EU exports
US prdxn
US exports

Source: USDA/FAS, carcass weight

www.USMEF.org
Change over the past 5 years

Source: USDA/FAS, carcass weight

www.USMEF.org
EU pig prices are typically higher than U.S. but that spread has narrowed.
What to expect over the next 5 years?

Production growth
- Lower prices - expansion should slow & efficient producers should prevail
- Integrated production systems soften the cycle

Uncertainty
- Disease risks - China, Russia, everywhere
- Protectionism as production grows/rebounds

Consumption
- Economic growth remains sluggish/uneven
- Pork as an affordable protein - where's the growth potential outside China?
- How to meet varying consumer demands around the world?
Current growth in U.S. production & exports

USDA Forecast- Annual Growth Rates for U.S. Meat Production & Exports

2016 production:
Beef: 11.34 mmt
Pork: 11.3 mmt
Poultry: 18.35 mmt

Source: USDA/FAS September WASDE

www.USMEF.org
U.S. Per Capita Disappearance

Source: USDA’s September WASDE
Farrow to Finish Profitability

- Average for past 12 months: $6.31/head-
- profits will narrow going forward
Lower corn & hog prices

Farmer Price Received for Corn & Hogs
Monthly data since Jan 2004

Corn price, $/bushel

Live hog price, $/lb.

Futures prices on Sept 12, 2016

Source: USDA/NASS
June Hog Inventory Up 2%

- United States inventory of all hogs and pigs on June 1, 2016 was 68.4 million head, up 2% yoy for the highest June inventory on record
- Breeding inventory: 5.98 million head, up 1% yoy but down slightly from the previous quarter
- Market hog inventory: 62.4 million head, up 2% yoy and up 1% from the previous quarter
- The December-February 2016 pig crop, at 29.6 million head, was down slightly yoy
- Sows farrowed during this period totaled 2.9 million head, up 1% yoy
- The average pigs saved per litter was a record high 10.48 for the March-May period, compared to 10.37 last year
U.S. Hog Inventory & Pork Production

- **Total hogs, Dec**
- **Pork production, right axis**

Dec 2007 hog inventory

2014 PEDv

Source: USDA/FAS, and USDA Baseline Projections Dec 2015

www.USMEF.org
U.S. production was record-large in 2015 with lower prices; similar trends in 2016 and forecast for 2017.
Potential U.S. hog slaughter with planned new plants

U.S. Hog Slaughter & Growth Potential

Added Plant Capacity by Fall Each Year

Source: USDA, USMEF estimates
2015 production was up 7.3%
2016 ytd production is up slightly yoy

Source: USDA/NASS
Abundant pork: futures indicate lower prices

Source: USDA/AMS & CME; closing futures September 14, 2016
Exports critical to future growth

Export Value Per Hog Slaughtered

2016: $49.40

Pork & Variety Meat Exports as a Percent of Production

2016: 25%

Source: USDA/USMEF, commercial slaughter
Future growth requires an increase in U.S. market share.

Source: USDA/FAS & USMEF estimates
Summary

• We remain optimistic about future growth in pork exports, which will add to producer profitability, and incentivize future production growth

• Near-term challenge- to do just this!
  – Export growth essential as we produce more beef and pork in the U.S.
  – Expect larger global pork production in 2017

• Continued efforts to overcome the headwinds, and meet consumer demands- not only displacing but also growing pork consumption

• Requires commitment from the entire chain

• U.S. is at risk of falling behind as our competitors adopt trade agreements
Thank You

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