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Cotton Focus, February 8, 2018, Jackson, TN
Overview

• Current and recent past market situation
• Supply, Demand, and Stocks
  – U.S.
  – Global
• 2018 Price Outlook
• Should I Get Back into Cotton?
Recent Past Cotton Economic Factors

- Declining Demand

- High Stocks – World and China
  - High stocks were not as influential on price because the majority was held in China and the market knew that most of that was not going into the world pipeline. It was China’s stocks & import policy that was important, not the actual stocks number.

- Declining US Acreage and Production

- U.S. Prices 50-70 cents
The Current Dynamics of the Cotton Market

- Demand is Improving

- Competition with synthetic fibers has improved dramatically
  - China polyester production/environmental concerns

- China stocks have been reduced
  - 2 years of very good government reserve sales
  - Global stocks are down

- Emergence of additional export markets

- US has gained market share
U.S. SUPPLY AND DEMAND
U.S Upland Cotton Yield, 1980-2017

\[ y = 9.12x + 514 \]
\[ R^2 = 0.7398 \]

2018 trend line yield = 870 lb/acre
2018 Acreage

• Cotton prices are more attractive relative to corn and soybeans in the recent past ..... but
  – Is there sufficient harvest capacity?
    • Machinery compliment has changed over the past five years.
      – New = high capital recovery cost
      – Used = lower harvest efficiency? Higher variable costs?
  – Ginning capacity?
    • Is transportation and infrastructure sufficient regionally?
• 2018 planted acreage 12.5 -13.5 million acres?
  – 91% harvested to planted and 870 lbs/acre
  – 20.6 to 22.3 million bales?
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<td>867</td>
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<td><strong>Production</strong></td>
<td>16.32</td>
<td>12.89</td>
<td>17.17</td>
<td>21.26</td>
<td>4.09</td>
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<td>Total Supply</td>
<td>18.68</td>
<td>16.57</td>
<td>20.98</td>
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<td>3.04</td>
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<td>U.S. Avg. Price ($/lb)</td>
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<td>$0.612</td>
<td>$0.68</td>
<td>$0.67-$0.71</td>
<td>$0.010</td>
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<td>U.S. Stocks/Use</td>
<td>25%</td>
<td>30%</td>
<td>15%</td>
<td>31%</td>
<td>16.27%</td>
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<td>Chinese Stocks/Use</td>
<td>197%</td>
<td>166%</td>
<td>129%</td>
<td>99%</td>
<td>-29.70%</td>
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GLOBAL SUPPLY AND DEMAND
## World Cotton Yields by Country (lbs/acre)

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<thead>
<tr>
<th>Country</th>
<th>2006 Yield</th>
<th>10 Year Average Yield</th>
<th>2017/18 Yield</th>
<th>Difference from 10 Year Average</th>
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<td>1,749</td>
<td>1,762</td>
<td>2,023</td>
<td>261</td>
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<td>Brazil</td>
<td>1,243</td>
<td>1,297</td>
<td>1,378</td>
<td>80</td>
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<td>China</td>
<td>1,159</td>
<td>1,270</td>
<td>1,523</td>
<td>253</td>
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<tr>
<td><strong>India</strong></td>
<td><strong>476</strong></td>
<td><strong>470</strong></td>
<td><strong>477</strong></td>
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<tr>
<td>Pakistan</td>
<td>573</td>
<td>606</td>
<td>634</td>
<td>29</td>
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<tr>
<td><strong>United States</strong></td>
<td><strong>814</strong></td>
<td><strong>826</strong></td>
<td><strong>899</strong></td>
<td><strong>73</strong></td>
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<tr>
<td>World</td>
<td>688</td>
<td>684</td>
<td>709</td>
<td>25</td>
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</table>
Global per Capita Consumption, 2000-2017

2000 to 2017: 8%
2000 to 2017: 42%
2000 to 2017: 3%
2000 to 2017: 64%

Per Capita Consumption (bu or lbs)

Corn
Cotton
Soybean
Wheat

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EXTENSION
INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE
Global Cotton Ending Stocks, 2015-2017

<table>
<thead>
<tr>
<th>Year</th>
<th>China</th>
<th>ROW</th>
<th>India</th>
<th>United States</th>
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<td>2017/2018</td>
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<td>29</td>
<td>13</td>
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<td>2015/2016</td>
<td>58</td>
<td>23</td>
<td>10</td>
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</tbody>
</table>

Legend: China, ROW, India, United States
World Cotton Production, Consumption, and Ending Stocks, 2006-2017

Ending Stocks

Production

Consumption

Millions of 480 lb Bales

2006/2007: 63
2007/2008: 63
2008/2009: 63
2009/2010: 48
2010/2011: 51
2011/2012: 74
2012/2013: 92
2013/2014: 103
2014/2015: 111
2015/2016: 95
2016/2017: 88
2017/2018: 88
Cotton Global Days on Hand [Ending Stocks/(Consumption/365)], 2006-2017

Days on Hand

2006: 189
2007: 189
2008: 211
2009: 146
2010: 163
2011: 262
2012: 312
2013: 345
2014: 366
2015: 317
2016: 288
2017: 286
China Cotton Production and Consumption, 2006-2017

- Production
- Consumption

Millions of 480 lb Bales

- 2006: 40
- 2007: 40
- 2008: 40
- 2009: 26.4
- 2010: 26.4
- 2011: 26.4
- 2012: 26.4
- 2013: 26.4
- 2014: 26.4
- 2015: 26.4
- 2016: 26.4
- 2017: 26.4

Imports: 8.6 stocks

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2017/18 Exports by Country (million bales)

- United States: 14.8
- Australia: 10
- India: 4.3
- Brazil: 4.3
- Uzbekistan: 4.1
- ROW: 1.2

2017/18 Imports by Country (million bales)

- Bangladesh: 12.5
- Vietnam: 7.3
- China: 6.6
- Indonesia: 5.0
- Turkey: 3.5
- ROW: 3.5
PRICE
Cotton prices up year-over-year 5.1%; Polyester 12.8%. 

A FE Index versus Asian Polyester Price, 2017/18
Daily Nearby Futures Close

- CTY00 (Cash): $74.96
- CTH18 (Mar '18): $76.35
- CTK18 (May '18): $77.71
- CTN18 (Jul '18): $78.72
- CVT18 (Oct '18): $75.78
- CTZ18 (Dec '18): $75.20

Nearby contract volatility is likely to continue in early 2018!
December Cotton Futures

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<tr>
<th>Date</th>
<th>2018 Price</th>
<th>2017 Price</th>
<th>2016 Price</th>
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<td>31-Dec</td>
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<td>30-Jan</td>
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<td>1-Mar</td>
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<td>31-Mar</td>
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<td>30-Apr</td>
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<td>30-May</td>
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<td>29-Jun</td>
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<td>29-Jul</td>
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<td>28-Aug</td>
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<td>27-Oct</td>
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<td>26-Nov</td>
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Tennessee Price Ratios for Spring Row Crops, 2006-2017

Soybean/Corn Price Ratio

- Soybean/Corn
- Avg Soybean/Corn
- Cotton/Corn
- Avg Cotton/Corn
- Cotton/Soybean
- Avg Cotton/Soybean

Cotton/Corn and Cotton/Soybean Price Ratio

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What to Watch in 2018

Old Crop

- Export sales
  - Pace
  - Outstanding sales versus shipments
  - USDA marketing year revisions
  - USD weakness
- US ending stocks
  - Price and export sales?
- On-call sales vs. purchases
- Southern hemisphere crop

New Crop

- U.S. planted/harvested acres
- Chinese and Indian acreage/production
- Trade negotiations
  - NAFTA and Bi-lateral/Multi-lateral
- Increasing demand and global economic growth
- USD/exchange rates
- Cotton prices compared to synthetics
SHOULD I GET BACK INTO COTTON?

Capital Recovery and Other Considerations, plus Long Term Price Expectations
Like Most Economic Answers: It Depends

• Answer these interrelated questions:
  – What is your farm’s current cost structure for cotton (and other crops)?
  – How many acres are you planning on planting to cotton?
  – What is your harvest machinery plan?
  – Are you willing to make a long term commitment to planting cotton?
  – What are your ginning arrangements?
  – What is your long term (5 year) price expectation?
Cotton - Net Return Table ($/acre) – Assumes a $661/acre Cost of Production

<table>
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<th>Yield (lb/acre)</th>
<th>700</th>
<th>750</th>
<th>800</th>
<th>850</th>
<th>900</th>
<th>950</th>
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<td>205</td>
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</table>
Evaluate Annual versus Multi-year Cotton Costs

**Annual**
- Seed
- Fertilizer
- Chemical
- Crop Insurance
- Crop Scouting
- Rent / Return to Land (not contingent on growing cotton)

**Multi-year**
- Machinery Decision will Potentially Influence Several Years of Cost
  - Fuel
  - Labor
  - Repair and maintenance
  - **Capital Recovery**
    - Interest
    - Depreciation
Harvest Machinery Costs

• Harvest machinery has changed over the last ten years.
  – Round bale harvester versus module builder + boll buggy + picker.
• Round = high acreage / higher capacity / long term investment
• Three piece = lower acre option / shorter term solution / greater risk and uncertainty / harvest efficiency? / higher variable cost (labor/fuel/R&M)
Capital Recovery

- JD CP 690 self propelled cotton picker
  - Suggested list price $913,647

- Quick Scan Capital Recovery Cost (new or used)
  - Cap Recovery ($/acre) = PP x (1+0.03) / Acres / Years of Use
  - Ex. $910,000 x (1.03) / 2000 / 8 = $58.58/acre ✔
  - Ex. $910,000 x (1.03) / 750 / 8 = $156.22/acre ✗
Harvest Alternatives

• Custom Harvesting or Machinery Share
  – How is time allocated?
    • Harvest capacity and harvest window.
  – Increased quality risk.

• Can be a viable alternative …..but be careful.
## Long Term Upland Cotton Price Projections

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<td>NA</td>
</tr>
</tbody>
</table>

**Give consideration to the direction of alternative crops to cotton – corn, soybeans, and sorghum**
THANK YOU!

Questions?