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Details of the Proposed Stacked Income Protection Plan (STAX) Program for Cotton Producers and Potential Strategies for Extension Education

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The new Farm Bill could lead to significant changes for commodity producers. The potential impact of these changes on cotton producers is examined. In particular, the difference between the existing Direct and Counter-Cyclical Payment Program and the new Stacked Income Protection Plan (STAX) for cotton producers is discussed. An illustrative example is provided to show how payments to cotton producers could potentially differ for a specific year under various programs. Detailed information on STAX calculations and a STAX payment calculator is included to assist with the development of Extension programs targeted to cotton producers, landowners, and bankers.

Key Words: 2012 Farm Bill, CCP, DCP, DP, STAX

JEL Classifications: Q12, Q18

The new Farm Bill could lead to significant changes for commodity producers. Both the House and Senate versions of the 2012 Farm Bill (as released prior to February 2013) include significant changes to commodity and crop insurance programs. Combined commodity and crop insurance changes are similar in both bills with a few key differences in program details. Several commodity programs will be eliminated, including Direct Payments (DP), Counter-Cyclical Payments (CCP), the Average Crop Revenue Election (ACRE) program, and the Supplemental Disaster Assistance program.

Both the House and Senate bills include a shallow loss revenue protection commodity program and county-level crop insurance programs to cover a portion of the individual producer's crop insurance deductible. The House bill also adds a price protection commodity program similar to the CCP program from the 2002 and 2008 Farm Bills with updated target or reference prices. In both versions of the Farm Bill, producers are provided with choices. In the Senate bill, producers would have the option to enroll in a revenue protection program and choose farm-level or county-level coverage. Producers would also have the option to enroll in the Supplemental Coverage Option (SCO) crop insurance program. In addition, producers could choose not to enroll in the revenue protection program and only enroll in SCO with a wider coverage band. In the House bill, producers would have a choice between a shallow loss revenue protection program and a price protection program. Producers who choose the price protection program would be eligible to enroll in the SCO program.

A key change in the new Farm Bill is that the Title I shallow loss revenue protection program and the price protection program

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Table 1. Commodity Safety Net Programs

Program	House	Senate
DP	No	No
CCP	No	No
ACRE	No	No
SURE	No	No
County Revenue Protection	Yes	Yes
Farm Revenue Protection	No	Yes
Price Protection	Yes	No
SCO	Yes	Yes
STAX (cotton)	Yes	Yes
Marketing Loans	Yes	Yes

DP, Direct Payments; CCP, Counter-Cyclical Payments; ACRE, Average Crop Revenue Election; SURE, Supplemental Disaster Assistance; SCO, Supplemental Coverage Option; STAX, Stacked Income Protection Plan.

would not be available to upland cotton producers. Instead, cotton producers would have the option to enroll in either the SCO program or a new crop insurance program specifically for cotton producers, called the Stacked Income Protection Plan (STAX). The SCO and STAX programs are very similar but the producer portion of the premium is lower with STAX. Table 1 provides a summary of the commodity and crop insurance programs in the House and Senate bills.

The potential impact of these changes on cotton producers was examined. Specifically, the difference between the existing Direct and Counter-Cyclical Payment Program (DCP) and the new STAX program for cotton producers is discussed. An illustrative example is provided to show how payments to cotton producers could potentially differ from 2002 to 2011 under various programs. Detailed information on STAX calculations and a STAX payment calculator are included to assist with the development of Extension programs targeted to cotton producers, landowners, and bankers.

Program Details: Stacked Income Protection Plan for Upland Cotton

Both the House and Senate bills include a STAX crop insurance program specifically for upland cotton producers that originated from the National Cotton Council. The difference between the House and Senate versions of

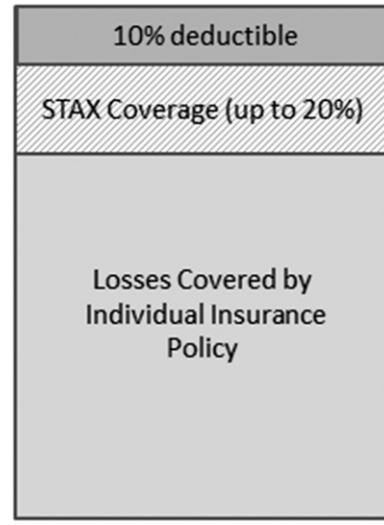

Figure 1. Stacked Income Protection Plan (STAX) Coverage vs. Individual Buy-Up Coverage

STAX is the inclusion of a minimum reference price in the House version of $0.686/lb. The STAX program is a crop insurance product similar to a Group Risk Income Protection (GRIP) policy in which producers would pay a premium and receive indemnity payments. The STAX program is designed to cover county-wide revenue losses and complement a producer's individual insurance policy. This is a new concept because producers have not previously been allowed to stack insurance policies for the same crop. However, an individual policy is not required for STAX coverage. If the producer does have an individual policy, STAX would sit on top and cover losses ranging between 10% and 30% of expected county revenue (Figure 1), so 70–90% coverage is available with STAX.

Overlap between products is not allowed, which means that producers with 80% coverage on their individual policy could only get up to 10% coverage under STAX. Producers with 70% coverage on their individual policy could get up to 20% STAX coverage. Most cotton producers in the United States have a coverage level of 70% or lower on their individual policy, so the maximum STAX coverage level would apply. The coverage level is available in 5% increments, so producers could choose 5%,

Table 2. Stacked Income Protection Plan (STAX) Calculations

How are Prices Determined?	Projected price	Futures price at planting
	Harvest price	Futures price at harvest
	Reference price	$0.6861 in House bill (not included in Senate bill)
	Expected price	House: Higher of projected or reference price Senate: Projected price
How is County Revenue Determined?	Expected county yield	Higher of: Expected county trend NASS yield or 5-year moving average county NASS yield
	Expected county revenue	House: Expected county yield * higher of projected or reference price Senate: Expected county yield * projected price
	Final expected county revenue	House: Expected county yield * higher of: projected price or reference price Senate: Expected county yield * projected price
	Actual county revenue	Actual county NASS yield * harvest price
How is the Maximum Coverage Level Calculated?	Range of coverage	Minimum of: 20% or (90%—individual buy-up coverage level)
	Maximum payment	Range of coverage * final expected county revenue
How is the Payment Calculated?	Percent loss	90% − (actual county revenue/final expected county revenue)
	Payment	Percent loss * final expected county revenue

NASS, National Agricultural Statistics Service.

10%, 15%, or 20% coverage. Higher coverage levels would result in higher premiums. However, the program is subsidized by the federal government at 80%, so producers would only be required to pay 20% of the premium.

Producers could also select a payment rate multiplier between 80% and 120%. The multiplier concept would work the same as in GRIP or GRP insurance programs. According to the USDA Risk Management Agency (RMA) (2008), the multiplier has two purposes: 1) account for the increased variability of individual farm yields as compared with county-average yields; and 2) allow producers with above-average farm yields to purchase a higher level of coverage. However, any producer with below- or above-average yields could choose a coverage level above the county average if he or she is willing to pay a higher premium. The multiplier would increase the maximum protection per acre but would not impact the trigger revenue required to receive a STAX indemnity. Producers would be able to choose a multiplier that allows them to obtain a closer match between their individual loss expectations and their county-level STAX coverage. Table 2 provides a summary of the prices, yields, and calculations for a STAX indemnity payment.

Previous Research

Several studies have examined potential impacts of the proposed commodity and crop insurance programs (Coble, Barnett, and Miller, 2012; Karov, Wailes, and Watkins, 2012; Outlaw et al., 2012; Westhoff and Gerlt, 2012). Because this article focuses on the STAX program, only the previous research on STAX is discussed. Outlaw et al. (2012) analyzed the impact of the STAX program on 64 Agricultural and Food Policy Center (AFPC) representative farms using current baseline price projections as well as a declining price scenario. Not surprisingly, they found that the House version of STAX with the inclusion of a minimum reference price provides much more protection than the Senate version.

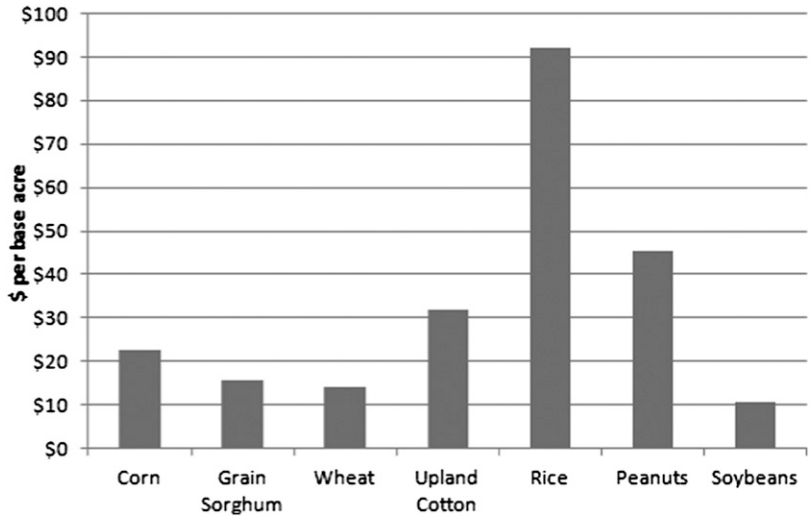

Figure 2. 2009/10 Average U.S. Direct Payments

Coble, Barnett, and Miller (2012) used a simulation model to determine the expected average per acre STAX payment for cotton. The average STAX payment was approximately $26/acre. They also found that the average STAX payment was greater than the SCO payment for cotton in most counties across the United States. Karov, Wailes, and Watkins (2012) analyzed the impact of STAX for Arkansas representative panel farms. They used slightly different assumptions, including: 1) a STAX payment would be issued when actual revenue is at least 95% of the county reference revenue (as opposed to 90% in this analysis); and 2) the maximum payment cannot be greater than 25% of the county reference revenue (as opposed to 20% in this analysis). Results of their study indicated that none of the representative farms would benefit from STAX as compared with direct payments under the 2008 Farm Bill. They also found that none of the farms would be profitable at STAX coverage levels below 95%. Average payments ranged from $1–46 per acre for the 70–95% coverage levels.

Westhoff and Gerlt (2012) also analyzed the impact of the commodity safety net provisions in the House and Senate bills using FAPRI-MU economic models. With an assumed STAX participation rate of 95%, they estimated an annual STAX payment of approximately $40/acre based on the average of results from 500 different market outcomes and 5 marketing years.

Stacked Income Protection Plan versus Direct Payments and Counter-Cyclical Payments

Under the 2002 and 2008 Farm Bills, cotton producers received direct payments and counter-cyclical program payments paid on base acres under the DCP program. The ACRE program in the 2008 Farm Bill was available to cotton producers, but few producers/landowners with cotton base acreage signed up for ACRE as a result of the loss in counter-cyclical payments and 20% loss in direct payments. Figure 2 shows average direct payments per base acre for the 2009–2010 crop year for corn, grain sorghum, wheat, cotton, rice, peanuts, and soybeans. The average direct payment for cotton is $32 per acre, which is higher than the direct payment for corn, grain sorghum, wheat, and soybeans. Direct payments are based on historical base acreage, fixed producer payment yields, and fixed payment rates. Direct payments are not tied to current planted acres and producers/landowners are not required to plant a crop to receive direct payments. Producers can plant other crops on base acreage (i.e., producers with cotton base acreage can plant wheat, soybeans, etc., on the cotton base

acreage) or even decide not to plant any crops on the base acreage.

Counter-cyclical payments have been paid on cotton in every year since 2002 with the exception of 2010 and 2011 (Table 2). For other program commodities (except peanuts and rice), CCP payments have only been made in one or two of the years between 2002 and 2011. Counter-cyclical payments were also paid on historical base acres and payments were based on fixed target prices included in the 2002 and 2008 Farm Bills. If the target price was below the National Average Marketing Year Price, a CCP payment was issued. The formula for the CCP payment rate is: (TP – DP rate) – Max (National Average Marketing Year Price, Loan Rate). The CCP payment is equal to the CCP Rate * CCP Payment Yield * Base Acres * 0.85. CCP payments are tied to current market prices. Because CCPs are paid on base acres, producers are not actually required to plant a crop to receive a payment.

Extension Education

For the 2008 Farm Bill, the majority of cotton producers across the United States did not make any changes to commodity program participation. Although all commodity producers had a choice between the ACRE program and the DCP program, very few cotton producers (along with peanut and rice producers) chose to enroll in ACRE. When a farm was enrolled in ACRE, CCP payments were no longer an option and direct payments were reduced by 20%. For producers with cotton base acreage, CCP payments and direct payments have been extremely important to their operations and the ACRE program did not appear to be a viable option. Oklahoma cotton producers generally only plant approximately half the amount of historical cotton base acres. This will be an important consideration for Oklahoma cotton producers as well as for all commodity producers across the United States, because DPs and CCP payments were paid on base acreage. Although the ACRE program is paid on planted acres, only a small percentage of total U.S. producers actually enrolled in the program. The new commodity and crop insurance programs are all paid on planted acres (with a base acreage limitation), which will be a change for the majority of producers. An additional change for cotton producers is that they would no longer be subject to payment limits under the STAX or SCO program. Producers receiving payments from Title I programs are subject to payment limits, but no payment limits exist for crop insurance programs.

Part of the education process should focus on the differences in payments that cotton producers are currently receiving from the DCP program and payments that producers could potentially receive from the STAX program. Although it will be useful to simulate potential STAX payments from 2013 to 2017, an important first step is to educate producers, landowners, and lenders on the differences between past programs and new programs. One method of doing this is to compare actual DP and CCP payments to STAX payments over the 2002–2011 time period.

Farm Example

Figure 3 provides a farm example of DP, CCP, and STAX payments for the 2006 crop year. In the example, producers would be asked to provide the following information: county, crop, cotton base acres, cotton-planted acres, DP yield, CCP yield, multiplier, and coverage level. STAX program parameters are based on the Senate Farm Bill and House Agriculture Committee Farm Bill along with additional information obtained before February 2013. Once the new Farm Bill is passed and the STAX program is implemented, some parameters in the STAX calculation could be different than those presented in this article. As currently proposed, cotton producers would be eligible to enroll in STAX or SCO. Although the two programs are very similar, the producer-paid premium subsidy percentage is lower for STAX than SCO.

The calculator provides an example of potential payments from the House STAX program and DCP payments. The example assumes that the producer has 70% coverage on an individual buy-up crop insurance policy and selects a multiplier of 1.0. In this example, the producer would be eligible for a CCP, DP, and STAX payment for the 2006 crop year (using 2006 price and yield data to calculate the STAX payment). The

	A	B	C
1	**Producer data**		
2	Year		2006
3	County		Tillman
4	Crop		Non Irrigated
5	Planted cotton acres		900
6	Cotton base acres		1200
7	DP yield		350
8	CCP yield		350
9	BUP crop insurance type (RP, RP-HPE, or YP)		RP
10	BUP coverage level		70%
11	Multiplier (choose level between 0.8 and 1.2)		1.0
12	Producer selected coverage level (5%, 10%, 15%, or 20%)		20%
13			
14	**Other data**		
15	Projected price (futures price at planting)		0.60
16	Harvest price (futures price at harvest)		0.49
17	Reference price		0.6861
18	Actual county yield (NASS data)		200
19	County trend yield (NASS data)		246
20	5 year moving average yield (NASS data)		347
21			
22	**Calculations**		
23	House STAX		Formulas
24	Expected county revenue	238.12	= (MAX [C19:C20] * MAX [C15,C17])
25	Final expected county revenue	238.12	= (MAX [C19:C20]*MAX [C15,C17])
26	Range of coverage	20%	= MIN ([0.9-C10],C12)
27	Maximum payment	47.62	= B26*B25*C11
28	Actual county revenue	98.00	= C18*C16
29	Is payment triggered?	**YES**	= IF (B28<[0.9*B25],"YES","NO")
30	Percent loss	48.84%	= MAX (0,[0.9·{B28/B25}])
31	**Payment/acre**	**47.62**	= MIN [B27, (B30*B25*C11)]
32	**Total payment**	**42,861**	= B31*C5
33			
34	**CCP and DP**		
35	CCP payment rate	0.1373	
36	CCP payment	49,016	= C6*C8*B35*0.85
37	DP payment rate	0.0667	
38	DP payment	23,812	= C6*C7*B37*0.85
39	**Total CCP and DP payments**	**72,828**	= B36+B38

Figure 3. Stacked Income Protection Plan (STAX) vs. Counter-Cyclical Payments/Direct Payments (CCP/DP) Farm Example

producer would receive $72,828 in CCP and DP compared with a $42,861 STAX payment.

Conclusion

For the 2008 Farm Bill, Oklahoma had one of the highest percentages of ACRE enrollments in the nation. Producers were given a choice between two commodity programs. This decision was very confusing for many producers as a result of the complex calculations involved in the ACRE program, and many chose not to enroll in ACRE. Producers needed assistance and information to help with the decision between the commodity programs. In Oklahoma, extension programs and decision tools were extremely effective in delivering this information to producers. A large extension

effort focused on educating producers on the new ACRE program and developing an Excel-based decision tool to assist producers with the decision to enroll in the DCP program or the new ACRE program. Based on feedback from producers and extension educators across the state, the decision tool was extremely helpful in the decision process.

For the 2012 Farm Bill, the availability of decision tools will be even more important. The delivery of Farm Bill decision tools can also be improved by using new technologies to reach more producers. Producers will likely face a similar decision with commodity programs in the 2012 Farm Bill. It is quite probable that producers will have a choice with commodity programs (revenue versus price protection and/or individual versus farm level coverage) and crop insurance programs (add supplemental coverage and select optimal coverage levels). Overall, the level of commodity and supplemental crop insurance payments will likely be lower in some years than most cotton producers are accustomed to receiving as a result of the elimination of direct payments and CCP payments. A thorough analysis of the impact of these programs on producers in different regions will be important as well as the development of decision tools to compare the alternatives.

Additional research will focus on estimating STAX premiums and using simulation analysis to estimate STAX payments from 2013 to 2017 so that producers will have a better understanding of the cost and benefits of STAX enrollment. Decision tools will be created for STAX as well as for the other new programs in the next Farm Bill.

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