ICAC & World Bank Presentation April 2017

O.A. Cleveland

Independent Consultant

World Cotton Supply and Distribution

	2015/16	2016/17	2017/18
	Million Bales		
Production	96.59	104.22	106.15
Consumption	110.83	110.46	111.75
Exports	34.63	36.06	36.97
Ending Stocks	88.42	82.12	76.52
Ending Stocks/Use (%)	79.78	74.35	76.52
Cotlook A Index* (¢/lb.)	70.00	77.00*	80.82**

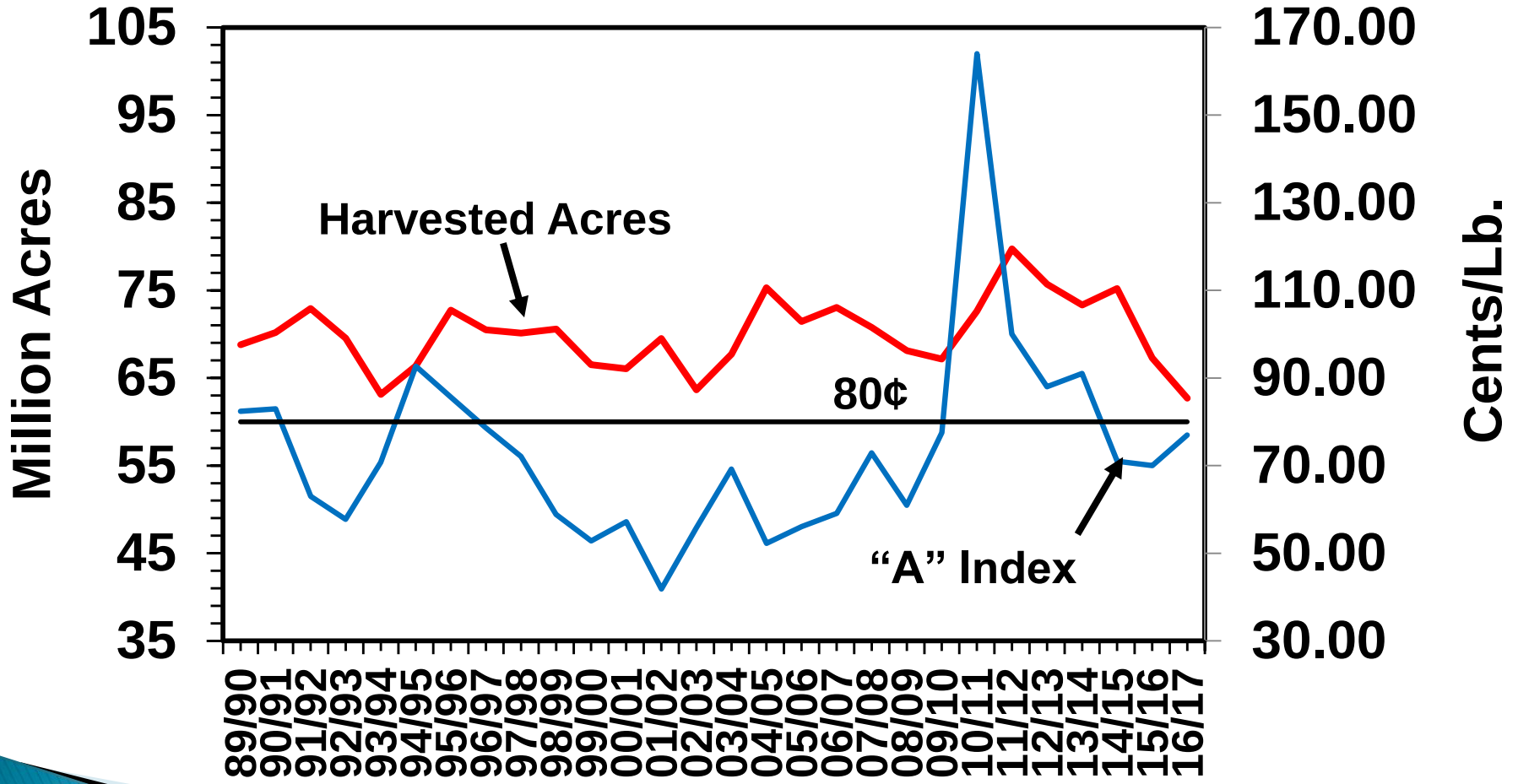
Source: International Cotton Advisory Committee, March 1, 2017
* Projected by ICAC
** Season-average Cotlook A Index (U.S. cents per pound)

World Cotton Price

Cotlook A Index (US cents per pound CFR Far East)

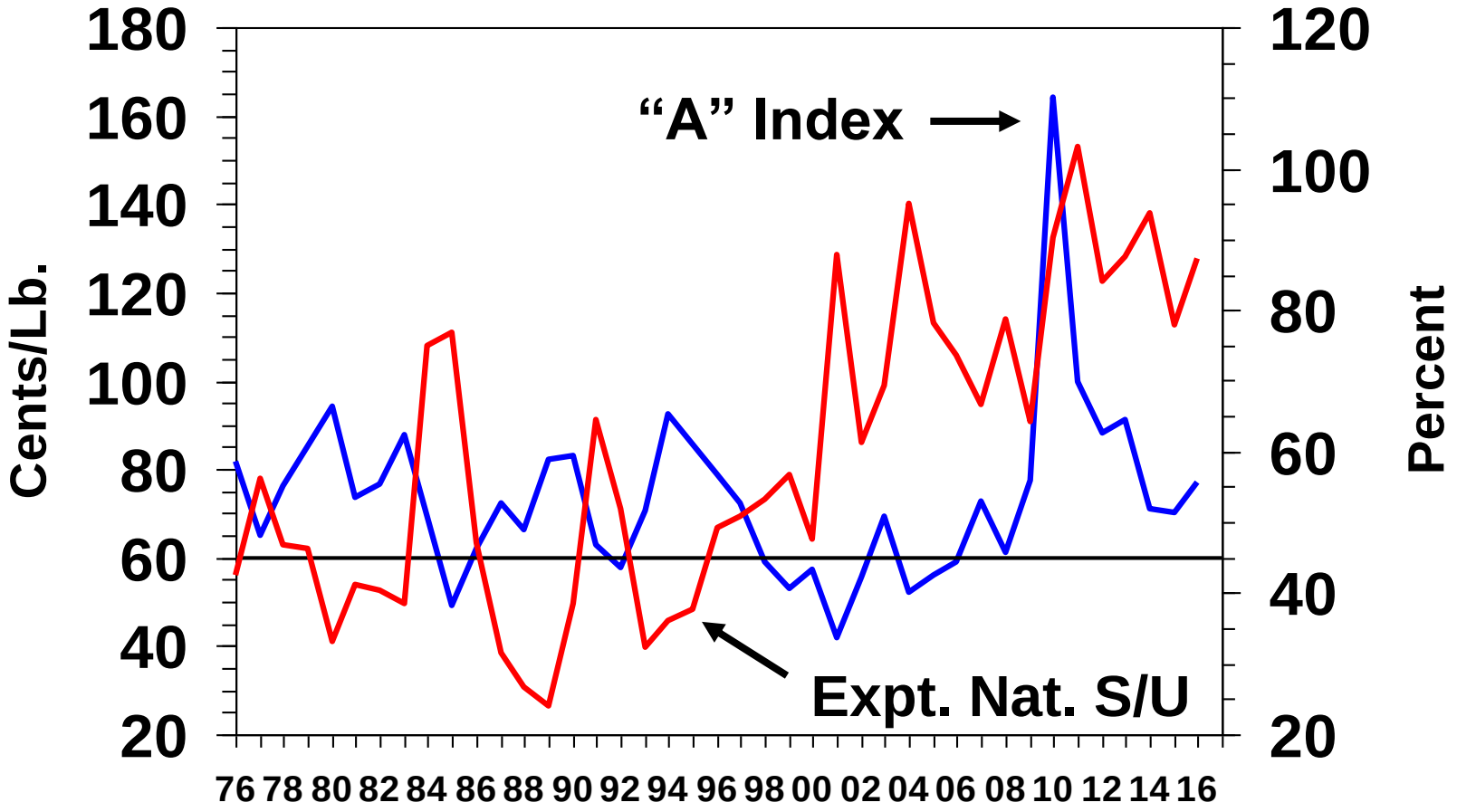
Source: Cotton Outlook

Foreign Cotton Area and "A" Index



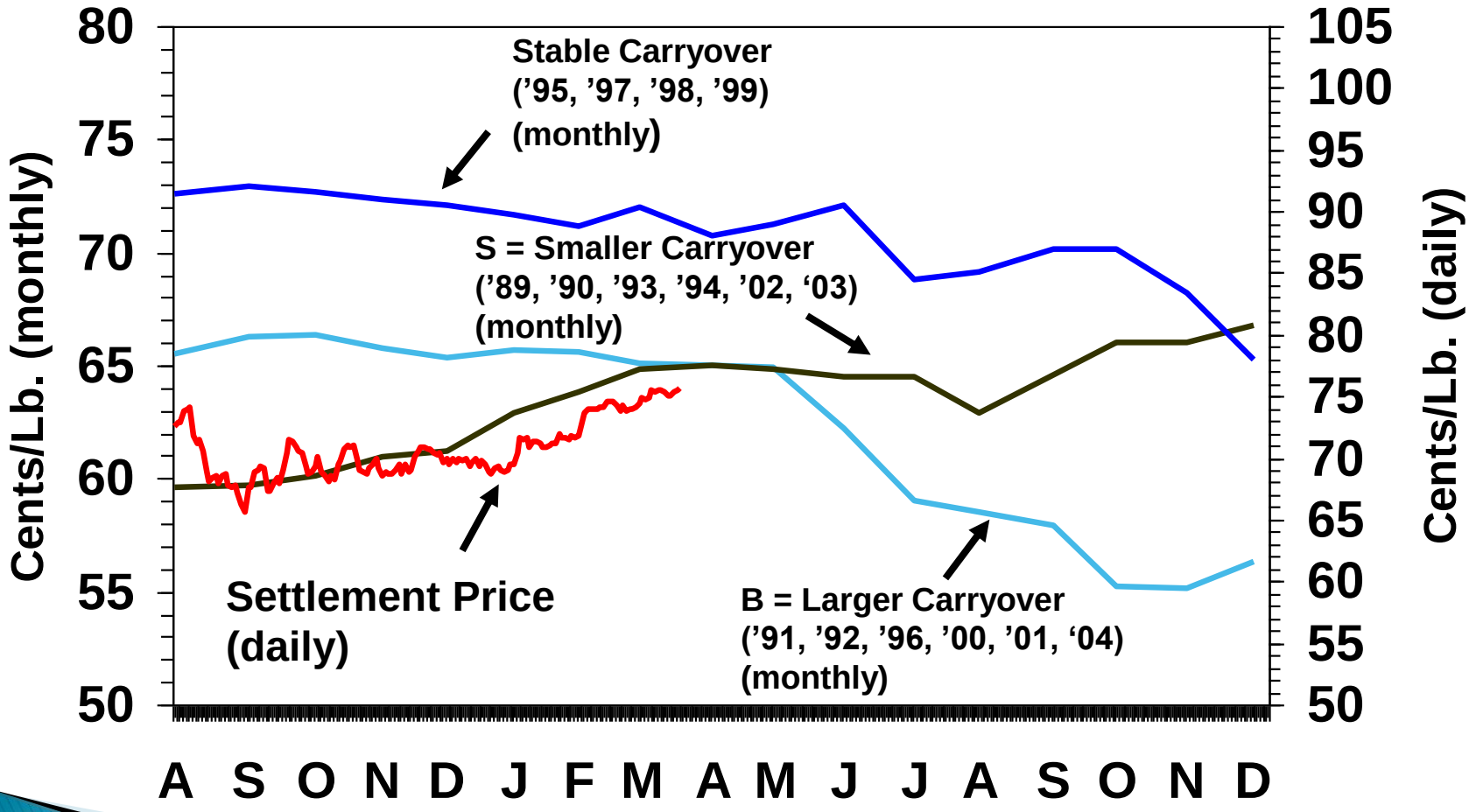
15/16 and 16/17 "A" Index Projected by ICAC

“A” Index Versus Exporting Nations Stocks to Domestic Use Percent



2015/16 and 2016/17 “A” Index Projected by ICAC

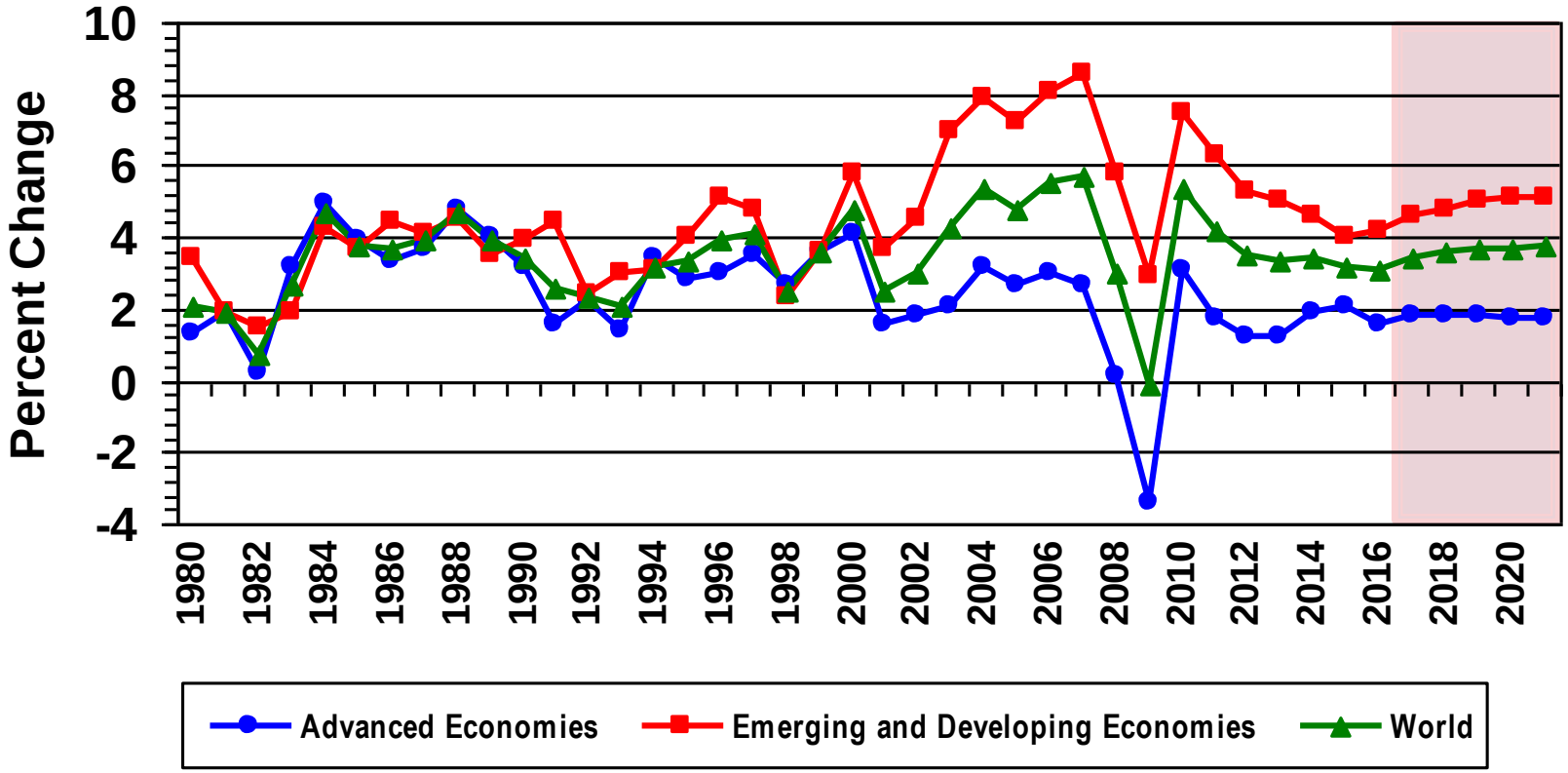
December 2017 Futures Settlement vs. December Futures Average Monthly Price for Stable, Larger, and Smaller Carryover Season



Global Economic Growth

Global economic growth is being driven by developing nations.

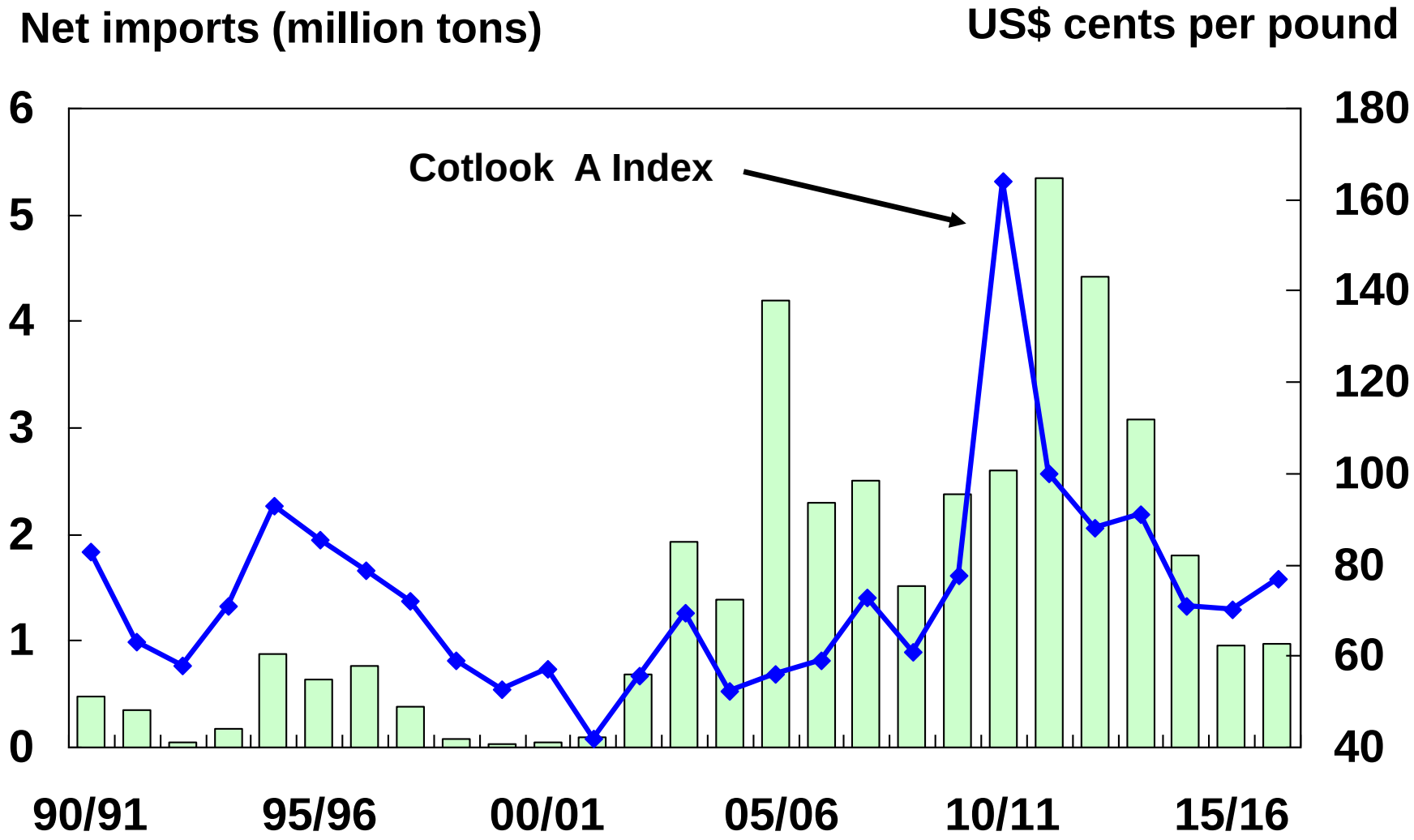
Real GDP Growth, 1980 - 2021



Source: http://www.imf.org/external/datamapper/index.php

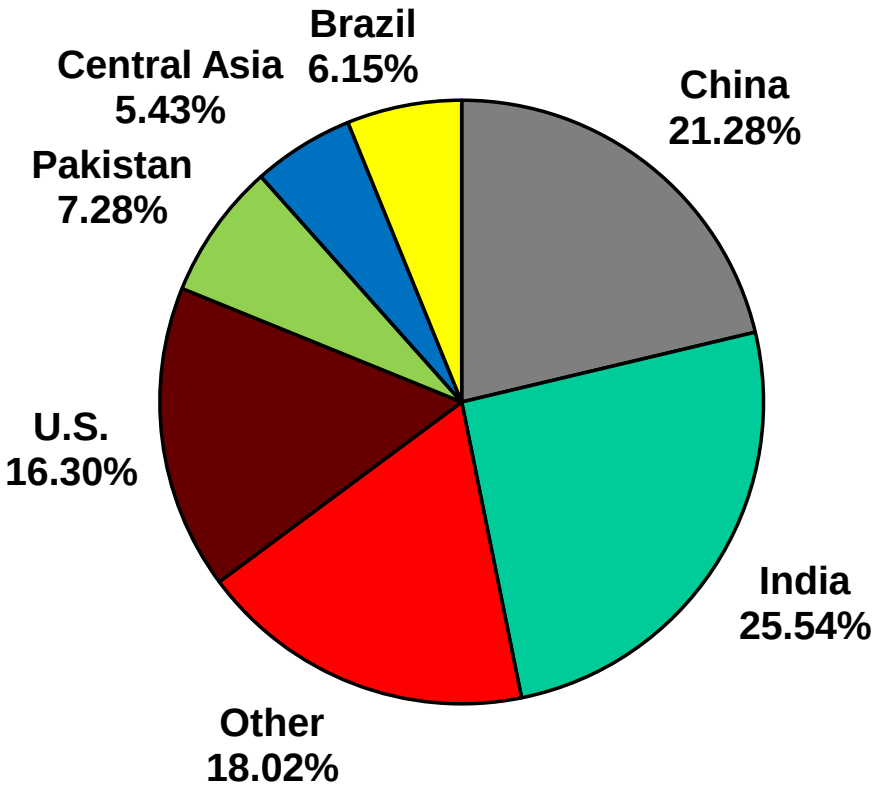
http://tonto.eia.doe.gov/cfapps/ipdbproject/iedindex3.cfm?tid=5&pid=54&aid=2&cid=ww,&syid=2005&eyid=2009&unit=TBPD

Chinese Imports and Cotton Price



Sources: Cotton Outlook, ICAC; USDA/FAS

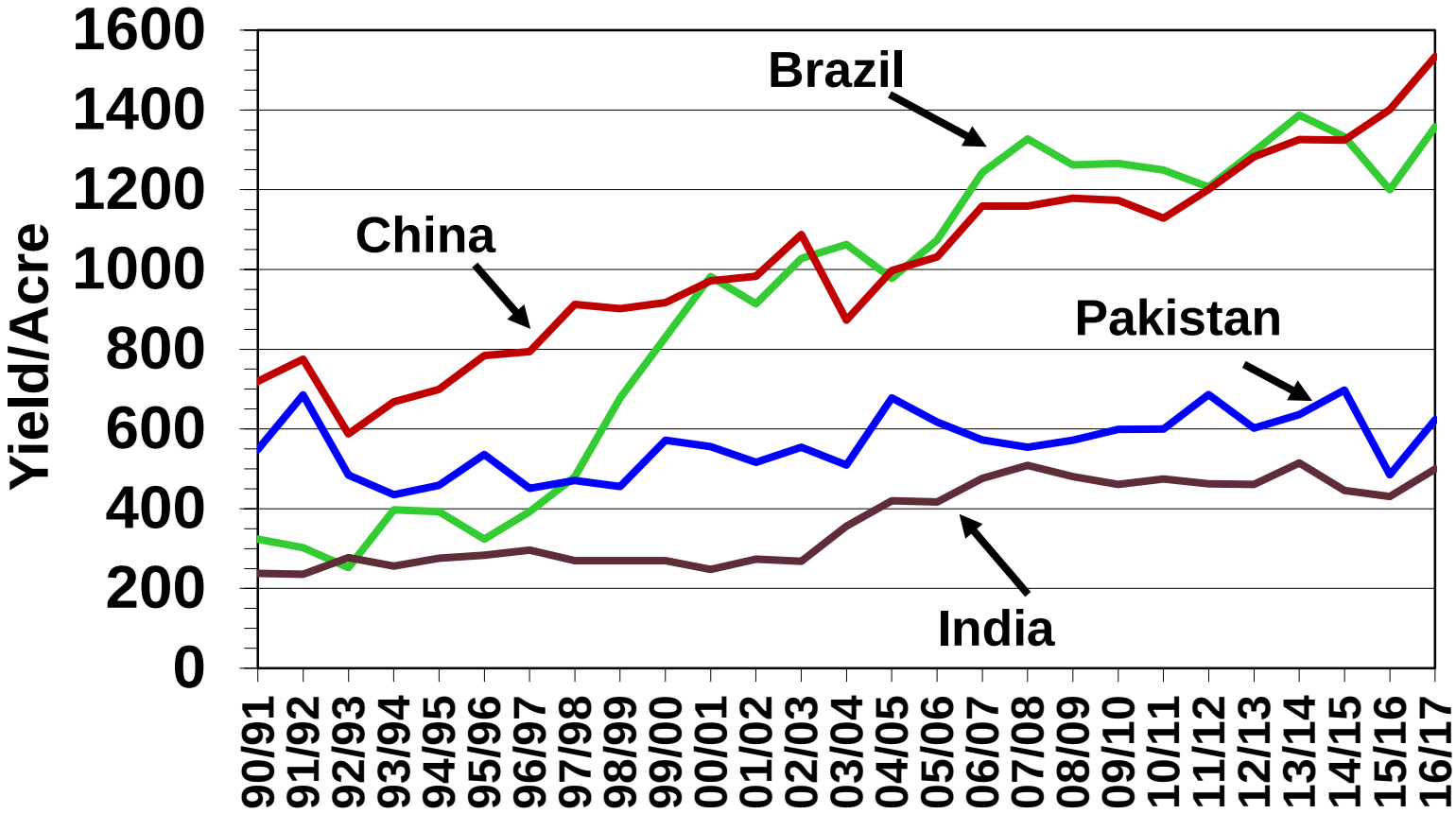
Major World Cotton Producers Percent of Production
(Million 480 Lb. Bales)



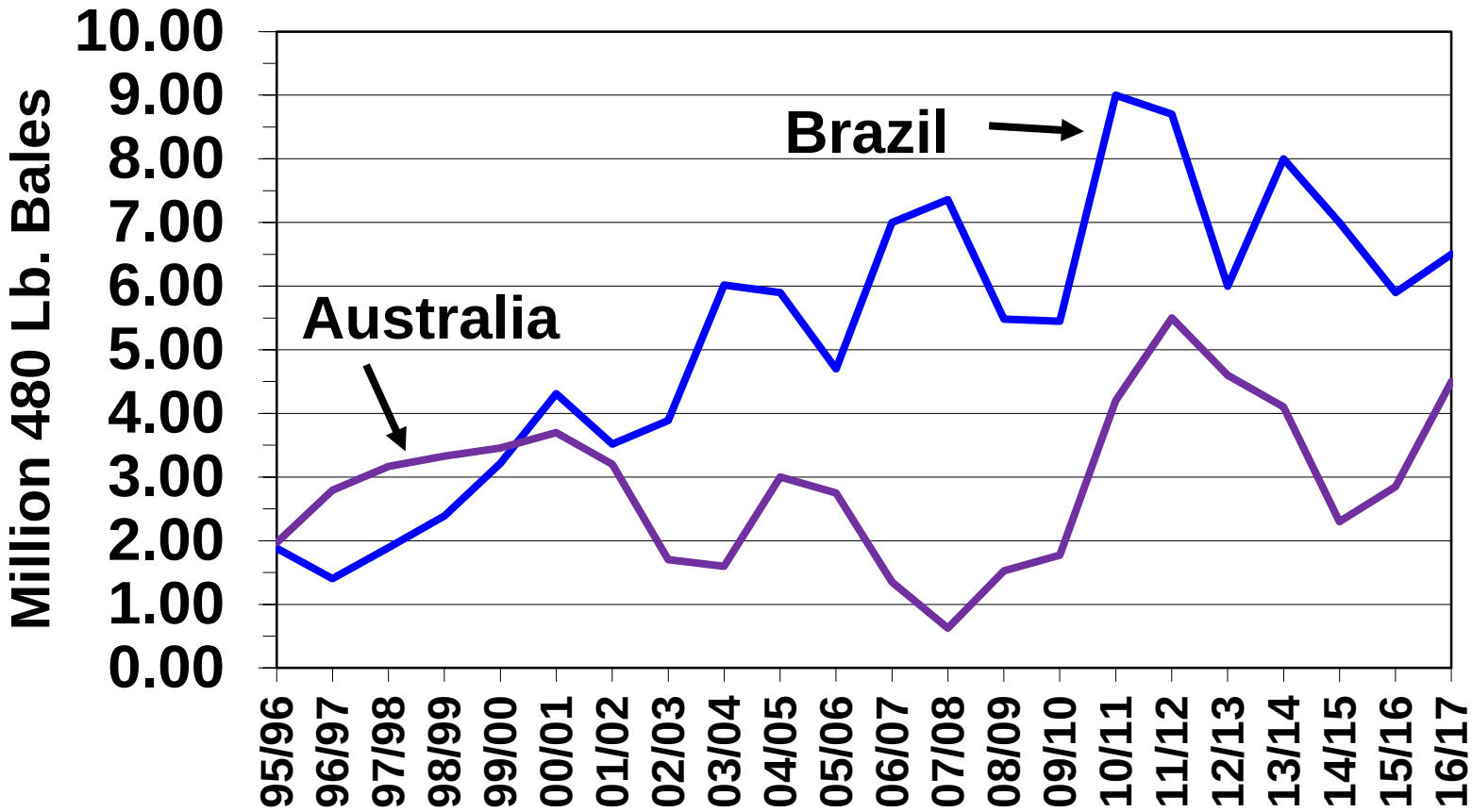
2016/17
Total Production = 105.72

WASDE 3/9/17

Cotton Yields for Brazil, China, Pakistan, and India, 1990/91 – 2016/17



Cotton Production for Australia and Brazil, 1995/96 – 2016/17



TWO APPROACHES TO MARKET ANALYSIS

- **Fundamental**
- **Technical**

Fundamental Analysis

- **Supply and Demand**

Indentifying Risks for Cotton

- Climate - Cotton Production
- Quality/Yield – Cotton Quality/Volume
- Counterparty – Contracts
- Foreign Exchange Rates – Local/US$
- Interest Rates
- Price of Cotton – Local & Worldwide
- Physical – Damage or loss of cotton
- Regulatory Framework

Fundamental Factors

- Prices of other commodities
- Battle for crop land
- Price determines winner
- Corn-Ethanol
- Cotton-Large Supply

Fundamental Factors

- Size of US crop
  Chinese supply
- Indian situation
- World Supply
- World demand of US crop
- Chinese production

Fundamental Factors

- **Macro Factors**

World Economy

US Dollar Value

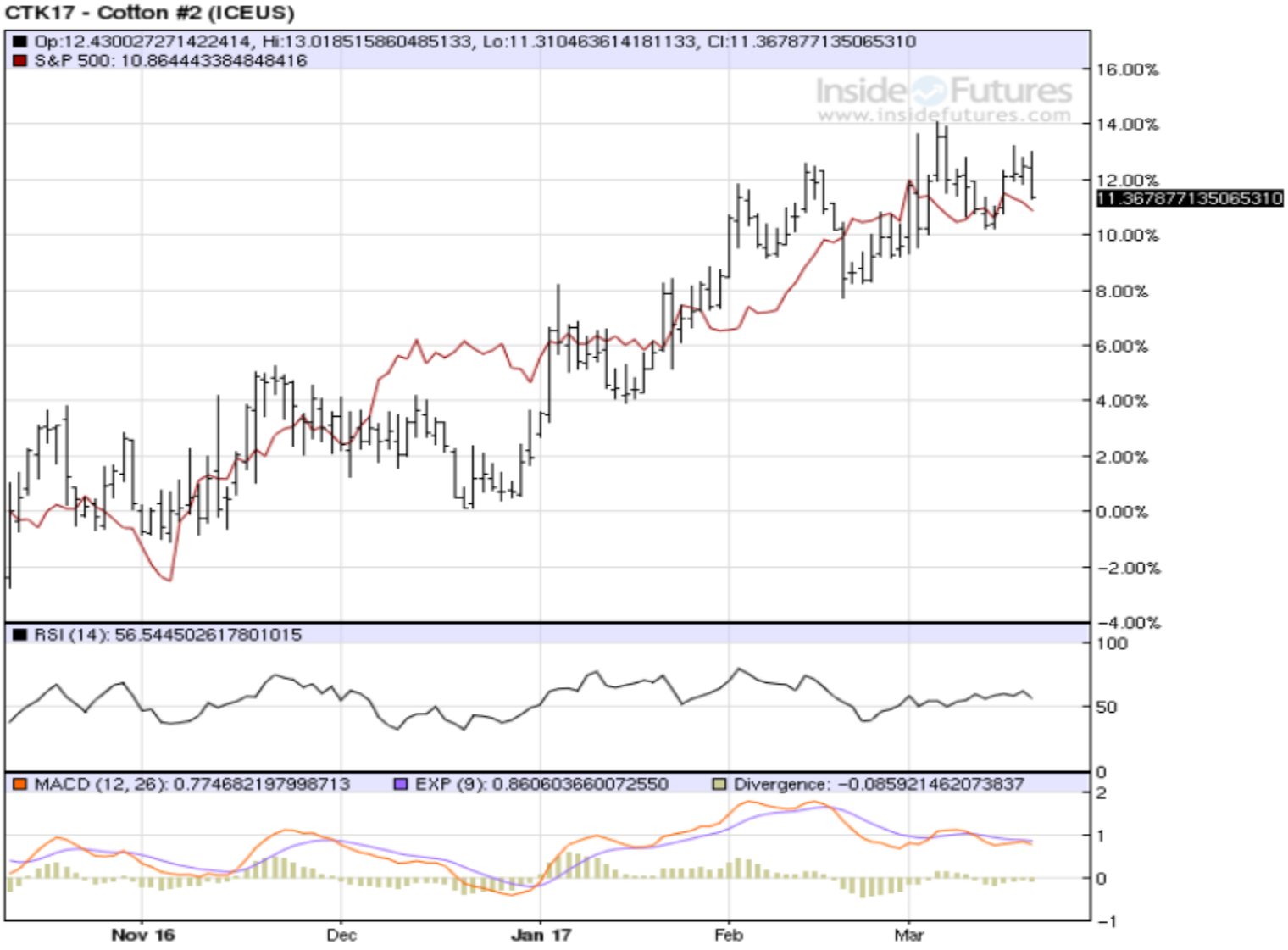
Equity Prices

Equity Prices

- **Until very recently commodities and equity prices were moving almost as one**

- **As S&P goes so goes stocks and commodities**

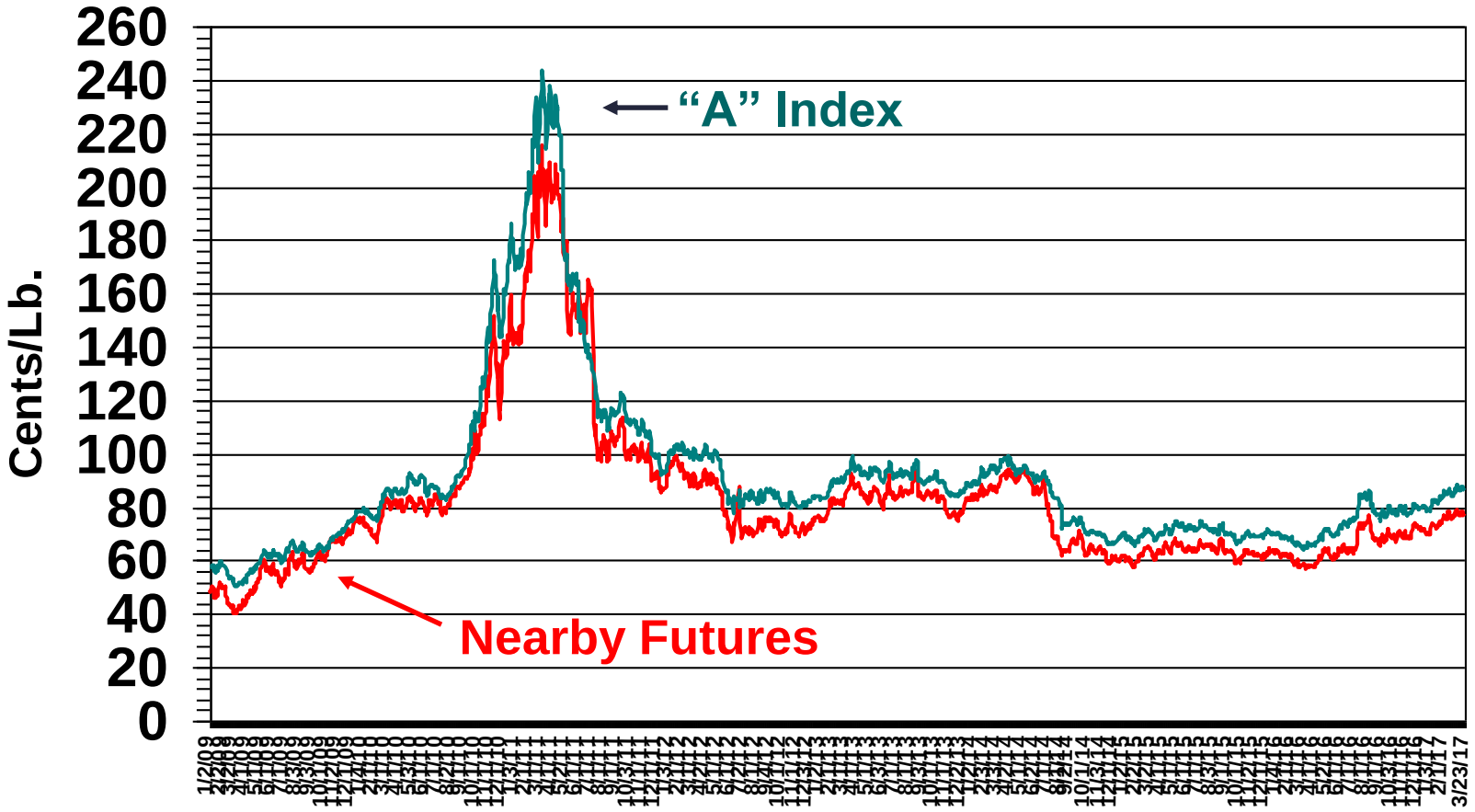
Cotton and the S&P



Cotton and Equities

Have always viewed cotton as being a leading indicator of the economy and stock prices

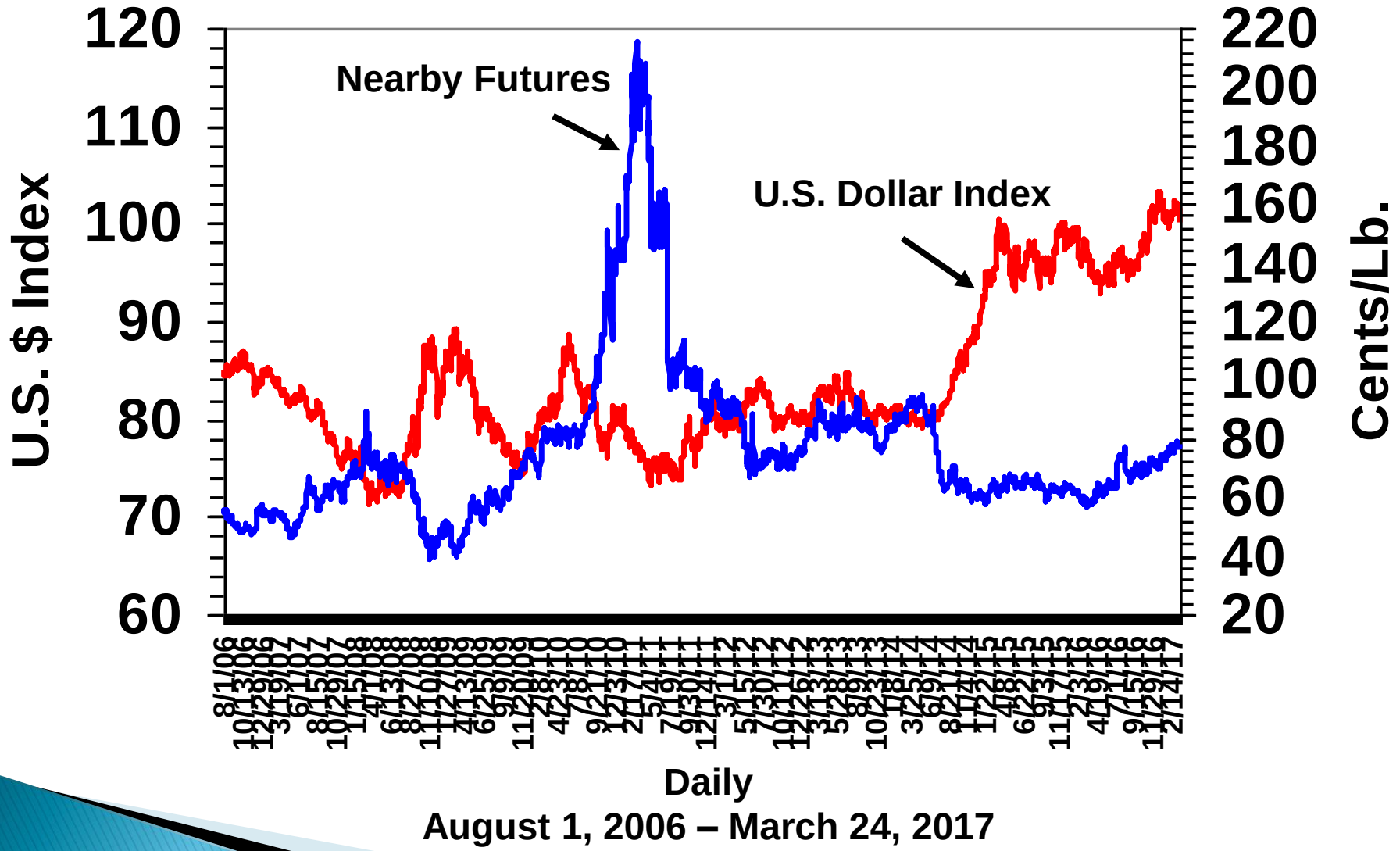
Cotton Prices: "A" index vs. Nearby Futures



Daily

January 2, 2009 – March 24, 2017

US Dollar Index vs Cotton Prices



Technical Analysis

Technicals are the Leading Indicator of Fundamentals


Chart
ZW 1!
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Color
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Markers
WHEAT MAY 17 [10] O: 421'4 H: 424'6 L: 420'0 C: 420'6 Δ: -1'4
WHEAT – DAILY CHART – MAY 2017 CONTRACT
Date 12/02/16
ZW K7.Open 412'0
ZW K7.High 417'4
ZW K7.Low 409'6
ZW K7.Close 417'0
Line
478'0
476'0
474'0
472'0
470'0
468'0
466'0
464'0
462'0
460'0
458'0
456'0
454'0
452'0
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448'0
446'0
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436'0
434'0
432'0
430'0
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418'0
416'0
414'0
412'0
410'0
408'0
406'0
27 Oct 10 13 18 21 26 Nov 8 11 16 21 25 Dec 9 14 19 22 28 '17 9 12 18 23 26 Feb 9 14 17 23 Mar 7 10 15 20 23 28 Apr 7 12 18 21 Daily


Chart
ZC 4!
016-04.23.2017/D
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Selection Tool
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Color
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Markers
CORN DEC 17 [10] O: 381'6 H: 382'6 L: 379'4 C: 379'4 Δ: -2'4
CORN – DAILY CHART – DEC 2017 CONTRACT
Date 01/19/17
ZC Z7.Open 389'6
ZC Z7.High 394'4
ZC Z7.Low 389'4
ZC Z7.Close 393'4
Line
Line
Line
404'0
403'0
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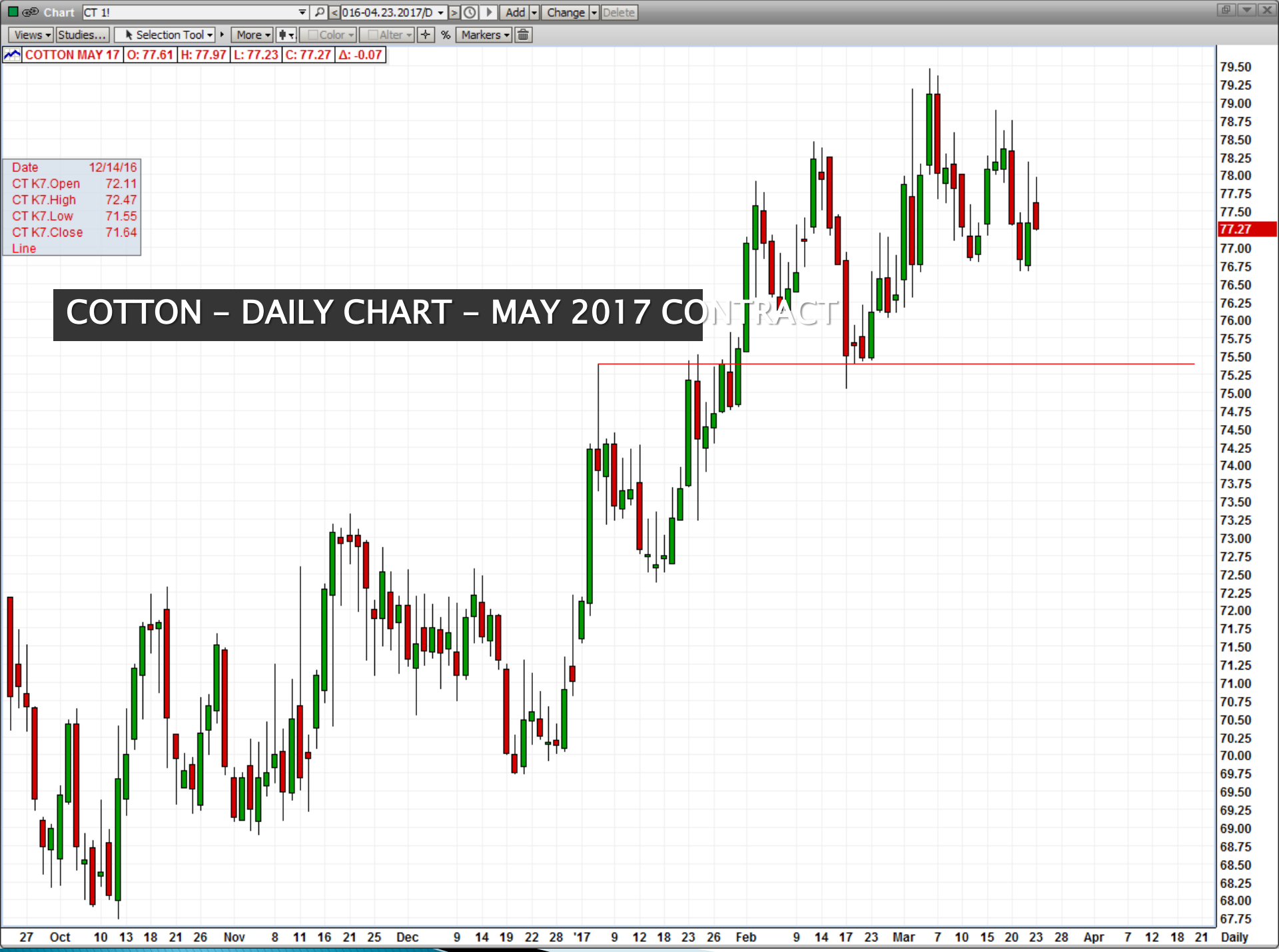
Chart
CT 1!
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Studies...
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Color
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Markers
COTTON MAY 17
O: 77.61
H: 77.97
L: 77.23
C: 77.27
Δ: -0.07
Date 12/14/16
CT K7.Open 72.11
CT K7.High 72.47
CT K7.Low 71.55
CT K7.Close 71.64
Line
COTTON – DAILY CHART – MAY 2017 CONTRACT
79.50 79.25 79.00 78.75 78.50 78.25 78.00 77.75 77.50 77.27 77.00 76.75 76.50 76.25 76.00 75.75 75.50 75.25 75.00 74.75 74.50 74.25 74.00 73.75 73.50 73.25 73.00 72.75 72.50 72.25 72.00 71.75 71.50 71.25 71.00 70.75 70.50 70.25 70.00 69.75 69.50 69.25 69.00 68.75 68.50 68.25 68.00 67.75
27 Oct 10 13 18 21 26 Nov 8 11 16 21 25 Dec 9 14 19 22 28 '17 9 12 18 23 26 Feb 9 14 17 23 Mar 7 10 15 20 23 28 Apr 7 12 18 21 Daily

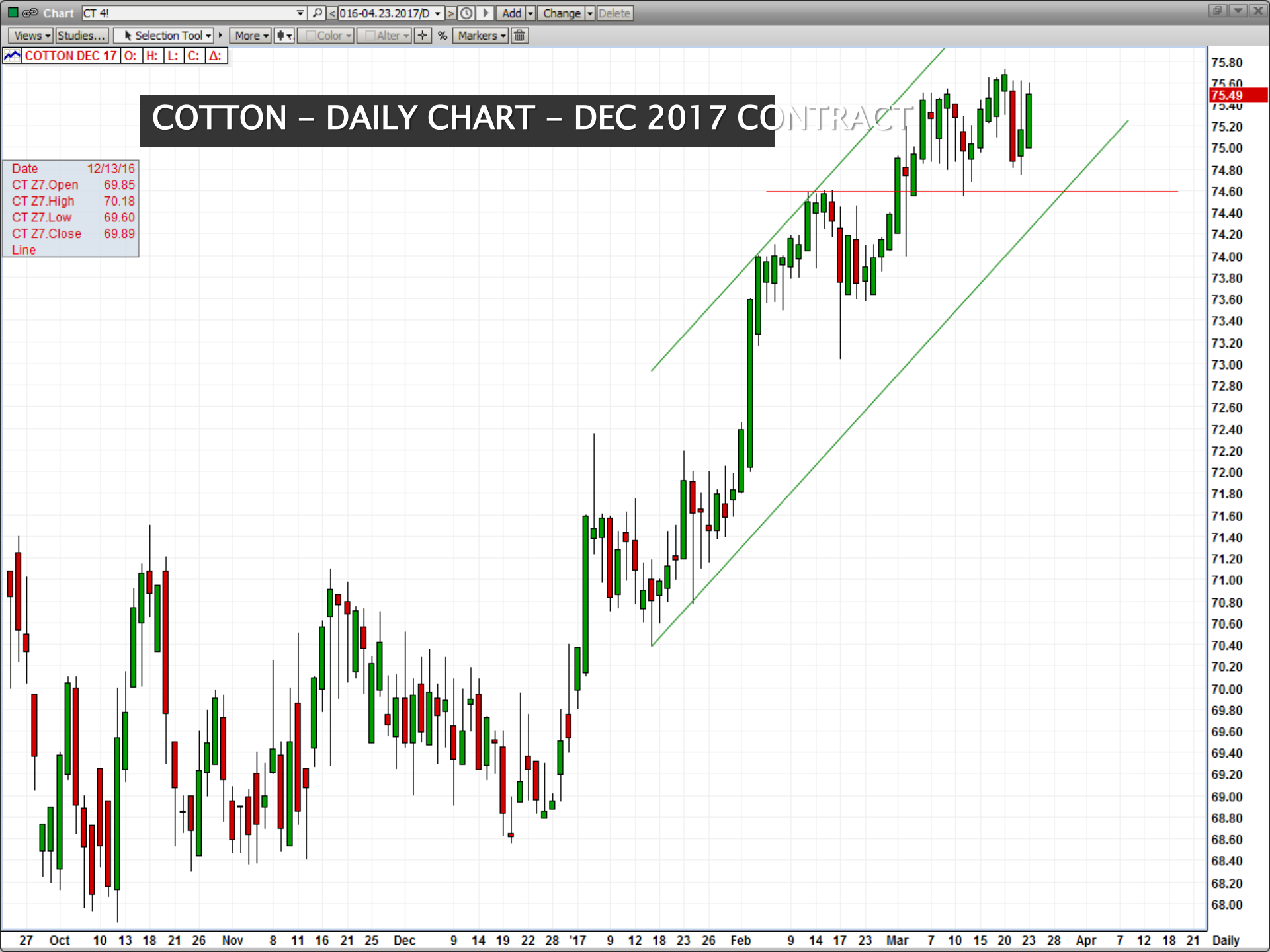
Chart
CT 4!
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Views
Studies...
Selection Tool
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Color
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Markers
COTTON DEC 17
O:
H:
L:
C:
Δ:
COTTON – DAILY CHART – DEC 2017 CONTRACT
Date 12/13/16
CT Z7.Open 69.85
CT Z7.High 70.18
CT Z7.Low 69.60
CT Z7.Close 69.89
Line
75.80
75.60
75.49
75.40
75.20
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74.80
74.60
74.40
74.20
74.00
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69.20
69.00
68.80
68.60
68.40
68.20
68.00
27 Oct 10 13 18 21 26 Nov 8 11 16 21 25 Dec 9 14 19 22 28 '17 9 12 18 23 26 Feb 9 14 17 23 Mar 7 10 15 20 23 28 Apr 7 12 18 21 Daily

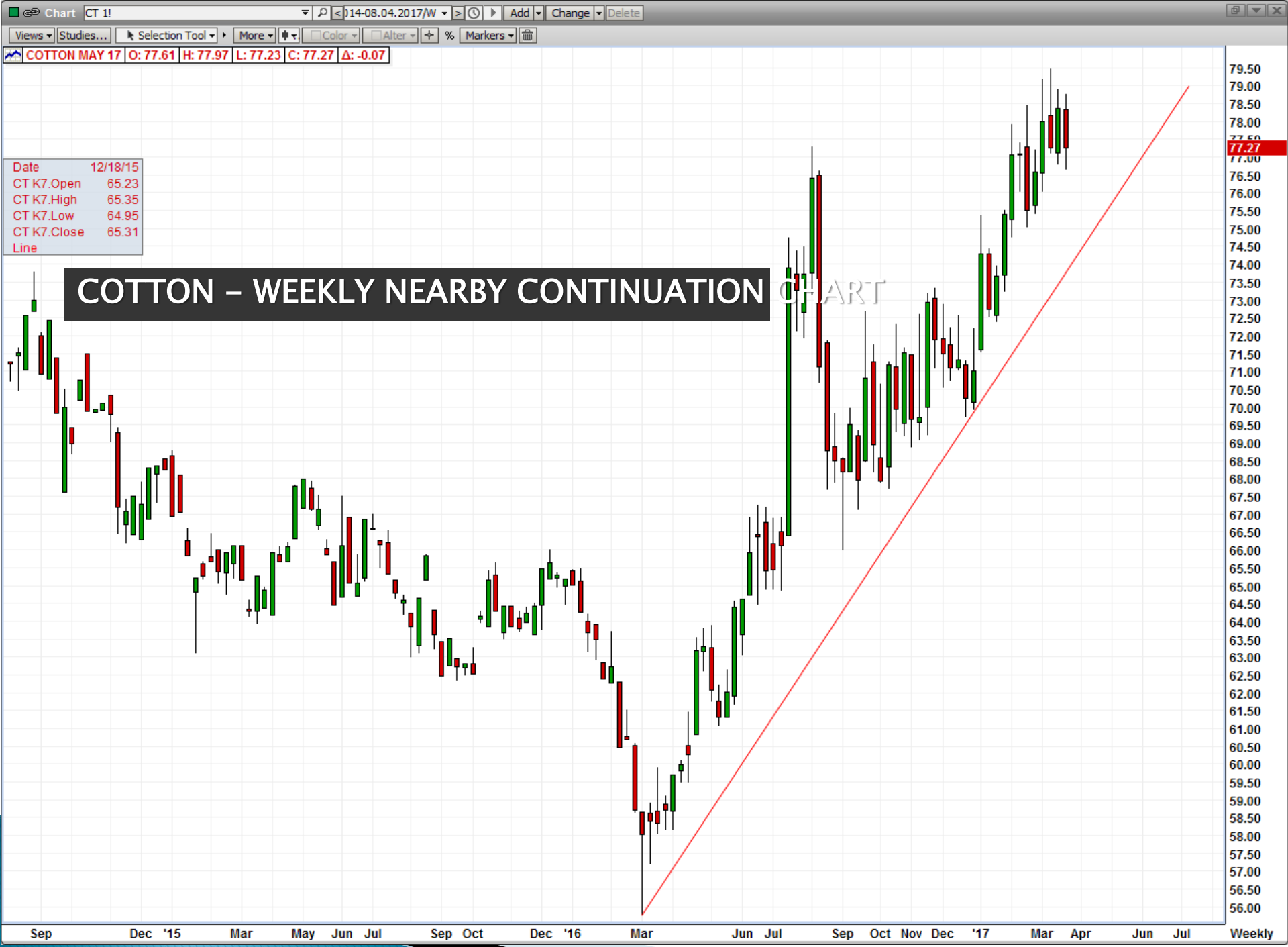
Chart
CT 1!
14-08.04.2017/W
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Views
Studies...
Selection Tool
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Color
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%
Markers
COTTON MAY 17
O: 77.61
H: 77.97
L: 77.23
C: 77.27
Δ: -0.07
Date 12/18/15
CT K7.Open 65.23
CT K7.High 65.35
CT K7.Low 64.95
CT K7.Close 65.31
Line
COTTON – WEEKLY NEARBY CONTINUATION CHART
79.50
79.00
78.50
78.00
77.27
76.50
76.00
75.50
75.00
74.50
74.00
73.50
73.00
72.50
72.00
71.50
71.00
70.50
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Oct
Dec
'16
Mar
Jun
Jul
Sep
Oct
Nov
Dec
'17
Mar
Apr
Jun
Jul
Weekly

Thu Apr 08 2010 12:53:53

Wed Aug 25 2010 15:29:07


CTA - Cotton (Combined), Daily Continuation
Old Resistance Becomes New Support
8750
8500
8250
8000
7750
7500
7250
7000
6750
Mar
Apr
May
Jun
Jul
Aug

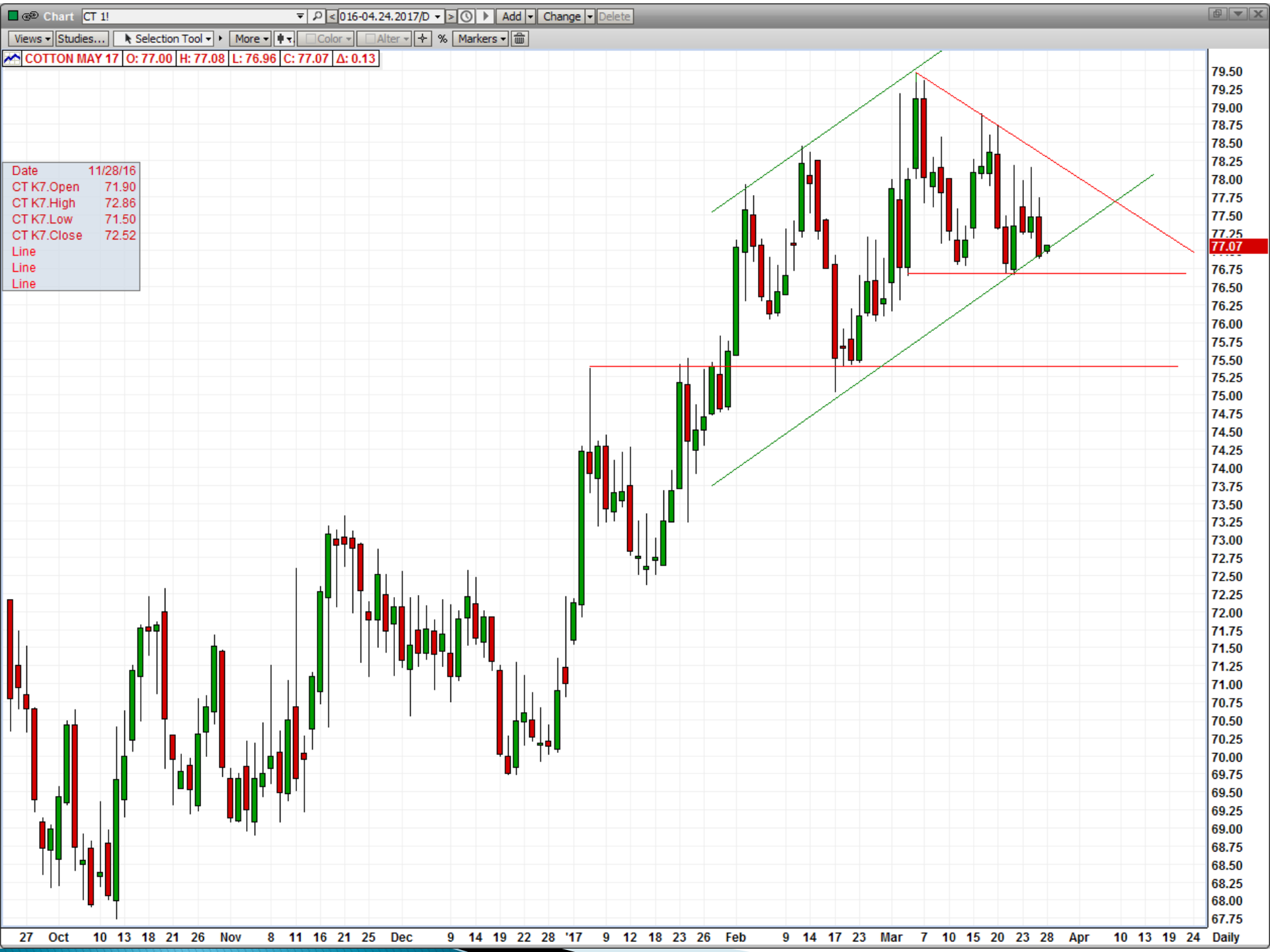
Chart
CT 1!
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COTTON MAY 17
O: 77.00
H: 77.08
L: 76.96
C: 77.07
Δ: 0.13
Date 11/28/16
CT K7.Open 71.90
CT K7.High 72.86
CT K7.Low 71.50
CT K7.Close 72.52
Line
Line
Line
79.50
79.25
79.00
78.75
78.50
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77.50
77.25
77.07
76.75
76.50
76.25
76.00
75.75
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27 Oct 10 13 18 21 26 Nov 8 11 16 21 25 Dec 9 14 19 22 28 '17 9 12 18 23 26 Feb 9 14 17 23 Mar 7 10 15 20 23 28 Apr 10 13 19 24 Daily

Fundamental Analysis

World Agricultural Supply and Demand Estimates

ISSN: 1554-9089

Office of the Chief Economist	Agricultural Marketing Service Farm Service Agency	Economic Research Service Foreign Agricultural Service

WASDE - 563 | Approved by the World Agricultural Outlook Board | March 9, 2017

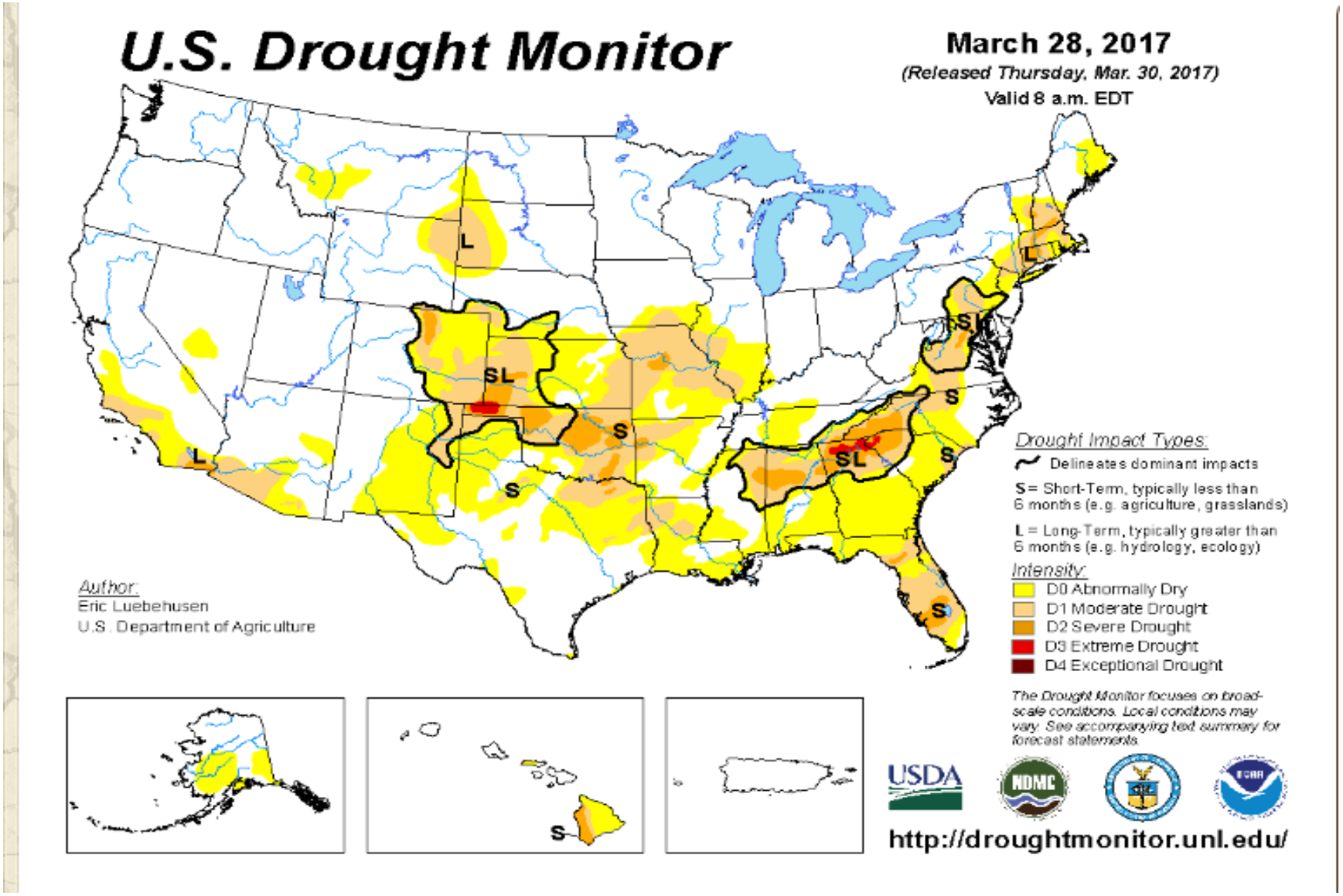
- WHEAT: U.S. wheat imports for 2016/17 are reduced this month by 10 million bushels to 115 million. Ending stocks are projected lower by the same amount to 1,129 million bushels. The season-average farm price is unchanged with the midpoint of the range at $3.85 per bushel.
- Internationally, global production increased 2.8 million tons to 751.1 million, mainly due to larger crops in Argentina and Australia more than offsetting a slight reduction in the European Union. Australia's 2016/17 wheat production is raised 2.0 million tons to a record-large 35.0 million. USDA model-based analysis of weather data estimates Australia's yield in line with the latest Australia Bureau of Agricultural and Resource Economics and Sciences (ABARES) estimate. Projected exports are increased for both Australia and Argentina on their larger supplies while Canada's exports are reduced on a sluggish export pace. Global imports are raised this month led by India, which was raised 1.8 million tons to 5.5 million. This would be the largest wheat import total for India since 2006/07; India stocks have successively declined since 2012/13. Despite higher projected global use, driven by India, 2016/17 global ending stocks are increased by 1.3 million tons to 249.9 million.

https://www.usda.gov/oce/commodity/wasde/latest.pdf

Commodity Futures Price Quotes For Cotton #2

Chart	Current Session								Prior Day		Opt's
	Open	High	Low	Last	Time	Set	Chg	Vol	Set	Op Int	
May'17	77.31	78.07	75.44	75.47	14:44 Apr 03	75.47	-1.86	23070	77.33	133921	Call Put
Jul'17	78.56	79.25	77.10	77.12	14:44 Apr 03	77.12	-1.47	10872	78.59	60008	Call Put
Oct'17	75.05	75.05	73.78	73.78	14:44 Apr 03	73.78	-0.83	-	74.61	39	Call Put
Dec'17	74.05	74.50	73.40	73.48	14:44 Apr 03	73.48	-0.61	6577	74.09	76012	Call Put
Mar'18	73.89	74.18	73.15	73.24	14:44 Apr 03	73.24	-0.51	555	73.75	7004	Call Put
May'18	73.77	73.98	73.24	73.24	14:44 Apr 03	73.24	-0.43	72	73.67	1023	Call Put
Jul'18	73.60	73.60	72.90	72.98	14:44 Apr 03	72.98	-0.43	70	73.41	1188	Call Put
Oct'18	-	72.15	71.95	71.95	14:44 Apr 03	71.95	-0.20	-	72.15	-	Call Put
Dec'18	71.75	72.46	71.75	72.18	14:44 Apr 03	72.18	-0.06	33	72.24	707	Call Put
Mar'19	-	72.23	72.17	72.17	14:44 Apr 03	72.17	-0.06	-	72.23	-	Call Put
May'19	-	72.27	72.21	72.21	14:44 Apr 03	72.21	-0.06	-	72.27	-	Call Put
Jul'19	-	72.31	72.25	72.25	14:44 Apr 03	72.25	-0.06	-	72.31	-	Call Put
Oct'19	-	72.35	72.29	72.29	14:44 Apr 03	72.29	-0.06	-	72.35	-	Call Put
Dec'19	-	72.39	72.33	72.33	14:44 Apr 03	72.33	-0.06	-	72.39	-	Call Put
Mar'20	-	72.39	72.39	72.39	14:44 Apr 03	72.39	-	0	-	0	Call Put

http://data.tradingcharts.com/futures/quotes/CT.html



http://droughtmonitor.unl.edu/

FAS ONLINE-U.S. Export Sales for Weekending 3/23/2017

- **Cotton**: Net upland sales of 392,300 RB for 2016/2017 were up 20 percent from the previous week and 14 percent from the prior 4-week average. Increases were reported for Turkey (94,800 RB, including decreases of 3,300 RB), Vietnam (94,300 RB, including 8,000 RB switched from South Korea, 1,700 RB, switched from Pakistan and decreases of 2,300 RB), India (84,100 RB, including decreases of 5,600 RB), China (32,600 RB, including 400 RB switched from Indonesia), and Bangladesh (25,100 RB). Reductions were reported for El Salvador (2,100 RB) and South Korea (2,000 RB). For 2017/2018, net sales of 84,300 RB were reported primarily for Indonesia (35,600 RB), Pakistan (19,800 RB), and China (13,200 RB). Reductions were reported for South Korea (4,000 RB). Exports of 394,000 RB were up 4 percent from the previous week and 1 percent from the prior 4-week average. The primary destinations were Vietnam (91,600 RB), China (81,600 RB), Turkey (51,300 RB), Pakistan (29,000 RB), and Indonesia (22,000 RB). Net sales of Pima totaling 10,100 RB for 2016/2017 were up 2 percent from the previous week, but down 29 percent from the prior 4-week average. Increases were primarily for India (3,000 RB), China (2,900 RB), Indonesia (2,000 RB), and Peru (2,000 RB). Reductions were reported for Mexico (300 RB). For 2017/2018, net sales of 900 RB were reported for Pakistan. Exports of 8,100 RB were down 45 percent from the previous week and 30 percent from the prior 4-week average. The primary destinations were India (4,200 RB), Peru (2,400 RB), Vietnam (400 RB), and Pakistan (400 RB).
- *Exports for Own Account*: New exports for own account were reported to Indonesia (700 RB) and Vietnam (300 RB). The current outstanding balance of 114,000 RB is for Indonesia (65,300 RB), China (26,800 RB), Taiwan (9,700 RB), Vietnam (4,400 RB), South Korea (2,600 RB), Bangladesh (1,800 RB), Thailand (1,600 RB), India (1,300 RB), and Pakistan (500 RB).

https://apps.fas.usda.g[illegible]/export-sales/cottfax.htm

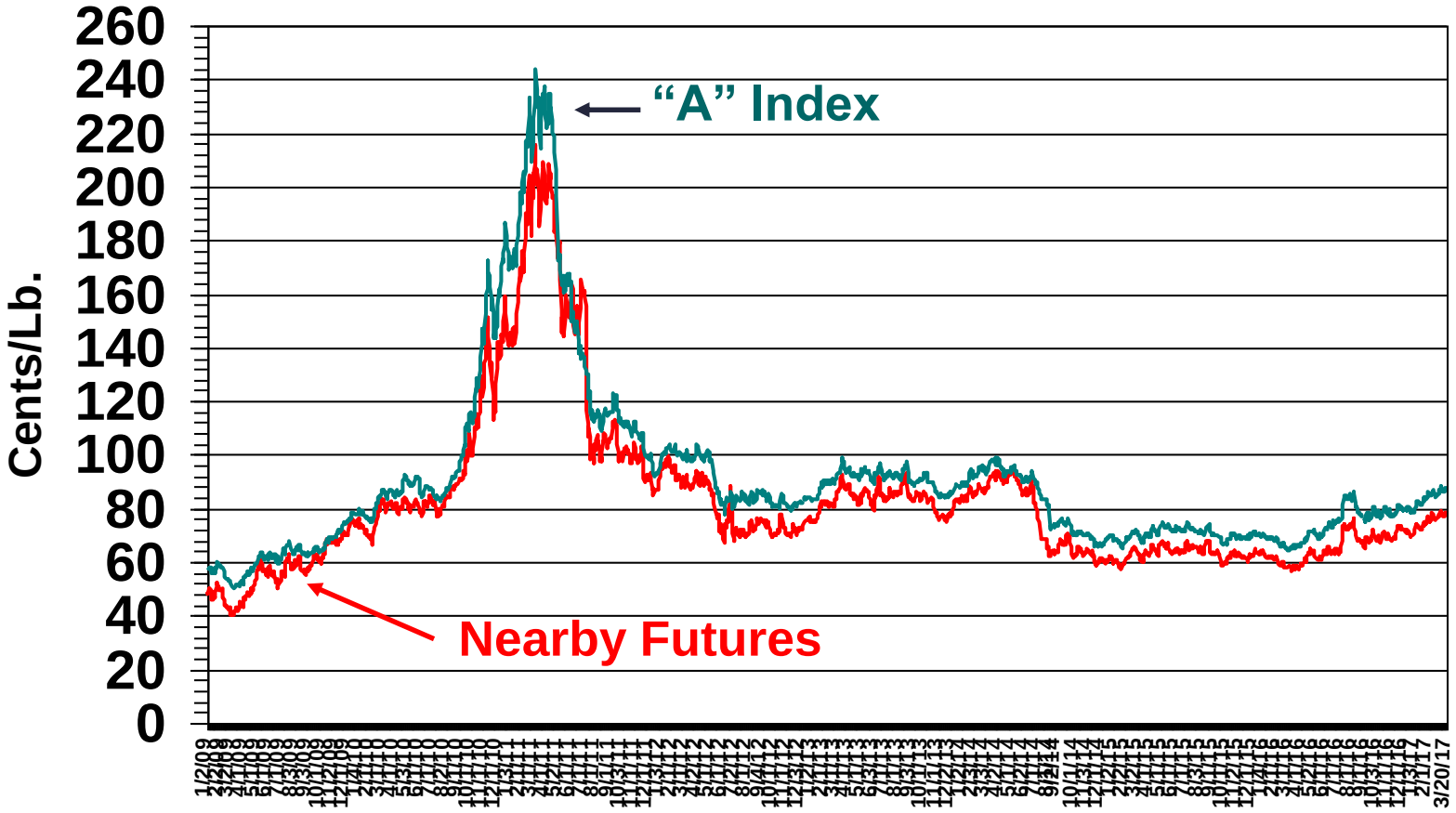
U.S. EXPORT SALES WEEK ENDING 3/23/2017 FAX 202-690-3273	ALL UPLAND 1404					PIMA 1301			
	CURRENT MY		NEXT MY			CURRENT MY		NEXT MY	
	THIS WEEK	YEAR AGO	THIS WEEK	YEAR AGO		THIS WEEK	YEAR AGO	THIS WEEK	YEAR AGO
OUTSTANDING SALES									
KNOWN	4,431.0	2,769.6	1,705.1	1,081.7		157.0	82.2	6.0	0.2
UNKNOWN	0.0	1.8	0.0	0.0		0.0	0.0	0.0	0.0
TOTAL	4,431.0	2,771.4	1,705.1	1,081.7		157.0	82.2	6.0	0.2
OPTIONAL ORIGIN	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
ACCUMULATED EXPORTS	7,874.1	4,430.4	XX	XX		391.2	309.9	XX	XX
EXPORTS FOR OWN ACCT	113.9	41.0	XX	XX		0.0	0.1	XX	XX
NET CHANGE IN SALES	392.3	86.4	84.3	35.2		10.1	12.2	0.9	0.0

	CURRENT MARKETING YEAR				NEXT MY	CURRENT MARKETING YEAR				NEXT MY
COUNTRY	NEW SALES	DEST. CHGS.	CANCEL	EXPORTS	SALES (NET)	NEW SALES	DEST. CHGS.	CANCEL	EXPORTS	SALES (NET)
BELGIUM	0.7			0.1						
GERMANY				0.9						
ITALY	0.1									
TURKEY	98.2		3.3	51.3	2.6	0.1				
JAPAN	1.5	-0.2		2.5	5.3				0.2	
TAIWAN	4.2		1.8	7.7					0.3	
CHINA	32.2	0.4		81.6	13.2	2.9				
INDIA	89.7		5.6	11.9		3.0			4.2	
BAHRAIN	4.2									
BANGLADH	25.1			12.2						
HG KONG				0.3						
INDNSIA	21.5	-0.9		22.0	35.6	2.0				
KOR REP	8.2	-8.0	2.1	18.1	-4.0	0.4				
MALAYSA	20.0	0.1	0.4	6.9						
PAKISTN	2.0	-1.7		29.0	19.8				0.4	0.9
PHIL	2.2			2.6						
THAILND	2.7	0.5		15.2	7.9					
VIETNAM	86.8	9.7	2.3	91.6	1.3				0.4	
MOROCCO	0.9									
BRAZIL	8.8		6.6	5.5						
C RICA				0.5						
COLOMB				2.6						
ECUADOR	0.7			0.6						
GUATMAL	0.9	2.1		3.5						
HONDURA									0.1	
MEXICO	0.7			17.0		0.1		0.3		
PERU	3.2			3.5	2.6	2.0			2.4	
SALVADR		-2.1		6.8						
TOTAL	414.4	0.0	22.1	394.0	84.3	10.5	0.0	0.4	8.1	0.9

https://apps.fas.usda.gov/[illegible]sales/cottfax.htm

Volatility

Cotton Prices: "A" index vs. Nearby Futures



Daily

January 2, 2009 – March 24, 2017

Volatility

- **Futures Can Not**
  - Remove volatility
  - Remove price risk
- **Futures Can**
  - Transfer price risk
  - Lock in prices (futures)
  - Set a floor or ceiling (options)

Implications of Increased Volatility

Put 2010		
Feb. 17, 2010	**Dec. '10 Futures @ 73.13¢**	
	Dec. '10, 73¢ Put Premium	**5.96¢**
	Dec. '10, 63¢ Put Premium	**2.00¢**
	-10¢	**-3.96¢**
Put 2011		
Feb. 8, 2011	**Dec. '11 Futures @ 120.56¢**	
	Dec. '11, 121¢ Put Premium	**18.35¢**
	Dec. '11, 101¢ Put Premium	**8.94¢**
	-20¢	**-9.41¢**
Put 2012		
Jan. 30, 2012	**Dec. '12 Futures @ 93.53¢**	
	Dec. '12, 93¢ Put Premium	**7.40¢**
	Dec. 12, 83¢ Put Premium	**3.23¢**
	-10¢	**-4.17¢**

Volatility

- The Price of Cotton is extremely volatile
- Managing of this price volatility is extremely important to all segments of the cotton trade:
- 1} Avoid financial disaster
- 2} Ability to get financing

Volatile Market

- **Today's market environment includes erratic prices, high production costs, and declining government program payments.**

Volatility

- **Higher Prices have increased the need for access to greater financing**

- **Increased volatility has dramatically increased the risks for the cotton trade and the financial lending institutions**

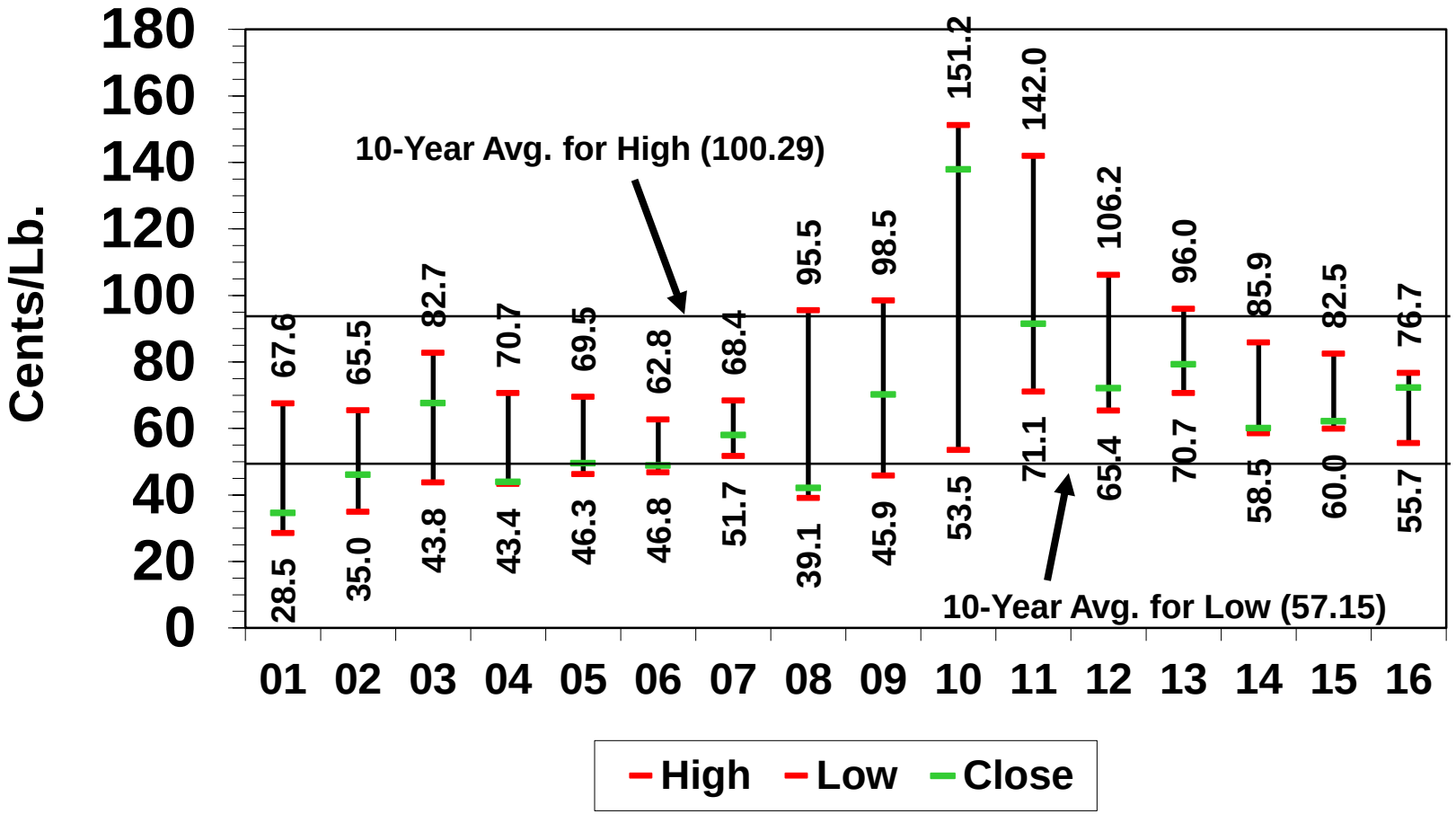
Volatility

- Since 2008 volatility for cotton has increased dramatically
- Price ranges for December futures
- 1991 thru 2007 21 cents per pound
- 2008 61 cents per pound
- 2009 65 cents per pound
- 2010 103.50 cents per pound
- 2011 75 cents per pound
- 2012 43.50 cents per pound

Volatility

- Since 2008 volatility for cotton has increased dramatically
- Price ranges for December futures
- 2013 25.30
- 2014 27.40
- 2015 22.50
- 2016 21.00
- 2017 16.42?? TO DATE

New York Cotton Futures High, Low, and Close Settlement Prices, December Contracts 2001 - 2016



Challenges

- **In a higher and more volatile market, risk management and position become more important to minimize risk and maximize income.**
- **In an erratic market, the key to improving income is to observe world market conditions and develop pricing skills to protect against adverse and unexpected price moves.**

Market Guidelines

- Stay abreast of market forces and be ready to adjust price objectives.
- Consider downside risk versus topside potential.
- Marketing plan helps overcome emotions of fear, greed, and panic.

Profitability

- Operating profitably will usually depend on your ability to manage risk

Price Risk

- **Earnings decline as a result of a change in the level or volatility of prices**

Price Risk

- Being Long or Short Cotton

- Time:
- Buying before selling
- Selling before buying

- Volume:
- Does not cause price risk but is important to the magnitude of the loss

Cotton Price Risk Management

- Risk Assessment
- Quantifying and Identifying Risk

Price Risk Assessment

- 1)Position Analysis: Summarizes physical trading situation.
- 2)Breakeven Analysis: Identifies the price level at which the organization can break even
- 3)Mark to Market: Quantifies the profit and loss at any particular time.

Price Risk Assessment

- 1) Position Risk
- 2) Breakeven
- 3) Mark to Market

Long and Short Positions

- **Long: Own or hold cotton at a fixed price but sales price not fixed yet.**
- **Short: Sold cotton (price is fixed) but have not bought the cotton yet.**

Position Analysis – Pricing and Duration

- How is the cotton priced?
- When is the price fixed (pricing decision made?)
- Is the delivery amount and date known?
- How much time between purchase and sale of the cotton?
- How is the selling price determined?

Breakeven Analysis

- What is the price level at which you are breaking even
- Cost change over time:
- Fixed costs
- Variable costs

Fixed Costs

- Fixed cost include:
- Costs incurred regardless of volume
- Some examples: full time staff, HVIC,
- office costs

Variable Costs

- Seed cotton costs
- Transportation costs
- Ginning and baling costs
- Transportation to port
- Storage, transit and shipping (FOB)

Basis

- Basis is the add on to futures which represents the cost of freight, insurance and the suppliers profit
- Most of the cotton in the world is traded basis futures
- That is current futures price + the current basis

Managing the Basis Risk

- **The basis risk can only be offset by taking an opposite basis position.**

- **Managing the basis risk is not easy and requires a long experience.**

Basis Definition

- **The basis is above (“ON”) or below (“OFF”) a given futures contract month (for example: “300 OFF December”).**
- **The basis widens when the spot price increases more (or declines less) than the futures contract price.**
- **The basis narrows when the spot price increases less (or declines more) or than the futures contract price.**

Basis Risk

- ***Long basis position*** =
- "long" physical + "short" futures:

  - Exposure to risk of basis narrowing

- ***Short basis position*** =
- "short" physical + "long" futures:

  - Exposure to risk of basis widening

Basis Fluctuations

Cotlook A Index minus NY nearby futures (US cents per pound)

Average = +4,5

Sources: Cotton Outlook , ICE Futures U.S.

Two Hedging Vehicles

- Hedge using futures
- Hedge using options

Risk of not using futures and/or options

Cotton Price Risk Management

Minimum Guaranteed Price Contracts

Minimum Guaranteed Price (MGP) Contracts

- **Instead of buying directly a put option, which may not be easy for some producers*, they can conclude a minimum guaranteed price contract with an international trader (their cotton buyer).**

- **With this type of contract, the international trader:**
  - **buys cotton forward at the market price;**
  - **buys put options or call options;**
  - **deducts the premium amount from the market price.**

- **The advantage of an MGP contract compared to buying options directly is that the producer can include the transaction on options in the sales contract and does not have to deal with a derivative broker.**

- **Producers may be smaller domestic cotton traders, for example a smaller cotton producer cooperative, or a ginner, which sells directly to large international traders**

Minimum Price Contract - Example

- **Price of physical cotton for November delivery: 60 cts/lb**
- **Price of the December futures contract: 62 cts/lb**
- **Rather than a fixed price forward contract, the ginner wants a minimum guaranteed price contract in order to benefit from a possible rise in the cotton price.**
- **The cotton merchant buys December call options with a strike price of 62 cents for a premium of 2 cts/lb.**
- **The 2 cent-premium is deducted from the contract to calculate the minimum guaranteed price, ie 58 cts/lb FOB (i.e. the cost of the options has been deducted from the buying price in the forward contract. If the contract had been a fixed price contract it would have paid 2 cts/lb more).**

Minimum Price Contract - Example

Scenario No. 1: the DEC futures contract rises to 67 cents before the expiration of the call option.

- **The ginner has the right to fix the price by adding the increase in the market price, ie 5 cts/lb to the minimum guaranteed price, ie 58 cts/lb.**
- **The merchant exercises the options to buy futures contracts at the strike price, ie 62 cents, and immediately sells the futures at the market price, ie 67 cts/lb.**
- **The merchant pays the ginner the gain realized on the options, ie 67 – 62 = 5 cts/lb.**
- **Final contract price: 58 + 5 = 63 cts/lb.**

Minimum Price Contract - Example

Scenario No. 2: the DEC futures contract drops to 57 cts/lb before the expiration date specified in the contract

- **The merchant does not exercise the call options to buy futures contracts at the strike price, ie 62 cts/lb.**
- **The ginner receives the minimum guaranteed price, ie 58 cts/lb.**

“Collar options”

- **Call Spread (also called Bull Spread):**
  Combination of a long call and a short call with a higher strike price, both with the same maturity.

- **Put Spread (also called Bear Spread):**
  Combination of a long put and a short put with a lower strike price, both with the same maturity.

- **Butterfly Spread:**
  Long strangle + short straddle.

Maximum Guaranteed Price with Put Options

Scenario No. 1: the DEC futures contract declines to 50 cts/lb before the expiration of the put option.

- **The spinner has the right to fix the price by deducting the market decline, ie 5 cents/lb, from the maximum guaranteed price, ie 63 cents/lb.**
- **The merchant exercises the put options by selling futures contracts at the strike price, ie 55 cts/lb, and immediately buying back the contracts at the market price, ie 50 cts/lb.**
- **The merchant pays to the spinner the gain realized on the option, ie 55 – 50 = 5 cts/lb.**
- **The contract final price is 63 - 5 = 58 cents per pound.**

Maximum Guaranteed Price Contract

- **Instead of buying directly a call option, which may be difficult for some spinners, they can enter into a maximum guaranteed price contract with an international merchant.**

- **With this type of contract, the merchant:**
  - **sells physical cotton at the market price;**
  - **buys a put option or a call option;**
  - **adds the amount of the premium to the market price.**

- **The advantage of a maximum guaranteed price compared to buying options directly is that the spinner can include the option transaction into the purchase contract.**

Maximum Guaranteed Price Contract

- Instead of buying directly a call option, which may be difficult for some spinners, they can enter into a maximum guaranteed price contract with an international merchant.

- With this type of contract, the merchant:
  - sells physical cotton at the market price;
  - buys a put option or a call option;
  - adds the amount of the premium to the market price.

- The advantage of a maximum guaranteed price compared to buying options directly is that the spinner can include the option transaction into the purchase contract.

Maximum Guaranteed Price with Put Options

Scenario No. 2: the DEC futures contract rises to 65 cents before the expiration date specified in the contract.

- **The merchant does not exercise the put options to sell futures contracts at the strike price of 55 cents, as they have no value.**

- **The spinner pays the maximum guaranteed price, ie 63 cents per pound.**

Maximum Guaranteed Price with Call Options

- In April, a spinner concludes a purchase contract with a merchant for December delivery at a price to be fixed, with a basis of + 7,5 cents above the DEC futures contract.
- Price of the DEC futures contract in April: 54 cts/lb.
- The buyer wants to protect his position from an increase in price by including a call option into the contract.
- The merchant buys call options on DEC futures with a strike price of 58 cents for a premium of 1.5 cent.
- The 1.5 cent-premium is added to the basis, which gives a net basis of 9 cents, to calculate the maximum guaranteed price: 67 cents/lb CFR (= 58 + 7.5 + 1.5).

Maximum Guaranteed Price with Call Options

Scenario No. 1: the DEC futures contract reaches 66 cts/lb before the expiration of the call option.

- **The spinner has the right to fix the price of the contract by adding the net basis to the market price: 66 + 9 = 75 cts/lb.**
- **The merchant exercises the call options by buying DEC futures contracts at the strike price, ie 58 cts/lb, and immediately selling them back at the market price, ie 66 cts/lb.**
- **The merchant pays the spinner the gain realized on the options , ie 66 – 58 = 8 cents per pound.**
- **Final contract final price: 75 - 8 = 67 cts/lb (ie the maximum guaranteed price).**

Example of Maximum Guaranteed Price Contract with Call Options

Scenario No. 2: the DEC futures contract drops to 50 cents/lb before a date specified in the contract.

- **The spinner has the right to fix the contract price by adding the net basis to the futures market price:**
  - **50 + 9 = 59 cents /lb.**

- **The merchant does not exercise the call options to buy futures contracts at the strike price of 58 cents/lb, as they have no value.**

ECONOMIC PURPOSE OF FUTURES & OPTIONS MARKETS

- **Price Discovery**
- **Risk Shifting *or* Hedging**

Cotton Price Risk Management

The Cotton Futures Market

Futures Hedge

- Take a position in the futures Market to protect cash market position
- A textile mill wants to fix price now but thinks the basis is too high
- Would buy a futures contract

Commodity Futures Exchanges

- **Commodity futures markets were born from the need to transfer price risk to a liquid market.**

- **A “futures” contract is a standardized forward contract traded in a regulated commodity exchange, such as the IntercontinentalExchange (ICE) for cotton.**

Commodity Futures Markets

- **A futures contract is always standardized in terms of volume, quality and maturity. Only the price is negotiable.**

- **Although physical delivery is possible at maturity, only minimal quantities (compared to volume traded) are effectively delivered. Most positions are closed before the beginning of the delivery period.**

Commodity Futures Markets

A futures market has the following functions:

- **Price risk management tool for operators of the sector**
- **Price discovery mechanism for the trade**
- **Source of market information**
- **Speculative investment market**

Commodity Futures Markets

A futures market has the following functions:

- **Price risk management tool for operators of the sector**
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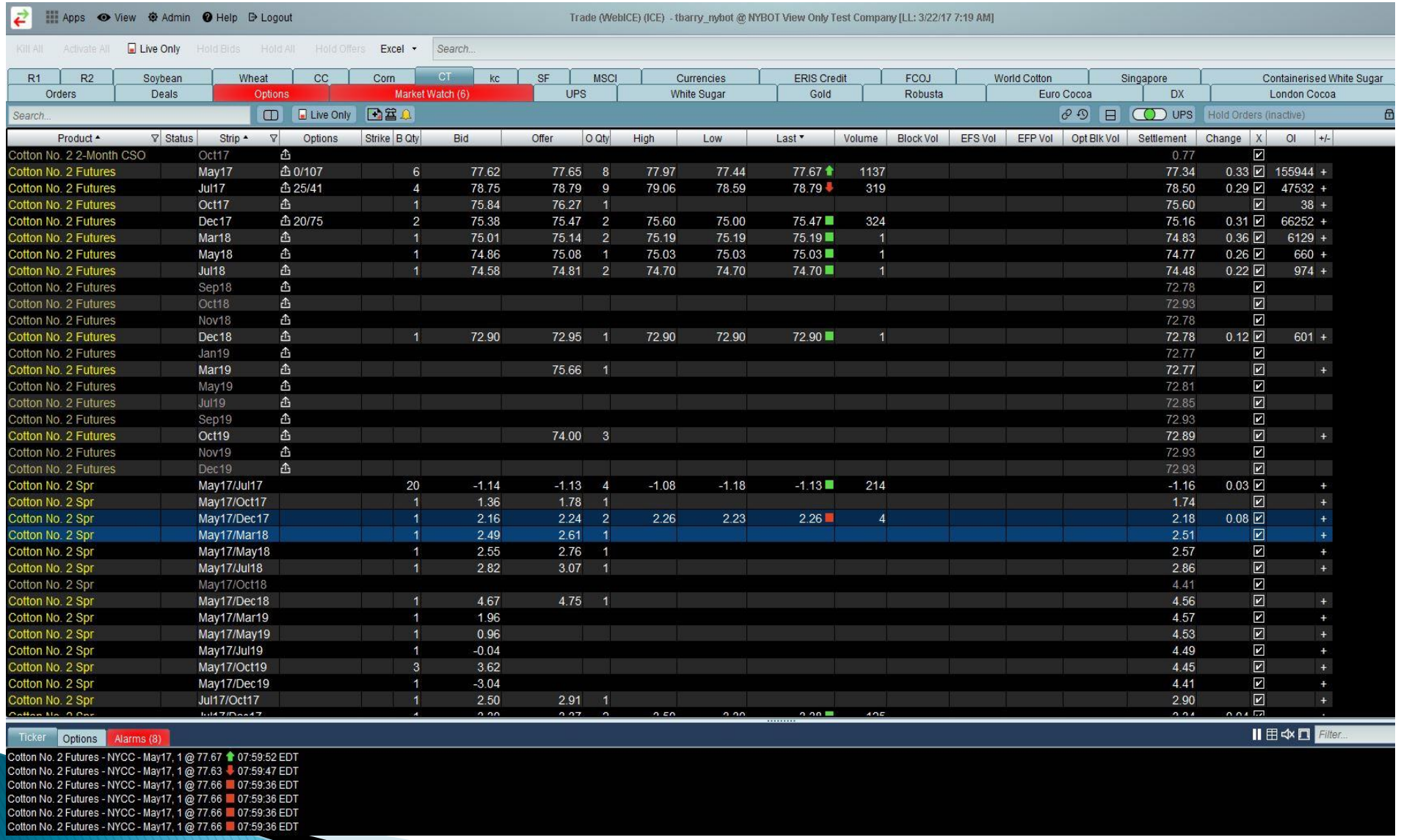
Cotton No. 2 Futures Contract

- **Trading place (electronic transactions only): ICE Futures U.S. / IntercontinentalExchange (New York).**
- **U.S. upland cotton only.**
- **Basis quality: SLM 1-2/32”, G5, 25g/tex.**
-
- **1 contract = 100 bales = 50,000 pounds or 22.68 t.**
- **Trading hours: 9pm the day before to 2:20pm (EST).**
- **Contract Months: March, May, July, October, December (a total of 15 contracts are traded with maturities up to 3 years).**
- **Daily Price Limit: Futures contracts are subject to a daily price limit that can range from 3 to 7 cents per pound.**
- **1st Notice Day: 5 business days before 1st delivery day of spot contract month.**
- **Last Trading Day: 17 business days from end of spot month.**

Types of Orders in Futures Market

- **Market Order:** the client indicates his broker the type of transaction, the number and maturity of futures contracts to buy or sell immediately at the best market price currently available (whatever the level).
- **Market on Open or Market on Close:** the client set restrictions on the time when the transaction should be executed (within the first or the last 15 minutes of the trading session).
- **Time Limit Orders:** Day Order, Good Until Cancelled or Good Though....
- **Price Limit Order:** a sell limit is executed only at the limit price or higher (better), while a buy limit is executed only at the limit price or lower (better).
- **Stop Order:** order to buy or to sell that is automatically executed one a certain floor price or price ceiling is reached.

ELECTRONIC TRADING



Motivations of Futures Markets Operators

Participants	Reasons for buying futures contracts	Reasons for selling futures contrats
Commercial (Hedgers)	Protect against rising prices by locking in a price	Protect against falling prices by locking in a price
Financial (Speculators)	Make a profit from rising prices	Make a profit from falling prices

Who is trading the Market

The market participants have changed dramatically over the years.

Cotton the Early Years

Cotton Industry

Floor Locals

Speculators

Cotton Traders
The Middle Years

The Cotton Industry

Local Traders

Individual Speculators

CTAs

Index Funds

Cotton Traders Today

The Cotton Industry

Individual Speculators

Hedge Funds

Swap Traders

Index Funds

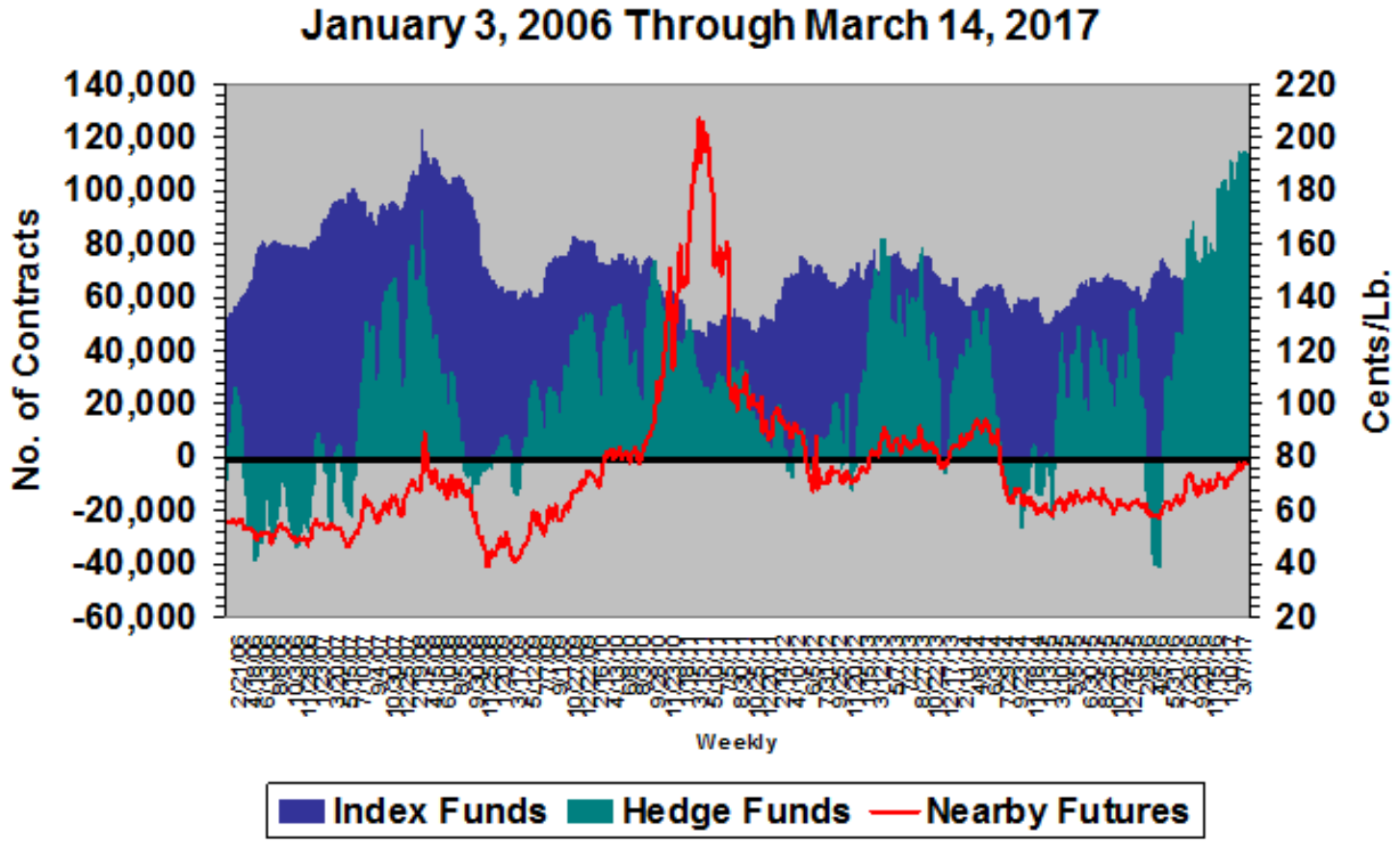
HFTs

Swaps

Swaps

- **Swap transactions: For a fee, trade participant gets hedge without margin call risk.**
  - **–Frees capital for primary business needs and reduces financing worries.**

Managed Money and Swaps



Source: Commitment of Traders Supplemental Report (Futures and Options)

High Frequency Trading

- Automated trading – Black Box trading – Algo trading
- Man vs Machine
- Computers are preprogrammed to initiate a trade without human intervention
- Instruction may include a trade based on timing, differences, quantity and/or price

“Man vs Machine” 3 April 2017

- USA Today
- “Wall Street’s shift from man to machine is moving deeper into the realm of stock picking, a profession once viewed as more art than science.”
- “But powerful computers that can crunch data cheaper and faster than humans are spurring the nation’s biggest money-management firm to rely more on machines to help pick winning stocks and build more profitable portfolios. And all at a price investors won’t balk at. It is the latest salvo in the war between “actively managed” funds, or those run by portfolio managers who use their own brains, investment strategy and company analysis to decide which shares to buy or sell, and “passive” funds that simply mimic the performance of a stock index or base buy-and-sell decisions on rules-driven computer algorithms.”

Algo Traders

HFTs now account for between 50% and 70% of all stock trading

Hfts account for about 40% to 50% of futures trading

Hfts account for about 15% of cotton futures trading

Commodity Futures Markets

A futures market has the following functions:

- **Price risk management tool for operators of the sector**
- **Price discovery mechanism for the trade**
- **Source of market information**
- **Speculative investment market**

Mitigating Price Risk

- **Price risk can be mitigated by buying or selling futures contracts to hedge physical positions.**

- **A physical position is hedged by taking an equal and opposite position in the futures market (“substitute” purchase or sale).**

No Counterparty Risk

- **Every futures market has a clearing house that acts as counterparty for both buyer and seller in each transaction.**

- **Buyers and sellers do not know each other, and there is no risk of default because the clearing house assumes the risk.**

Futures Hedge

- **Advantages**
  - **Protection Against Adverse Price movement**
  - **No Upfront Option Premium**

Futures Hedge

- **Disadvantages**

  No Participation in Favorable Price Moves

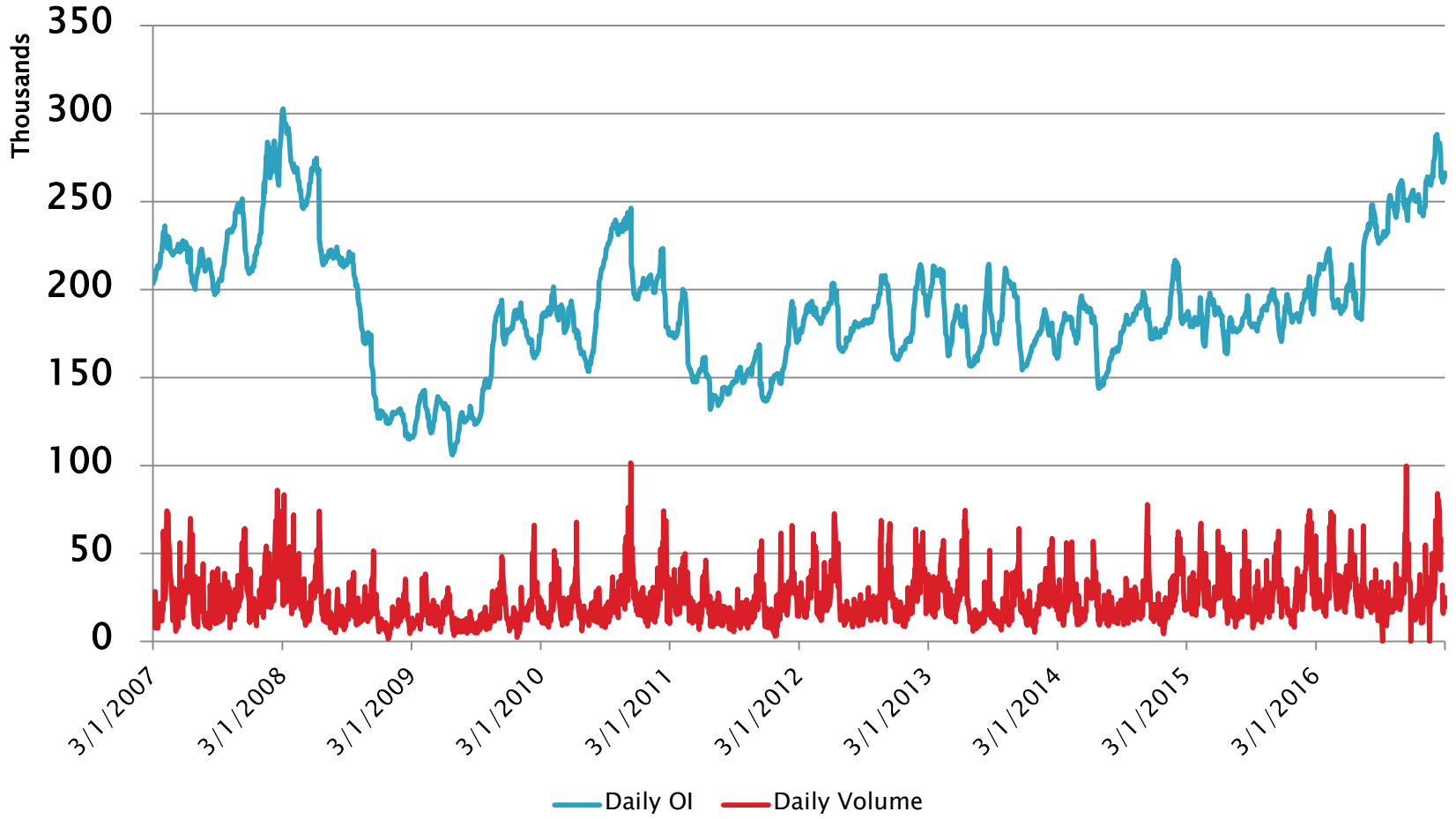
  Basis Risk Remains

  Subject to Margin Calls

Futures Example

- On August 20 buys December Futures at 84 cents per pound
- Has fixed his price, but has not fixed his basis

Cotton No. 2 Volume & Open Interest



Example of Daily Futures Market Report *

Futures Daily Market Report for Cotton No 2
22-Mar-2017

COMMODITY NAME	CONTRACT MONTH	DAILY PRICE RANGE				SETTLE		VOLUME AND OI TOTALS						
		OPEN#	HIGH	LOW	CLOSE#	PRICE	CHANGE	TOTAL VOLUME	OI	CHANGE	EFP	EFS	BLOCK VOLUME	SPREAD VOLUME
CT - COTTON FUTURES														
CT	May-17	76.76	78.18	76.67	77.37	77.34	0.50	16,630	155,291	-653	91	0	0	4,383
CT	Jul-17	78.05	79.30	77.95	78.57	78.50	0.41	7,807	48,468	936	49	0	0	5,177
CT	Oct-17	75.96	76.44	75.54	75.54	75.60	0.12	4	39	1	0	0	0	1
CT	Dec-17	74.93	75.62	74.75	75.25	75.16	0.28	4,392	67,328	1,076	0	0	0	2,032
CT	Mar-18	74.65	75.20	74.65	75.13	74.83	0.18	258	6,248	119	0	0	0	119
CT	May-18	74.53	74.73	74.53	74.73	74.77	0.20	58	661	1	0	0	0	48
CT	Jul-18	74.37	74.65	74.37	74.65	74.48	0.19	29	985	11	0	0	0	16
CT	Oct-18					72.93	0.26	0	0		0	0	0	0
CT	Dec-18	72.67	72.99	72.60	72.90	72.78	0.33	88	683	82	0	0	0	18
CT	Mar-19					72.77	0.33	0	0		0	0	0	0
CT	May-19					72.81	0.33	0	0		0	0	0	0
CT	Jul-19					72.85	0.33	0	0		0	0	0	0
CT	Oct-19					72.89	0.33	0	0		0	0	0	0
CT	Dec-19					72.93	0.33	0	0		0	0	0	0
Totals for CT:								**29,266**	**279,703**	**1,573**	**140**	**0**	**0**	**11,794**

NOTE: The information contained in this report is compiled for the convenience of subscribers and is furnished without responsibility for accuracy and is accepted by the subscriber on the condition that errors or omissions shall not be made the basis for any claim, demand or cause of action.

NOTE: OI information is not available until the next business day.

NOTE: Volume is aggregated and representative of each Futures market strip including applicable TAS and TIC trading activity.

\# Open and Close prices reflect the first and last trade in the market and do not correlate to any opening or closing periods.

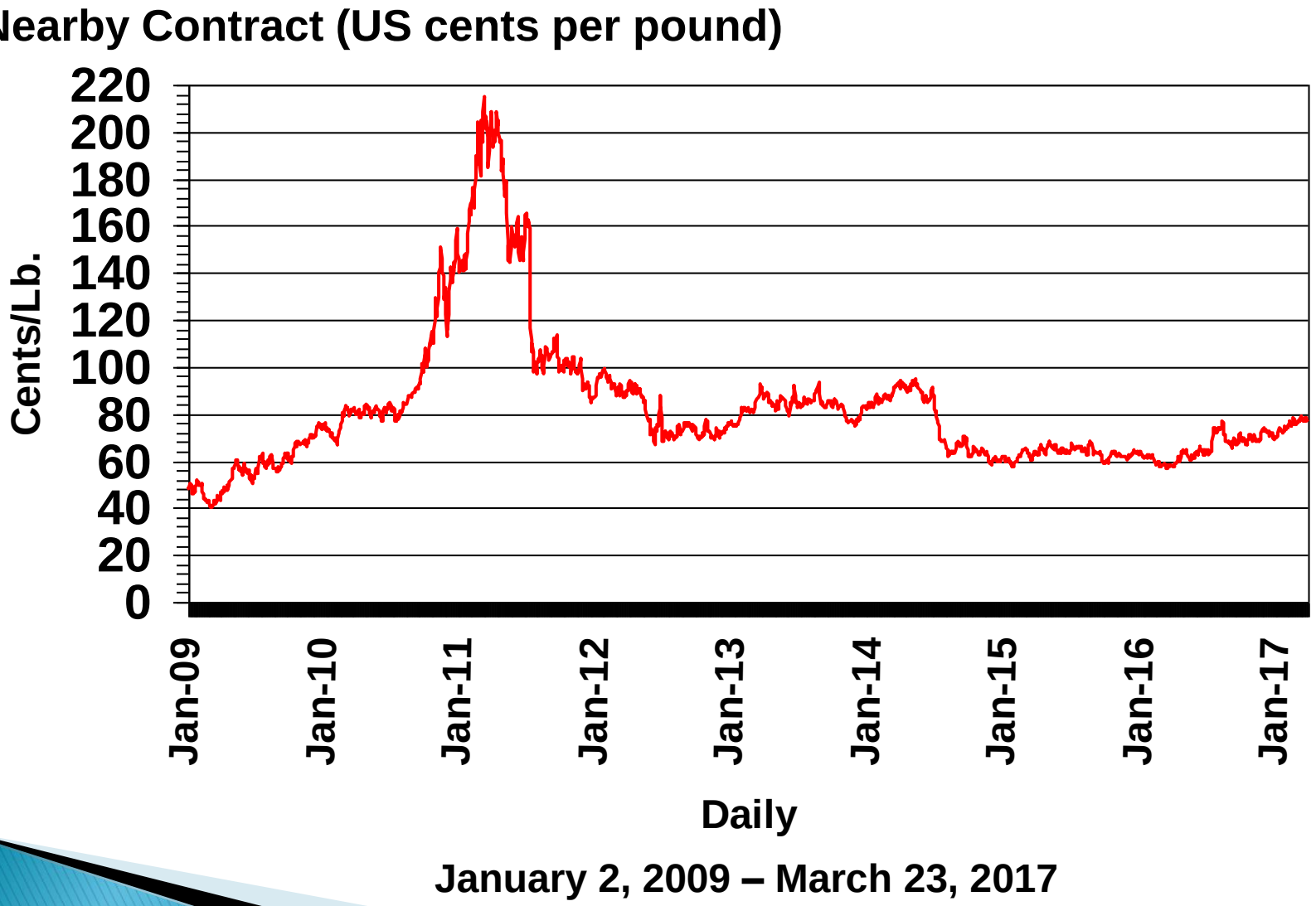
December 2017 Futures Contract Calendar

- **First Trading Day (FTD): January 1, 2015**
- **Last Trading Day (LTD): December 6, 2017**

- **First Notice Day (FND): November 24, 2017**
- **Last Notice Day (LND): December 13, 2017**
- **First Delivery Day (FDD): December 1, 2017**
- **Last Delivery Day (LDD): December 20, 2017**

- **Options on December 2017 futures contract**
  - **First Trading Day (FTD) : January 5, 2015**
  - **Last Trading Day (LTD) : November 10, 2017**

New York Cotton Futures Markets



Symbols of Cotton Futures Contracts

Cotton Contract No. 2	CT
March contract	H
May contract	K
July contract	N
October contract	V
December contract	Z

Buy Options

- **Advantages**
  - —Eliminates outright price risk
  - —Preserves potential benefit from price increase/decrease
  - —No margin calls
  - —Similar to insurance policy with pre-set deductible
- **Disadvantages**
  - —Basis risk
  - —Cost of options

Option Pricing

- Put: Right to Sell
- Premium: Price of Option
- Call: Right to Buy

- Strike: Price at Which the Option May be Exercised
  - —In-the-money
  - —At-the-money
  - —Out-of-the-money

Option Pricing

- **Volatility**
  - **—The amount a commodity can be expected to move (up or down) before expiration**
  - **—The greater the volatility, the higher the premium**

Implications of Increased Volatility

Put 2011		
Feb. 8, 2011	**Dec. '11 Futures @ 120.56¢**	
	Dec. '11, 121¢ Put Premium	**18.35¢**
	Dec. '11, 101¢ Put Premium	**8.94¢**
	-20¢	**-9.41¢**
Put 2012		
Jan. 30, 2012	**Dec. '12 Futures @ 93.53¢**	
	Dec. '12, 93¢ Put Premium	**7.40¢**
	Dec. '12, 83¢ Put Premium	**3.23¢**
	-10¢	**-4.17¢**
Put 2013		
Jan. 30, 2013	**Dec. '13 Futures @ 81.11¢**	
	Dec. '13, 80¢ Put Premium	**5.30¢**
	Dec. '13, 70¢ Put Premium	**1.53¢**
	-10¢	**3.77¢**

Options Hedge

- **Advantages**
- **Protection Against Adverse Price Movement**
- **Allows Participation in favorable Price Movement**

Options Hedge

- **Disadvantages**

- **Option's Premium**

Buy 73 Put for 2017 Crop

	Estimated Cents/Lb.	Your Example
Mar. 22, 2017, Dec. '17 Futures	75.16¢	_____
Buy Dec.'17, 73¢ Put	-3.04¢	_____
Net Value	72.12¢	_____
Cost for 50,000 Lb. Contract =	$1,520	_____

Downside price move covered, upside open

73:66 Put Spread

Mar. 22, 2017, Dec. '17 Futures @ 75.16¢

Buy 73¢ Put Premium	**-3.04¢**
Sell 66¢ Put Premium	**+0.94¢**
Net Cost	**-2.10¢**

Net Price (75.16¢ - 2.10¢) = 73.06¢

Net Cost for 50,000 Lb. Contract = $1,050

75:67 Put Spread

Mar. 22, 2017, Dec. '17 Futures @ 75.16¢

Buy 75¢ Put Premium	**-4.02¢**
Sell 67¢ Put Premium	**+1.14¢**
Net Cost	**-2.88¢**

Net Price (75.16¢ - 2.88¢) = 72.28¢

Net Cost for 50,000 Lb. Contract = $1,440

Short Dec. '17 Futures – Buy Call and Sell Call

(Bull Call Spread)

Mar. 22, 2017 Short Dec. '17 Futures @ 75.16¢	
Buy Dec. '17 Call @ 74¢	-4.67¢
Sell Dec. '17 Call @ 80¢	+2.35¢
Net Premium Cost	-2.32¢
Total Cost, 50,000 Lb.	$1,160

Futures Contracts and Options

Similarities:

- **Traded on an organized commodity exchange.**
- **For each buyer there is a seller.**
- **A clearing house acts as counterparty for buyers and sellers.**
- **Positions can be offset in a liquid market by making an equal and opposite transaction.**

Futures Contracts and Options

Differences:

- **A futures contract creates obligations for both counterparties.**
- **An option gives the buyer the right, but not the obligation, to exercise the contract at any time before the expiration.**
- **The seller accepts the obligation to deliver or receive a futures contract against the premium.**

Futures Example

- You need to buy cotton on November 1
- Current futures price is 110
- You buy cotton at 110 at a basis of 10 cents on futures
- Your cost of cotton is 120
- Your futures profit is 110-84=26 cents
- Your actual cost of cotton is 120-26=94 cents

Futures Example

- What happened?
- You thought cotton prices were going up so you fixed your price before you went into the market and bought your cotton

MILL HEDGING

In general, mills are:

- **Hedging exposure to raw cotton acquisition cost**

MILL CHOICES

- Hope and don’t fix cash
- Fix cash and hope
- Buy futures against unfixed cash need
- Buy call options, cash unfixed
- Fix cash cost, buy put options

Hoping is like

Two of the Most Useful Mill Strategies

- Call Sales
- Maximum Price Contracts

Call Sales

- **Call Sales- Sales of cotton-Price not yet fixed**
- **Price fixed at the discretion of mill buyer**
- **Assures supply without having to fix price**

Call Sale

- Assures your supply when you want it, but you don't have fix the price
- You control when you fix the price
- You have up to the month prior to the futures delivery month to fix the price
- You fix the price by watching the futures market and when you think the time is right, you fix price

Cotton On-Call Weekly Report 10

"On call" positions in spot cotton based on New York Cotton futures reported by merchants in special account status[1] as of March 10, 2017 (in Contracts)

Futures Based On:	Call Cotton Based New York				Open Futures Contracts ICE Futures U.S.	
	Unfixed Call Sales	Change From Previous Week	Unfixed Call Purchases	Change From Previous Week	At Close 03/10/2017	Change From Previous Week
March 2017	0	0	0	0	1	-34
May 2017	36,216	-3,147	2,677	-433	159,703	-1,698
July 2017	42,828	2,095	2,757	599	47,715	-3,382
October 2017	0	0	0	0	36	3
December 2017	19,936	1,451	17,745	781	58,654	8,712
March 2018	9,835	1,000	885	687	5,852	265
May 2018	4,969	1,235	526	521	552	-78
July 2018	3,502	379	507	66	825	106
October 2018	0	0	639	176	0	0
December 2018	1,202	44	2,569	467	506	204
December 2019	0	0	1,320	0	0	0
Totals	118,488	3,057	29,625	2,864	273,844	4,098

[1] Merchants with futures positions of 100 or more contracts in one future.

Released after 3:30 p.m., Eastern Time, March 16, 2017.

Cotton On-Call, Weekly Report 12 (ISSN: 1945-3442)

	Call Cotton Based New York				Open Futures Contracts ICE Futures U.S.	
Futures Based On:	Unfixed Call Sales	Change From Previous Week	Unfixed Call Purchases	Change From Previous Week	At Close 03/24/2017	Change From Previous Week
May 2017	27,775	-5,502	2,247	-40	151,876	-8,418
July 2017	44,584	1,015	3,571	738	52,075	3,406
October 2017	0	0	0	0	38	-1
December 2017	23,466	1,966	19,417	740	69,808	5,136
March 2018	11,622	831	1,412	315	6,568	662
May 2018	4,898	463	508	503	690	112
July 2018	4,362	155	1,540	1,022	1,094	141
October 2018	0	0	639	0	0	0
December 2018	1,506	61	1,927	-1,163	685	91
March 2019	67	0	0	0	0	0
December 2019	0	0	1,320	0	0	0
Totals	118,280	-1,011	32,581	2,115	282,834	1,129

http://www.cftc.gov/marketreports/cottononcall/index.htm

Cotton Price Risk Management

Advanced Hedging Strategies

Buying “Plain” Put Options

- **The producer or ginner is protected against price declines and can benefit from price increases.**
- **However, options have an initial cost to pay upfront that can be very expensive.**

“Rolling Up” a Put Option

Phase 1

- **In March, a ginner purchases an October put option “at-the-money” with a strike price of 75 cents in return for payment of a 2 cent-premium.**

- **Assuming that the usual basis of physical cotton is zero (“EVEN NY”), the ginner has established a floor price of 73 cts/lb (excluding commissions and interests).**

“Rolling Up” a Put Option

Phase 2

- **In July, the price of the October futures contract rises to 82 cents.**
- **The ginner decides to raise the level of his protection, and sells the put option back.**
- **The price of the put option has declined from 2 to 0.25 cent.**
- **Net cost of the operation:1.75 cent/lb.**

“Rolling Up” a Put Option

Phase 3

- **The ginner buys a December put option “at-the-money” with a strike price of 82 cents in return for payment of a premium of 3 cents.**

- **The new floor price is equal to:**

  82 (strike price) - 3 (premium of option bought) - 1.75 (net premium of option sold back) = 77.25 cents/lb.

Synthetic Put Example

- **The ginner sells cotton for future delivery at a fixed price of 65 cents per pound.**

- **At the same time, the ginner buys a call option with a higher strike price, ie 68 cents, for a premium of 2 cents (excluding commissions and interest).**

Synthetic Put Example

Cash Sales Price	Call Strike Price	Premium	Futures Price	Option Net Result	Net Sales Price
65	68	-2	55	-2	63
65	68	-2	60	-2	63
65	68	-2	65	-2	63
65	68	-2	70	0	65
65	68	-2	75	+5	70
65	68	-2	80	+10	75
65	68	-2	O85	+15	80

Combined Options: “Collar”

- **Combination of purchase and sale of options so that premiums paid and received partially offset each other.**
- **The ginner is protected from prices falling below a floor price.**
- **However, the ginner benefits only from a portion of any price increase, and gives up the exposure to benefial price movements above a price ceiling.**
- **Hedging cost is reduced compared to purchasing a plain put option by selling a put option with a higher strike price.**
- **The seller of an option is exposed to margin calls.**

“Collar options”

- **Option Spread:**
  Position combining 2 options or more on the same underlying futures contract.

- **Straddle:**
  Position combining a put and a call with the same maturity and the same strike price (initially at-the-money).

- **Strangle:**
  Position combining a put and a call with the same maturity and the same strike price (initially out-of-the money).

- **Collar (or Fence):**
  Spread combining a long (short) call land a short (long) put, both out of the money and with the same maturity.

“Participatory” Compound Options

Example of combination of 3 options:

1. **Purchase a put option with a strike price of 56 cents for a premium of 1.68 cent.**

2. **Sell a call option with a strike price of 56 cents for a premium of 5.79 cents.**

- **Net gain from the 2 transactions : 5.79 – 1.68 = 4.11 cents .**

3. **Purchase a call option with a strike price of 59 cents for a premium of 4.09 cents.**

- **Net result of the 3 transactions = 0 (minus commissions).**

“Participatory” Compound Options

Example of combination of 3 options:

1. **Purchase a put option with a strike price of 56 cents for a premium of 1.68 cent.**

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3. **Purchase a call option with a strike price of 59 cents for a premium of 4.09 cents.**

- **Net result of the 3 transactions = 0 (minus commissions).**

“Bear Put Spread” Example

- **In June, a ginner wants to protect the price of a part of his coming production by using a combination of put options.**

- **Price of the December futures contract: 75 cents; put options on this contract :**

Strike Price	Premium
75	3.50
74	3.25
73	3.00
72	2.75
71	2.50
70	2.25
69	2.00
68	1.75

“Bear Put Spread” Example

- **The ginner buys a put option “at-the-money” (strike price 75 cents) for a premium of 3.50 cents.**
- **At the same time the ginner sells a put option with a higher strike price, 70 cents, and receives a cash payment of 2.25 cents for the premium.**
- **Hedging net cost:1.25 cent per pound(minus commissions and interest).**

“Bear Put Spread” Example

DEC Futures Price	Value of 75 Put Bought	Value of 70 Put Sold	Net Premium	Outcome
60	15	10	1.25	+3.75
65	10	5	1.25	+3.75
70	5	0	1.25	+3.75
71	4	0	1.25	+2.75
72	3	0	1.25	+1.75
73	2	0	1.25	+0.75
74	1	0	1.25	-0.25
75	0	0	1.25	-1.25
80	0	0	1.25	-1.25
85	0	0	1.25	-1.25

“Participatory” Compound Options

Combination of 3 options:

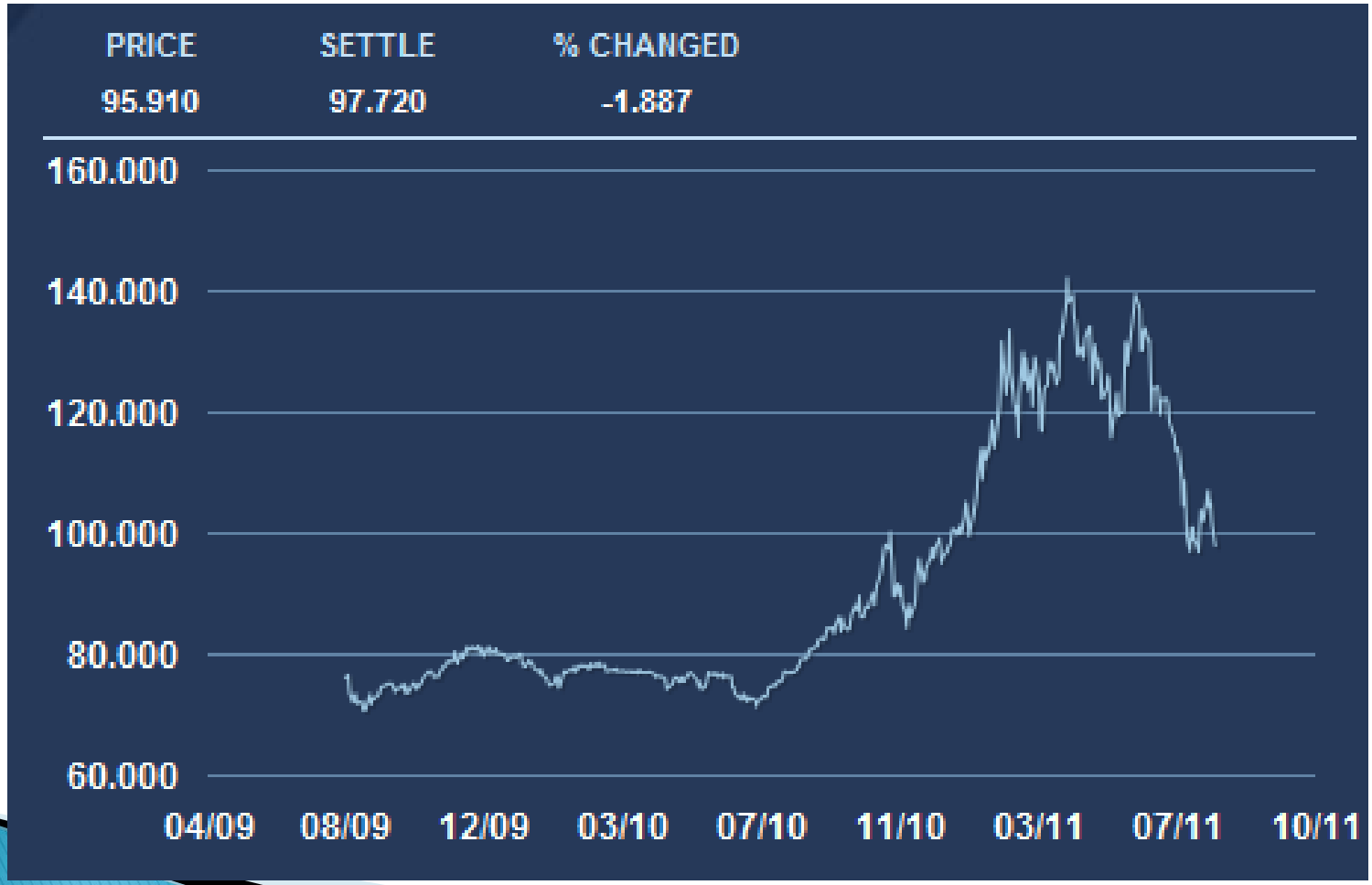
- **The ginner protects against lower prices by purchasing a put option.**
- **Not wanting or not being able to pay cash for the put premium, the ginner finances it by selling a call option.**
- **By choosing the right combination of put to buy and call to sell, the ginner generate a net profit and uses it to buy another put option with a higher strike price, which allows him to benefit from an eventual market rise.**

Strategies Compared

Market Price (cts/lb)	Spot Sales	Forward Sales	Collar (57-63)	Compound Options (56-59)
40	40	60	57	56
45	45	60	57	56
50	50	60	57	56
55	55	60	57	56
60	60	60	60	57
65	65	60	63	62
70	70	60	63	67
75	75	60	63	72
80	80	60	63	77

Cotton Price Volatility

Cotton prices are highly volatile:



Source: theice.com (December 11 future contract)

Fix Cash Cost & Buy Put Options

- **Advantages**
  - **Eliminates outright/basis price risk**
  - **Preserves potential benefit from price decline**
  - **No margin calls**
- **Disadvantages**
  - **Cost of Options**

Fix Price and Buy Put

Maximum Price Contracts

Maximum Price Contract

- Allows your establish the maximum price you pay for your cotton
- If the price goes down you pay the price
- If the price goes up you have already established your price at the lower price

Mill Hedge Example
Assumptions

- Mill is hedging cotton for Dec/January delivery
- Cash/futures basis is 10 cents on

Buy Cotton 01/08/17

- Fix price basis futures 84 cents
- Basis 10 cents on
- Total cost 94 cents

Protect with Put Option

Cotton cost 94 cents

84 cents futures + 10 cents on

Buy 84 cent put option

Cost of option 3.92 cents

Maximum cost 97.92 cents

Futures Price goes to 110

Maximum Price is already fixed

- Cost of cotton 97.92 cents

Synthetic Put Example

- **The ginner sells cotton for future delivery at a fixed price of 65 cents per pound.**

- **At the same time, the ginner buys a call option with a higher strike price, ie 68 cents, for a premium of 2 cents (excluding commissions and interest).**

Price goes down to 58 cents

- Price of futures is now 58 cents

+ basis 10 cents on

+ cost of option 3.92

- Your cost 71.92

Results
Cost of Cotton
In cents per pound

Futures Price	w/o option	w/option
84	94	97.92
110	94	97.92
58	94	71.92

Mill Buying Strategies

- Talk to your supplier (Merchant – Cooperative)
- Develop a strategy to ensure your supply and to minimize the price using futures and/or options

Hedge your Hedge

- **Develop strategies using a combination of futures, long options and short options to create price protection while at the same time protecting against potentially harmful margin calls**

Thank You

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The much talked about 2017 prospective plantings report for U.S. cotton was released Friday with little fanfare. The report indicated growers would plant 12.2 million acres, up 21 percent from 2016 and had been expected by most market participants. This represents an increase of 2.16 million acres above the prior year's plantings and is reflective of 2016 yields, quality and prices. First and foremost the plantings represents a price response, but growers also noted exceptional yields and the quality of the 2016 crop. Major increases were across all states with Texas showing an increase of 1,250,000 acres, up 22 percent from 2016. This sets the stage for December futures to continue a very slow price deterioration into actual plantings. However, while Mother Nature has provided an abundance of subsoil moisture, she has been slow this spring to providing planting moisture. Much of the U.S. is deficient in topsoil moisture, but the time period is ripe for moisture: April Showers Bring May Flowers. The full report can be viewed at the following location and also indicates acreage expectations for other crops. Note that increase in cotton planting was at the expense of corn and wheat.

U.S. export sales continue, as they have all year, on track to reach 16 million bales. We have said since November that actual shipments would not reach that level and frankly are surprised that the pace has lasted year long. However, the pace of shipments does project to 14 million bales and that has been a target since November. However, we should expect to see U.S. exports climb to 14 million bales during the current 2016-17 marketing season. While it has been more painful than pulling teeth to get USDA on that bandwagon, they did make an unprecedented adjustment last month and increased their estimate 500,000 bales, up to 13.2 million bales. Last week, we suggested that the U.S. number would be 13.7 or higher, but it is "the higher" that must be forecast now. As stated all year, the record quality crop harvested by U.S. growers in 2016 came at a perfect time for world import needs and global mills have scrambled all year to obtain the high quality, relatively underpriced U.S. production. Thus, USDA will eventually lower its U.S. ending carryover from the current 4.5 million bale estimate to 3.7-3.8 million bales. Essentially, the U.S. will sell every single bale produced in 2016. The U.S. has enjoyed essentially two months of weekly export sales totaling about half a million bales each week.

Net export sales for the week ending 3/23/2017 were 392,300 RB of Upland and 10,100 RB of Pima. Sales for marketing year 2017-18 totaled 85,200 RB. Sales to Vietnam, Turkey, China, India and Bangladesh lead the way. It has been the sales to China and India that were underestimated by USDA, although the general desire for the high quality U.S. crop was also underestimated. Export shipments continue bursting at the seams as weekly Upland shipments totaled 394,000 RB and Pima deliveries were 8,100 RB. With more than seventeen weeks left in the marketing year, more than a quarter of the year, export sales and shipments already 13 million bales. Thus, the seemingly otherwise "outlandish" export forecasts I present are well within reach and consistent with recent trends. Too, the U.S. is benefiting from problems in Australia and India.

The on-call sales accumulation continue as a bullish fundamental in the market, but it is clear the big funds and small speculators are letting the mills out of the market. With end of the month and end of the quarter profit taking to shore up their books and record very large profits, funds have allowed mills to somewhat alleviate their troubles. May on-call sales were reduced 5,502 contracts on the week and the ratio of on-call sales to on-call purchases was lowered to a manageable 10 to 1 ratio. However, mills somewhat kicked the can down the road as July oncalls sales increased 1,015 contracts meaning that the price of some 450,000 bales must be fixed by mid-June on the July contract alone. Thus, the old crop July contract will continue to find good support from both export sales and on-call mills sales. While the market highs are in, the market will not be diving lower. Old crop price slippage can be expected, but it will be limited.

More news has been forthcoming from the Sea Grant Consortium in the United States. Cotton and all of U.S. agriculture has been a primary benefactor of excellent research from the U.S. Land Grant system. We have written in the past regarding some companies desire to manufacture and sale cheaply constructed garments of polyester, further noting the very high profit potential that drives those companies to promote inferior products. Too, as those same companies began to see the handwriting on the wall with respect to their liability of pollution they have poured billions of dollars into an advertisement program they reference as “sustainability.” Now, the cousin to the Land Grants, the newer Sea Grant university research is beginning to compile a long list problems created for sea life and for world water resources created by “plastic fiber.” That is the production of polyester, a highly non sustainable fiber. Specifically, this plastic fiber is polyester and it is now being found in the gills and body tissues of sea life. Thus, while Nike and Adidas have become the world leaders manufacturing and marketers of casual attire and providing at no cost (as in free) such products for Land Grant and other University sporting teams, those same companies must now face the widespread pollution they are causing to local environments as well as to the world seas. Mother Nature’s natural fiber, cotton, has lost significant market share to that same plastic fiber and losses continues to escalate. There is a bit of irony that the Sea Grant University may have to save the cotton industry, an industry actually built by the Land Grants. Cotton will survive. Its production is very resource efficient and it is the world’s primary sustainable and environmentally friendly fiber.