

1995 Cotton Management Economic Notes

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Time or Past-Time to Put in Price Floor?

Overall, cotton prices have been quite bullish this spring. But new crop contracts dropped the expanded 300 point limit after the Memorial weekend and followed on Wednesday with almost another limit drop. Rains across much of the High Plains improved planting conditions so that the remaining 50-55% of the cotton acreage in Texas can be planted. With a limit or near limit down price movement two days in a row many producers may be reassessing how much price risk they are willing to take on this year.

Producers that didn't use hedging said that they chose not to hedge because they have a disapproving view of options and futures or they don't satisfactorily understand how to hedge. A few hedging strategies with options and futures are analyzed below with a 10¢/lb. increase or decrease and no change in the market to aide in understanding hedging alternatives available.

Risk Attitudes

A survey of California producers' risk attitudes was recently completed by Steve Blank and Jeffrey McDonald of UC Davis. *Output and input price uncertainty ranked at the top of their risk concerns.* Then production risks of pest infestations, drought, freeze, disease, and floods followed. Cotton producers are fortunate in that they have a relatively wide array of tools available for reducing risk. Crop Insurance, government programs, forward contracting, and hedging with futures and options are tools available for cotton growers that most other crops don't have. Of the cotton producers surveyed, 25% said that they use hedging as a risk management

Possible Market Strategies

Strategies considered are; 1) hedging with December Futures, 2) selling in the cash market in December, 3) buying a 75¢ put, 4) buying a 85¢ put, 5) bull spread, 6) bear spread, and 7) synthetic put. Hedging with December Futures requires a grower to sell December futures now. All futures contracts are sold in 50,000 lb. increments so to be on the conservative side you shouldn't instruct your broker to sell more contracts than what you expect to grow. If the market were to rise and you didn't have a pound of cotton to sell in the cash market for each pound you sold in the December Futures, you will decrease your net price received. But if you have a pound of December Futures sold for each pound you grow you will lock in a price of 77.7¢/lb. (less a small brokerage fee and possible margin expense), regardless how much the market goes up or down.

<u>Recent Prices</u>	<u>June 5, 1995</u>	
	<u>Upland</u> (¢/lb)	<u>Pima (ELS)</u> (¢/lb)
Spot - uncompressed	108.75	125.25
July '95 Futures	107.75	
Oct '95 Futures	83.61	
Dec '95 Futures	78.45	
Adj. World Price	76.33	

Note: Upland Spot for Desert SW grade 31-3, staple 35, add 300 points for compressed bales, Pima Spot for DSW grade 03, staple 46,5/25/95. Adjusted World Price for 6/01/95.

As shown in the table on the following page, gains (losses) in the futures market are offset by losses (gains) in the cash market. The net price you can expect in December is the selling price of the December futures plus the expected basis (cash minus futures) in December. For example, if the market falls by 10¢/lb. you would sell your cotton in the cash market for 67.7¢/lb. (68.45-.75). But you will make 10¢/lb. in the futures market by buying back December futures at 68.45 that you previously sold for 78.45 on June 5th.

Strategies 3) through 6) involve options and a wider array of hedging alternatives. Buying a put provides price protection for when prices decline but also allows for the producer to benefit from significant price increases. Recall that a put is the right to sell at a specified strike price but not the obligation. To obtain this right, a premium is paid to the writer of the put. The purchase of a put with a lower strike price performs better if the market increases significantly. This is because a lower premium is required for the right to sell at the lower strike price and the put options have no value or expire "out-of-the-money" if the market advances above their specified strike price. This is why strategy 3) yields a higher net price than strategy 4) with a 10¢ price increase.

The bull and bear spreads are attractive to many since the **premium cost of buying a put option is offset entirely or at least partially by the moneys received from selling a call option.** A bull spread is made by writing a call option for a strike price that is higher than the put option. Recall that a call option is the right to buy at a specified strike price but not the obligation to buy. Unlike purchasing an option, writing a call or put option requires maintaining a margin account like when hedging with futures.

Market losses from price advances beyond the strike price of the purchased call option are offset by corresponding price increases in the cash market — making a price ceiling. Price declines below the strike price of a purchased put option increase in value to offset corresponding price decreases in the cash market — making a price floor. The price floor provided by the put and ceiling placed by the call are why these spreads are often referred to as a fence. The synthetic put is essentially the same as buying a put option. This strategy is commonly used if you are ready to ship your cotton but you have a bullish outlook.

Historical prices indicate that futures and options are a viable tool for minimizing price uncertainty. Between 1987 and 1994, the December futures market explains over 93% of the weekly price variation in the DSW 31/35 spot market. Many cotton growers agree since they are utilizing hedging as a tool for reducing price uncertainty this year. As of April 1, growers in the West, Southwest, Delta, and Southeast had used some form of forward pricing for 46%, 21%, 44%, and 35% of their anticipated plantings. Overall, higher prices have enticed US growers to increase their acreage hedged from 16% last year at this time to 32% this year.

Strategy	Price or Premium* (¢/lb.)	Change in Dec. Futures Price		
		-10.00 (¢/lb.)	0.00 (¢/lb.)	+10.00 (¢/lb.)
1) Sell Futures @	78.45			
loss or gain in futures		+10.00	0.00	-10.00
Net Price Realized		77.70	77.70	77.70
2) Sell Cash in Dec. (no hedge)				
Net Price Realized		67.70	77.70	87.70
3) Buy 75 Put @	3.37			
loss or gain from put		+3.18	-3.37	-3.37
Net Price Realized		70.88	74.33	84.33
4) Buy 85 Put @	8.97			
loss or gain from put		+7.58	-2.42	-8.97
Net Price Realized		75.28	75.28	78.73
5) Fence (Bull Spread)				
Sell 85 Call @	2.66	+2.66	+2.66	-0.79
Buy 75 Put @	3.37	+3.18	-3.37	-3.37
Net Price Realized		73.54	76.99	83.54
6) Fence (Bear Spread)				
Sell 75 Call @	6.73	+6.73	+3.28	-6.72
Buy 85 Put @	8.97	+7.58	-2.42	-8.97
Net Price Realized		82.01	78.56	72.01
7) Synthetic Put				
Sell Dec. Futures @	78.45	+10.00	0.00	-10.00
Buy 85 Call @	2.66	-2.66	-2.66	+0.79
Net Price Realized		75.04	75.04	78.49

* Average (1987-1994) maturity basis of -.75¢/lb. for DSW 31/35 is used above for determining the cash price in December. Prices and premiums above are 6/05/95 closing prices. Broker fees and possible margin expenses will reduce your net price realized slightly.