What to Expect from Government Payments for the 2003 Crop
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October and November is a bustling time for producers in Indiana as harvest continues across the state. But, this time of year also marks a busy period for the local FSA office as government payments begin to come into focus for many producers. With the low corn prices there should be some government support available to the farmer, but what about soybeans and wheat? How much might a producer expect to receive in government support on a particular farm? This article explains the various commodity program payments available to producers and how to calculate the amount a producer can expect for corn, soybeans, and wheat for a particular farm.

What are the types of payments?

The 2002 Farm Bill contains three different payment mechanisms to support producers' incomes, particularly when prices are low. These mechanisms include: Direct Payments (DP), Counter Cyclical Payments (CCP), and Loan Deficiency Payments (LDP). A producer may expect to receive any or all of these payments for any or all of their crops. Much of the support will be determined by the base acres and program yields that producers had the opportunity to update during the signup period for the 2002 Farm Bill, last year.

First, we need to identify a few critical numbers for the analysis. Figure 1 shows the applicable national payment rates for the crops discussed in this article.

Figure 1: National payment rates for applicable crops.

	Loan Rate	Direct Payment	Target Price
Corn (bu)	$1.98	$0.28	$2.60
Soybeans (bu)	$5.00	$0.44	$5.80
Wheat (bu)	$2.80	$0.52	$3.86

To better explain the various payments, an example farm has been created. The example farm, described in Figure 2, has 100 total acres with 50 acres of corn base, 40 acres of soybean base, and the remaining 10 acres in wheat base. For the 2003 crop, the producer chose to plant 40 acres of corn, 40 acres of soybeans, and 20 acres of wheat. The direct payments yields are 120, 50, and 50 bushels for corn, soybeans, and wheat, respectively. Since the example farm chose to update its acres and yields in the 2002 Farm Bill the CCP yields are somewhat higher, with 140, 50, and 60 bushels for corn, soybeans, and wheat respectively. Throughout this article the example farm will be referenced for clarification on all payments. For explanation purposes the farm is located in Tippecanoe County therefore the county loan rates of $2.03, $5.13, and $3.66 for corn, soybeans, and wheat will be used, which are somewhat higher than the national rates reported in Figure

1. Loan rates are used to determine LDP's and change from county to county[1]. It should be noted that the target price and direct payment rates stay constant across the nation.

Figure 2: Descriptive Information for the Example Farm

	Corn	Soybeans	Wheat
2003 Planted Acres	40	40	20
2003 Yield	155	40	75
Base Acres	50	40	10
Direct Yields	120	50	50
CC Yields	140	50	60

Figure 4 illustrates the calculations discussed throughout this article and provides the aforementioned rates and background information. It is copied directly from the Government Payment Calculator available on the Purdue Department of Agricultural Economics website. The Calculator also provides a list box where producers can select the county where the specific farm is located and receive the loan rates for that county. Now that we have set the stage for our example farm, the remainder of the article will focus on explaining each of the commodity support programs.

What is expected from Direct Payments?

Direct payments are effectively updated AMTA payments from the 1996 Farm Bill. The direct payments are based on historical acreage (base) and yields and not tied to current production or current prices. The acreage bases are based on the producer's chosen base established during the signup period for the 2002 Farm Bill. Direct payment yields are based on 1985 frozen program yields. Direct payment base acres and yields, for all crops, can be determined by contacting the local FSA office.

Below is the simple math equation used to calculate Direct Payments:

Direct Payment Rate per Bushel * Direct Base Acres * Direct Yield * 85%[2]

The direct payment rates for corn, soybeans, and wheat are $0.28, $0.44, and $0.52, respectively. Our example farm would be receiving $1,428 for corn; this was achieved through the following calculations:

$ 0.28/bushel * 50 acres * 120 bushels * 85%

The same calculations can be performed to determine the direct payment rate for soybeans and wheat. Figure 4 shows $748 for soybean and $221 for wheat resulting in a

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[1] Contact your local FSA office to determine the county loan rate applicable for your crop.
[2] The 85% factor was originally introduced in the 1990 Farm Bill as a measure to help balance the federal budget and continues in the 2002 Farm Bill.

total of $2,397 in direct payments for this farm. Direct payments for all crops are available beginning in December of the previous year, at that time the producer can receive 50% of the total direct payments for a farm. The final payment is available in October of the year the crop is harvested; therefore many producers may have already received all of their direct payments for the crops harvested during 2003.

What should you expect from Counter Cyclical Payments?

Counter Cyclical Payments are very similar to the target price/deficiency payment system used in the 1990 Farm Bill. These payments are not related to current production on the farm, but are related to current crop prices. Lower prices "trigger" the counter cyclical payments to engage and provide economic assistance to farmers. The payment is paid on the base acres and yields that were established during the signup period for the 2002 Farm Bill. To determine possible counter cyclical payments we first need to determine the expected per bushel CCP rate. The following math equation shows how to compute the CCP rate:

(Target Price – Direct payment) - (higher of the national loan rate or the 12-month marketing year average price)

Determining the CCP rate requires the 12-month marketing year average price (MYA). The final MYA price is not determined until the end of the marketing year (July for wheat and September for corn and soybeans). Thus, we must use USDA estimates of the MYA price to determine the expected CCP rate. These estimates can be found in the World Agricultural Supply and Demand Estimates reports[3] that are published monthly during the marketing year. USDA uses this MYA price estimate to issue advanced counter cyclical payments to producers. The first advanced CCP is 35 percent of the total expected CCP payment and is available in October while the crop is being harvested. In February, USDA will review the MYA price estimate and issue a 2nd advanced payment as long as the total of the 1st payment and 2nd payment does not exceed 70% of the total expected CCP. At the end of the marketing year (July for wheat and October for corn and soybeans) USDA will determine the final CCP based on the final MYA price and issue any remaining CCP's owed to the producer. Since the advanced payments are based on estimates, overpayment of CCP's is a possibility and could require repayment of the excess amount by the producer at the end of the year. Repayment would likely occur by reducing the amount of direct payments the producer would receive in the next year rather than having the producer actually pay back the CCP.

The October estimates of MYA prices are $2.10, $6.50, and $3.55 for corn, soybeans, and wheat, respectively. Based on these MYA prices we can compute the expected CCP rate for each crop. The target price for corn is $2.60 and the direct payment is $0.28. The national loan rate for corn is $1.98, so in this example; the MYA is higher than the loan rate and will be used to determine the CCP rate. The equation below shows the expected CCP rate as of October 2003.

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[3] WASDE Website: http://jan.mannlib.cornell.edu/usda/reports/waobr/wasde-bb/

$$(\$2.60 – \$0.28) - \$2.10 = \$0.22 \text{ per bushel}$$

The same calculations can be made for soybeans and wheat. For wheat the resulting CCP rate is $0.09 per bushel. At this time, the MYA price for soybeans is higher than the effective target price of $5.36 (target price minus the direct payment) so there is no expected CCP. Remember, the payment rates are estimates as of October 2003 and could change as the marketing-year progresses. If prices fall then CCP rates would go up. If prices rise over the marketing year then CCP rates would go down.

Total CCP for the example farm are computed by inserting the CCP rate, the CCP base acres, and CCP's yields into a math equation, similar to the direct payment equation, as follows:

Total Counter Cyclical Payment = CCP rate * CCP Base Acres * CCP Yields * 85%

For corn on our example farm this calculation would be:

Total CCP = $0.22 per bushel * 140 bushels * 50 acres * 85% = $1,309

This $1,309 is an estimate of what the final CCP will be for corn on this farm. This estimate will be used to determine the 1st advanced payment available in October of 2003. The producer would receive 35% of this amount or $458.15. Once again the same calculations can be completed to determine the CCP amounts for wheat and soybeans. In this example there would be no CCP's for soybeans and $45.90 in expected wheat CCP's of which the producer could receive $16.06 in October.

What should you expect from Loan Deficiency Payments (LDP)?

Loan deficiency payments are tied to current production and prices. LDP's are designed to off-set low prices for farmers. LDP's have been available since the 1996 Farm Bill and work the same in the 2002 Farm Bill as they have in the past. Loan deficiency payments are expected (at this time) to be available in wheat and corn, but are unlikely to occur this year for soybeans.

The first step in determining LDP's is to see if the county's loan rate is above the posted county price. The posted county prices changes on a daily basis and can be determined by contacting your local FSA office or by going to the national FSA website's LDP rate calculator[4]. If the loan rate for the county is above the posted county price the producer can choose to receive the difference per bushel on all bushels that the producer currently owns. The equation below illustrates this point:

(Loan rate – posted county price when exercised) * Current Acreage * Current Yield

For the example farm in Tippecanoe County the local corn loan rate is $2.03. On October 17, 2003 the posted county price was $1.98. Therefore the total per bushel

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[4] http://www.fsa.usda.gov/dafp/psd/ldp/pmarket.htm

amount available to the producer is $ 0.05. For the example farm this equates to $310 in total Loan Deficiency Payments available to the producer as seen in the following calculations:

$$(\$2.03-\$1.98) * 40 \text{ acres} * 155 \text{ bushels} = \$310$$

Similar calculations can be completed to determine wheat and soybean LDP rates, if applicable. In the example, the producer could receive an additional $855 in LDP's for wheat if they exercised their option on October 17, 2003. Loan deficiency payments can be claimed at any time after harvesting the crop and before the crop is sold.

Conclusion

Based on our example calculation the example farm is expected to generate a total of $2,397 in direct payments, $1,355 in CCP's, and $1,165 in LDP's if they exercise their LDP's on October 17, 2003. This amounts to a total of $4,917 or about $49 per acre. In October, the producer would receive half of the direct payment ($1,198), 35% of the expected CCP's or $474, plus the $1,165 in LDP's for a total of $2,838 associated with the crop that is harvested this October. The diagram in Figure 3 illustrates the timing of payments for the example farm.

Figure 3: Payment Timing for the 2003 Crop

Timing of Government Payments									
	Dec-02		Oct-03		Feb-04		Jul-04		Oct-04
Direct Payments	Issue Advanced DP (50%)		Issue Final DP						
	$ 1,198.50		$ 1,198.50						
CC Payments			Issue 1st Advance CCP (35%)		Issue 2nd Advance CCP (35%)		Issue Remaining Wheat CCP		Issue Remaining Corn and Soybeans CCP
			$ 474.00		$ 474.00		$ 14.00		$ 393.00
Loan Deficiency Payments			LDP's Issued						
			$ 1,165.00						
Total	$1,198.50		$2,837.50		$ 474.00		$ 14.00		$ 393.00

An important point that this article does not discuss in detail is payment limits. According to the 2002 Farm Bill producers are eligible for payment of $40,000 for direct payments, $65,000 for CCP's, and $75,000 for LDP's. Depending on how the farm is structured, an individual farm family may qualify for as much as $120,000 in direct payments, $195,000 in CCP's, and $225,000 in LDP. In addition, the 2002 Farm Bill allows producers to restructure their operation to avoid the payment limits, but these topics are beyond the scope of this article. Additional information concerning payment limits can be found at your local FSA office. It is highly recommended that a producer visit the local FSA office to check the rules concerning re-organization before any organizational changes are made.

A Government Payment Calculator is available on the World Wide Web at http://www.agecon.purdue.edu/staff/gray/Extension/Agricultural%20Policy/extensionpolicy.htm. This calculator allows producers to input the data for a particular farm. The spreadsheet will do all of the calculations and provide the producer, or landowner, with an estimate of the expected direct, counter cyclical, and loan deficiency payments for the farm. If you have questions about using the calculator please contact Andrew Falwell at (765) 494-3259 or falwella@purdue.edu. Happy Calculating!

Figure 4: Government Payments Calculator for Example Farm

Government Payments Calculator		Complete all Yellow Boxes	
		Output	
Input Form			

Input your numbers in this section	Corn	Soybeans	Wheat
Base Acres (Based on Options 1-4 from FSA)	50.00	40.00	10.00
Direct Program Yield	120.00	50.00	50.00
CCP Program Yield	140.00	50.00	60.00
Planted Acres	40	40	20
Harvested Yield	155	40	75
12-month Marketing Year Average (MYA) Price*	**2.10**	**6.50**	**3.25**
MYA Price estimate from October WASDE report			
County Loan Rate (Select County from list at right)	2.03	5.13	3.66
Posted County Price at Exercise Date	1.98	6.50	3.09
Posted County Price (http://www.fsa.usda.gov/dafp/psd/ldp/pmarket.htm			

Calculations

	Here are the payment calculations.	Corn	Soybeans	Wheat	Total
	Direct Payment Calculations				
1	Payment Rate	**0.28**	**0.44**	**0.52**	
2	Base Acres	**50**	**40**	**10**	
3	Direct Payment Yield	**120**	**50**	**50**	
4	Adjustment Factor	0.85	0.85	0.85	
	Total Direct Payments (1) X (2) X (3) X (4)	1428.00	748.00	221.00	2397.00
	Direct Payments per Base Acre	28.56	18.70	22.10	
	CCP Payment Calculations				
5	Target Price	**2.60**	**5.80**	**3.86**	
6	Direct Payment Rate	**0.28**	**0.44**	**0.52**	
7	Effective Target Price (5) - (6)	2.32	5.36	3.34	
8	*12-Month Marketing Year Price	**2.10**	**6.50**	**3.25**	
9	National Loan Rate	**1.98**	**5.00**	**2.80**	
10	Higher of (8) or (9)	2.10	6.50	3.25	
11	CCP Payment Rate (7) - (10)	0.22	0.00	0.09	
12	Base Acres (Same as (2) above)	50	40	10	
13	CCP Payment Yield	140	50	60	
14	Adjustment Factor	0.85	0.85	0.85	
	Total CCP Payments (11) X (12) X (13) X (14)	1309.00	0.00	45.90	1354.90
	CCP Payments per Base Acre	26.18	0.00	4.59	
	LDP Calculations				
15	Planted Acres	**40**	**40**	**20**	100
16	Actual Yield	**155**	**40**	**75**	
17	County Loan Rate	**2.03**	**5.13**	**3.66**	
18	Posted County Price on Exercise Date	**1.98**	**6.50**	**3.09**	
19	LDP Rate (17) - (18), if less than 0 then put 0 here	0.05	0.00	0.57	
	Total LDP Payment (15) X (16) X (19)	310.00	0.00	855.00	1165.00
	LDP Payments Per Planted Acre	7.75	0.00	42.75	
	Total Payments	3047.00	748.00	1121.90	4916.90
	Total Payments per Planted Acre	76.18	18.70	56.10	49.17