ANALYSIS:
Pecan Nut Export to China and Market Demographics
INSHELL PECAN EXPORTED TO CHINA

CHINA RETAIL MARKET:
CONSUMERS TODAY AND THE FUTURE

INSHELL PECAN IMPORTED BY CHINA

HOW TO KEEP EXPORT AND PRICES STRONG
CHINA RETAIL MARKETS
CONSUMERS OF TODAY
...AND TOMORROW

... the number keeps rising in China

China is the largest international market for Tree Nuts outside the U.S.
China Market Demographics

- 1.4 Billion people in China
- China will gain 182 Million consumers in the next 10 years
- China’s middle class is now the size of the entire U.S. population
- By 2020, 81% growth in consumption is projected
- From “CHASING WEALTH” to “CHASING HEALTH”= EAT RIGHT
Positive Numbers for 2017 China Exports

- Shipments to China accounted for 51% of all US pecan exports compared to 44% last year. Overall exports to China are up 27%.

- CHINA PECAN IMPORT DUTY REDUCED FROM 10% TO 7% IN DECEMBER 2017.

**PECAN IMPORT DUTY FROM AUSTRALIA WILL BE 0% IN 2019!**
E-Commerce Penetration Growing Rapidly

E-Commerce nut purchases are growing rapidly.

Traditional retail market is declining.

New trends in nuts for China
- Less flavored
- Minimal processing
- Kernel market is growing very fast
E-Commerce Penetration Growing Rapidly

Public data shows that China’s nuts business value is 29 billion in 2017, and will reach 50 billion in 2020.

China’s consumption of tree nuts increased 17% from January 2017 to December 2017. However, consumption of Pecans & Macadamias down slightly September through December compared to last year. (Resources: sycm)
Nuts Sales Ranking in 2017 (E-Commerce)

- Went from a single retail to the Largest Online Agri-business in 6 years.
- According to the latest sales report, their sales reached **1.03 Billion** in 2017.
IN SHELL PECAN IMPORTED BY CHINA

U.S. | SOUTH AFRICA | MEXICO
UNDERSTANDING OUR COMPETITORS

• South Africa, Mexico
• Other Tree Nuts
Inshell Pecan exported to China are mainly from the following areas:

- Sonora, Mexico
- Georgia, USA
- South Africa

**U.S. INSHELL PECAN EXPORTS TO CHINA (MT)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015/2016</th>
<th>2016/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-2013</td>
<td>44,522</td>
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<tr>
<td>2013-2014</td>
<td>30,402</td>
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<tr>
<td>2014-2015</td>
<td>38,657</td>
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<td>2015-2016</td>
<td>25,404</td>
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<tr>
<td>2016-2017</td>
<td>31,305</td>
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**MEXICO INSHELL PECAN EXPORTS TO CHINA (MT)**

<table>
<thead>
<tr>
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<tr>
<td>2011</td>
<td>3,316</td>
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<tr>
<td>2012</td>
<td>3,141</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2013</td>
<td>3,337</td>
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<tr>
<td>2014</td>
<td>4,092</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2015</td>
<td>5,579</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>6,604</td>
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**SOUTH AFRICA INSHELL PECAN EXPORTS TO CHINA (MT)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017 (est)</th>
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<tbody>
<tr>
<td>2011</td>
<td>3,415</td>
<td></td>
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<tr>
<td>2012</td>
<td>7,123</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>2013</td>
<td>8,618</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>9,288</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>6,780</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2016</td>
<td>6,138</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2017</td>
<td>12,500</td>
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</tr>
</tbody>
</table>

**Source:** Agriculture information Service Mexico, SAGARPA COMENUEZ, Productora, SIAP, NPSA, Carter Pecan, South Africa Pecan Processors Association

**Note:** The export number does not include the quantity that was shipped through US port.
U.S. INSHELL AND PECAN KERNEL EXPORTS TO CHINA (MT)

Approximately 26% of the U.S. Pecan production is shipped to China.

Approximately 75% of the U.S. Inshell Pecan exported to China is from Georgia.

Source: NPSA
70% of South Africa pecan production is in the Northern Cape Province

Approximately 29,000 hectares planted (currently)

Approximately 28% hectares are currently in production

Approximately 75% of inshell pecan nuts are exported to China.

Main Cultivars: Wichita, Choctaw, Western, Pawnee.

36% of the crop is 45-55 nuts per pound and 40% is 55-65 nuts per pound

South Africa crop harvest time is favorable for marketing to China
Estimated 2016 crop production was 142,140 MT in Mexico.

Approximately 11,000 MT was export to China. (In 2016: 6,604 MT was shipped from Mexico ports.)

Approximately 65% of the inshell pecan exported to China is from Sonora.

Sonora main cultivars: Wichita 70% and Western 20%; approximately 60% of crop is 45-55 count per pound.

Sonora harvest in September, right on time for the Chinese New Year.
CHINA IS PLANTING PECAN TREES - FUTURE ESTIMATED PRODUCTION

<table>
<thead>
<tr>
<th>Product</th>
<th>2016 Hectare</th>
<th>Production until 2016 (MT)</th>
<th>Growing Area</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Nuts</td>
<td>450,000 square kilometers</td>
<td>12,000 (kernel)</td>
<td>Heilongjiang, Jilin, Liaoning, Inner-Mongolia, Yunnan</td>
<td>CCCFNA, Liaoning Forestry Research Institute</td>
</tr>
<tr>
<td>Walnuts</td>
<td>200,000</td>
<td>900,000 (in shell)</td>
<td>21 provinces, capital city autonomous regions, 27 states</td>
<td>CCCFNA</td>
</tr>
<tr>
<td>Hazel Nuts</td>
<td>160,000</td>
<td>40,000 (in shell)</td>
<td>Heilongjiang, Jilin, Liaoning, Xinjiang, Heilongjiang, Jilin, Liaoning, Xinjiang</td>
<td>The Fruit and Tree Nut Research Institute of Liaoning Province</td>
</tr>
<tr>
<td>Macadamia</td>
<td>100,000</td>
<td>8,000 (in shell)</td>
<td>Yunnan, Guangxi, Guizhou</td>
<td>Yunnan Macadamia Association, Guangxi Fuxi Macadamia Farms</td>
</tr>
<tr>
<td>Pecan Nut</td>
<td>31,533</td>
<td>110 (in shell)</td>
<td>Yunnan, Anhui, Zhejiang, Jiangsu, Jiangxi, Hunan, Hainan, Shanghai, Zhejiang, Jiangsu, Jiangxi, Hunan, Hainan, Shanghai</td>
<td>Liu Guangqin, Researcher and Professor of Jiangsu Academy of Agricultural Sciences</td>
</tr>
<tr>
<td>Pistachio</td>
<td>3,000</td>
<td>30 (in shell)</td>
<td>Xinjiang</td>
<td>Kashi Regional Forestry Knowledge Promotion Center of Xinjiang</td>
</tr>
<tr>
<td>Almond</td>
<td>20,000</td>
<td>50,000 (in shell)</td>
<td>Xinjiang, Shanxi</td>
<td>Horticultural College of Xinjiang Agricultural University</td>
</tr>
<tr>
<td>Cashew Nut</td>
<td>700</td>
<td>420 (in shell)</td>
<td>Hainan, Yunnan</td>
<td>Horticultural College of Agricultural University of Southern China</td>
</tr>
</tbody>
</table>

**Main Cultivars:** Pawnee, Wichita and Western Schley

**Sources:** Liu Guangqin, Jiangsu Academy of Agriculture Sciences, Chinese Academy of Forestry, Research Institute of Subtropical Forestry, Nature's Finest Foods.
US PECAN, ALMOND, WALNUT, PISTACHIO SHIPMENTS TO CHINA (MT)

<table>
<thead>
<tr>
<th>Year</th>
<th>Pecan Shipments (MT)</th>
<th>Almond Shipments (MT)</th>
<th>Walnut Shipments (MT)</th>
<th>Pecan Shipments (MT)</th>
<th>Almond Shipments (MT)</th>
<th>Walnut Shipments (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-13</td>
<td>44,522</td>
<td>107,134</td>
<td>38,657</td>
<td>45,223</td>
<td>60,348</td>
<td>46,734</td>
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<td>2013-14</td>
<td>30,402</td>
<td>84,429</td>
<td>31,305</td>
<td>30,402</td>
<td>52,163</td>
<td>31,305</td>
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<tr>
<td>2015-16</td>
<td>31,305</td>
<td>58,118</td>
<td>58,118</td>
<td>31,305</td>
<td>52,163</td>
<td>58,118</td>
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<tr>
<td>2016-17</td>
<td>44,522</td>
<td>64,256</td>
<td>64,256</td>
<td>44,522</td>
<td>55,338</td>
<td>64,256</td>
</tr>
</tbody>
</table>

**NOTE:** When the price of in-shell pecans becomes too high at the retail level, nut processors and retailers quickly switch their business to lower cost, higher margin nuts.

**Sources:** California Walnut, ShoEi Foods, Almond Board of California, NPSA, Wonderful Pistachios and Almonds

**IN 2016 CHINA PRODUCTION WAS 900,000 MT OF WALNUT & US PRODUCTION WAS 618,000 MT**
HOW TO KEEP EXPORT & PRICES STRONG
Harvest date is important for China Market

South Africa
- Harvest in **June - July**
- Ocean transportation to China is 35 days plus 10 to 20 days inland transportation. Timing is very good for Chinese New Year production.

Sonora, Mexico
- Harvest in **September - October**
- Ocean transportation to China is 30 days plus 10 to 20 days inland transportation. Right on time for Chinese New Year production.

Georgia, USA
- Harvest **October - December**
- Ocean transportation to China is 40 days plus 10 to 20 days inland transportation. Majority of the crop does not make it for Chinese New Year production.
## IN SHELL PECAN VARIETIES

<table>
<thead>
<tr>
<th>GEORGIA USA</th>
<th>SONORA MEXICO</th>
<th>SOUTH AFRICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>• DESIRABLE</td>
<td>• WICHITA (70%)</td>
<td>• WICHITA (37%)</td>
</tr>
<tr>
<td>• CAPE FEAR</td>
<td>• WESTERN (20%)</td>
<td>• CHOCTAW (17%)</td>
</tr>
<tr>
<td>• PAWNEE</td>
<td>• OTHERS (10%)</td>
<td>• BLENDS (21%)</td>
</tr>
<tr>
<td>• KIOWA</td>
<td></td>
<td>• UKALINGA (8%)</td>
</tr>
<tr>
<td>• STUART</td>
<td></td>
<td>• WESTERN (5%)</td>
</tr>
<tr>
<td>• BLENDS</td>
<td></td>
<td>• PAWNEE (4%)</td>
</tr>
<tr>
<td>• OTHERS</td>
<td></td>
<td>• OTHERS (8%)</td>
</tr>
</tbody>
</table>

These areas produce pecans 45-55 nut per pound.

Source: GWK, Dr. Urias, Campo, Carter Pecan
GROWER CLEANING PLANTS IN SONORA, MEXICO

Sonora, Mexico inshell pecans going to China are processed in a cleaning plant that dries, cleans, sizes & packages in 25 kg bags.
PACKAGING OF IN SHELL PECAN TO CHINA

Most U.S. Inshell Pecans are shipped in different size of Super Sacks.

All Inshell Pecans from Sonora, Mexico and South Africa are shipped in **25 kg bags**

Source: GWK, Dr. Urias, Campo, Carter Pecan
Preferred Packaging for China Exports

- **50 lb. sacks** (shrink wrapped and palletized) are always the 1st choice of packaging for China Exports.

- **Closed Top Super Sacks** in the following sizes are the 2nd choice: 42”x42”x50” Tall (double stacked) or 38”x36”x84” Tall (20 SS per container). Preferably vented w/Baffles.

- **What doesn’t work?**
  
  Open Top Super Sacks in odd sizes which do not fit export containers! = *Spilled Nuts, Product Degradation, Lower Tonnage per Container, Negative Image.*

- **Industry Packaging Consistency is a must.**
  This will increase efficiency for both growers, handlers, and exporters, *(i.e. lower cost and maximize tonnage per load)* as well as create a positive image for a premium nut. Pecans are expensive!
China is more and more demanding on the quality...as more tonnage becomes available worldwide.

- Size of the Nuts
- Uniformity
- Maximum Full Kernel for Variety
- Same Shape Nuts in the lot; less willing to accept Blends with Long nuts mixed with Round nuts.
- Less than 2% defectives (based on nut count) of Inedible Kernel, less than Full Kernel, Cracks, Sprouts, etc.
COMPETITORS MODEL

GROWERS

HANDLER/EXPORTER

IMPORTER

NUT PROCESSOR

WHOLESALE MARKET

RETAIL CHAIN STORES

E-COMMERCE

CONSUMERS

Quality control
Uniformity

U.S. MODEL

GROWERS/HANDLER

EXPORTER

IMPORTER

NUT PROCESSOR

WHOLESALE MARKET

RETAIL CHAIN STORES

E-COMMERCE

CONSUMERS
Conclusion - Suggestions to Growers

Expect rapidly increasing competition from lower cost producers: South Africa, Mexico and South America. Although pecan export numbers going to China look good: overall exports have not increased significantly and are basically flat over the last 5 year period. Growers in these countries have the margin to lower their prices to move all of their crop into China when needed and still remain profitable.

There will be a lot of additional tonnage of quality pecans available in the near future.

- High quality large nuts that have been sized for uniformity will always demand a good price in the market.
- Improved packaging, preferably 50 pound sacks or at the least Closed Top Super Sacks, for export.
- Quality sales in China (less than 2% defectives based on nut count of inedible kernel, less than full kernel, cracks, sprouts, etc.)
- Contract 40% to 50% of your estimated export volume in July-August. Why? Remember 2017 price drop during the peak harvest period. There was too much tonnage available in the market for sale at one time. Simply stated, the China market cannot absorb this amount of product in a short period of time. The volatility in the market will get worse as more tonnage becomes available.
  - Contracting will help to increase the export volume and keep prices high.
  - Allow Chinese processors to pre-sale and market inshell pecan to their customers.
  - Give China an option to consider U.S. pecans when South Africa and Mexico are offering their crop.

(South Africa normally starts offering some in March, about 2-3 months before harvest. Sonora, Mexico normally starts contracting in July-August, 2 months before harvest).
Thank You!
(Questions are welcomed)

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