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2017 Crop Budgets, 2016 Crop Returns, and 2016 Incomes

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Revised projections of 2016 crop returns and 2017 crop budgets have been released. For 2016, soybeans are projected to have record-setting yields, leading to higher soybean returns than in 2015. Given that non-land costs and cash rent cuts have occurred, higher soybean returns should cause 2016 net incomes to be higher than 2015 incomes. However, crop budgets suggest very low returns and net incomes in 2017.

2016 Corn and Soybean Returns

Table 1 shows corn and soybean returns for central Illinois farms with high-productivity farmland. The first three columns show revenues, costs, and returns for corn while the second set of three columns show results for soybeans. The 2015 column represents actual results based on data from Illinois Farm Business Farm Management (FBFM). Values for 2016 and 2017 are projections. Similar data are shown for northern, central (low-productivity), and southern Illinois farms in a publication available here. Budgets for 2017 are available here.

Highlights of 2016 projections are:

- **2016 Crop Revenue for Corn:** Corn crop revenue for 2016 is projected at $762 per acre based on a 231 bushels per acre yield and a $3.30 per bushel price (see Table 1). Currently, USDA is projecting Illinois' state yield at 200 bushels an acre, tying the highest yield for Illinois set in 2014. The 231 bushels per acre used for central Illinois projections is the same as occurred in 2014. A $3.30 per bushel corn price is based on current cash bids and levels of Chicago Mercantile Exchange (CME) futures contracts going into spring. The $3.30 price is $.10 above the midpoint range contained in the September WASDE report. Overall, high yields lead to the $762 corn revenue projection which is $8 per acre higher than 2015 corn revenue.

- **2016 Crop Revenue for Soybeans:** Soybean crop revenue is projected at $653 per acre based on a 71 bushels per acre yield and a $9.20 price. Currently, USDA is projecting a 61 bushels per acre yield for Illinois, the highest yield ever for the state of Illinois. The 71 bushels per acre yield used for central Illinois would be its highest yield, and is 5 bushels above the next highest yield of 66 bushels per acre that occurred last year. The $9.20 per bushel price is near current cash bids.

The $9.20 price is $.15 above the $9.05 midpoint of the WASDE range contained in the September report.

- **2016 ARC Payments:** ARC payments are projected at $20 per acre for 2016. The same ARC payment is used for both corn and soybeans as commodity title payments are made on base acres and not planted acres. The 2016 ARC payment is lower than the $45 projected payment for 2015. Lower payments result because of reductions in benchmark prices used in calculating ARC guarantees. The $20 per acre payment projected for 2016 will be received in the fall of 2017. Most landowners and farmers will receive an ARC payment this fall, but this is the payment associated with 2015 production.

- **2016 Gross Revenue for Corn:** Corn gross revenue is projected at $787 per acre, down by $43 per acre from the $830 of gross revenue in 2015. While yields are much higher in 2016, prices are lower. Also, ARC payments are projected lower and crop insurance likely will not make large payments in 2016.

- **2016 Gross Revenue for Soybeans:** Soybean gross revenue is projected at $677 per acre, up $26 from 2015 levels. Both yields and prices are projected higher in 2016. Higher crop revenue offsets lower ARC payments.

- **Non-land Costs:** Estimates of non-land costs did not change from previously released estimates. Non-land costs are projected at $547 per acre for corn, down by $43 from the 2015 level of $590 per acre. For soybeans, non-land costs are projected at $342 per acre, down $21 from the $363 level in 2015. For both corn and soybeans, the leading contributor to non-land costs decreases was reductions in fertilizer costs.

- **Operator and Land Returns:** Operator and land returns are projected at $240 per acre for corn and $331 per acre for soybeans. The 2016 return is the same as the 2015 return. The $335 soybean return is $47 higher than the $288 return in 2015.

- **Land Costs:** Land costs shown in Table 1 represent average cash rents. Cash rent in 2016 is projected at $268 per acre, down $10 from the $278 level in 2015.

- **Farmer Return** is projected at -$28 per acre for corn, $10 per acre higher than the -$38 farmer return in 2015. Soybean return is projected at $67 per acre, up by $57 per acre from the $10 level in 2015.

Overall, farmer returns are projected at higher levels than in 2015, although corn returns are still negative. Two factors contribute to higher returns. First are reductions in non-land costs caused primarily by reductions in fertilizer costs. Second are much higher soybean revenues. Soybeans appear to be having record-setting high yields.

2017 Corn and Soybean Returns

Table 1 also contains projections for 2017. Assumptions built into 2017 budgets are:

- **2017 Yields:** Yields are based on trend-line yields.

- **2017 Prices:** A $3.50 corn price and a $9.00 soybean price are used in 2017 projections. Both prices are near fall 2017 delivery prices and basis-adjusted CME futures prices. High supplies of corn and soybeans in 2016 lead to the low price projections for 2017.

- **2017 ARC Payments** are projected at $0 per acre. Guarantees are decreasing such that payments would not occur at trend-line yields and the expected prices shown in Table 1.

- **2017 Crop Revenue**: Crop revenue for corn is projected at $700 per acre, almost $100 below the 2016 projected levels. Soybean revenue is projected at $549 per acre, almost $150 lower than 2016 levels.

- **2017 Non-land Costs:** Non-land costs are projected down for both corn and soybeans. Corn non-land costs are projected at $523 per acre, down by $23 per acre from 2016 levels. Soybean

costs are projected at $320 per acre, down $22 per acre from $342 per acre in 2015. Non-land costs decrease primarily because of fertilizer cost reductions.

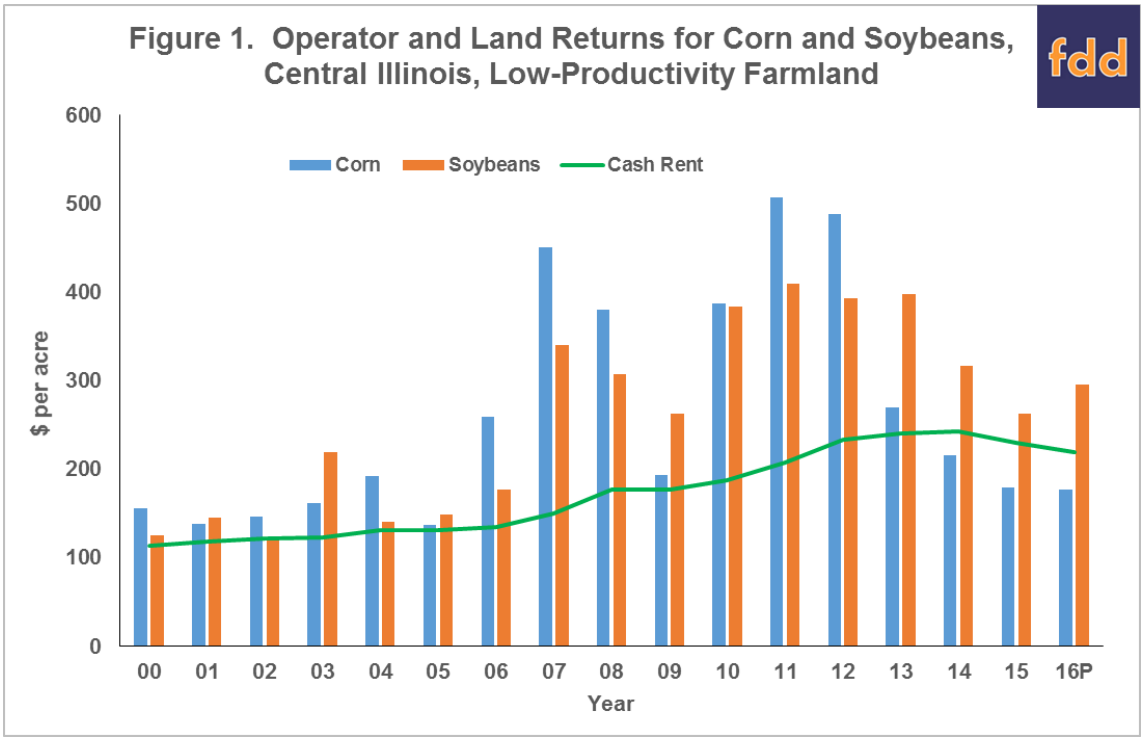
- **2017 Land Costs:** Cash rents are projected at $245 per acre, down by $23 per acre from 2017 levels. This would be a sizable decrease in cash rents, larger than any decrease in previous years.

Table 1. Corn and Soybean Returns, Central Illinois High-Productivity Farmland, 2015, Forecasts for 2016 and 2017

	Corn			Soybeans		
	2015	2016P	2017P	2015	2016P	2017P
Yield per acre	200	231	200	66	71	61
Price per bu	$3.77	$3.30	$3.50	$9.08	$9.20	$9.00
Crop revenue	$754	$762	$700	$599	$653	$549
ARC	45	20	0	45	20	0
Crop insurance proceeds	31	5	0	7	4	0
Gross revenue	**$830**	**$787**	**$700**	**$651**	**$677**	**$549**
Fertilizers	166	125	113	56	32	23
Pesticides	66	66	66	40	40	39
Seed	118	116	113	76	76	74
Drying	15	15	15	1	1	1
Storage	14	14	14	8	8	8
Crop insurance	24	24	22	16	16	16
Total direct costs	**$403**	**$360**	**$343**	**$197**	**$173**	**$161**
Machine hire/lease	12	12	12	11	11	10
Utilities	5	5	5	4	4	4
Machine repair	22	22	21	19	20	18
Fuel and oil	17	17	16	15	17	15
Light vehicle	1	1	1	1	1	1
Mach. depreciation	65	64	60	57	55	51
Total power costs	**$122**	**$121**	**$115**	**$107**	**$108**	**$99**
Hired labor	17	17	16	16	16	15
Building repair and rent	5	5	4	4	4	4
Building depreciation	12	12	12	10	11	10
Insurance	10	10	10	10	10	10
Misc	8	8	8	8	8	8
Interest (non-land)	13	14	15	11	12	13
Total overhead costs	**$65**	**$66**	**$65**	**$59**	**$61**	**$60**
Total non-land costs	**$590**	**$547**	**$523**	**$363**	**$342**	**$320**
Operator and land return	**$240**	**$240**	**$177**	**$288**	**$335**	**$229**
Land costs	278	268	245	278	268	245
Farmer return	**-$38**	**-$28**	**-$68**	**$10**	**$67**	**-$16**

Operator and land returns are projected at $177 per acre for corn and $229 per acre for soybeans. Both 2017 corn and soybean returns are below 2015 and 2016 operator and land returns. From a historical perspective, 2017 returns are well below average (see Figure 1).

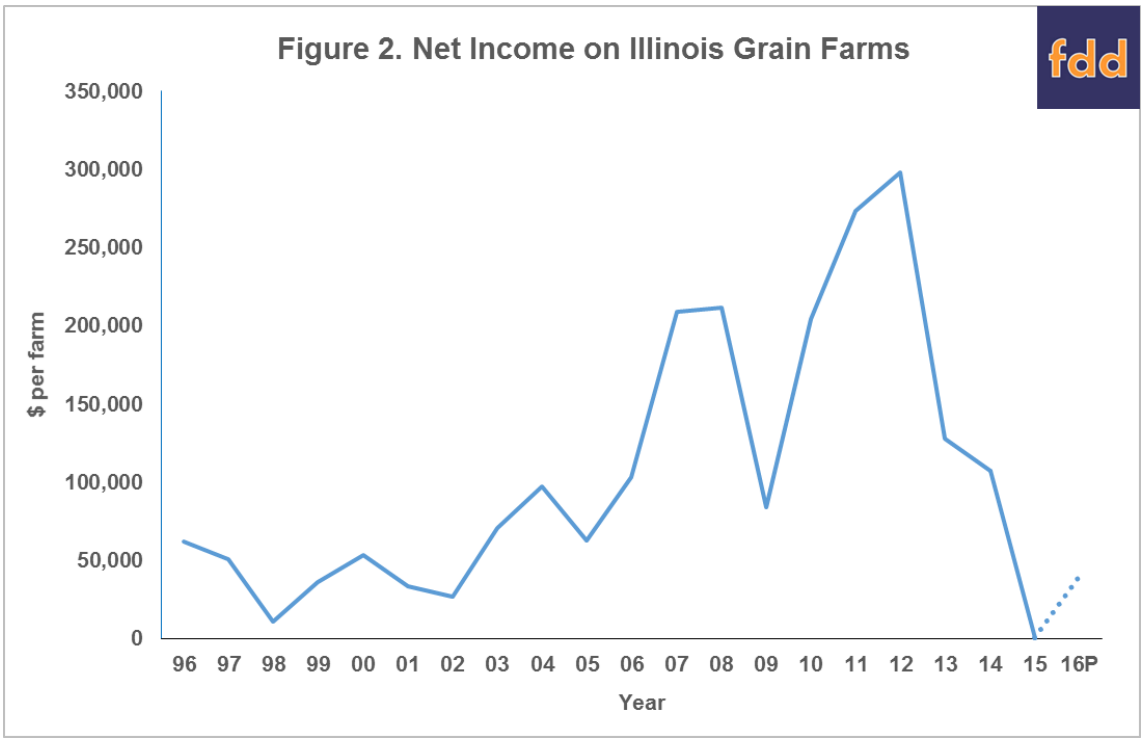
If 2017 projections come to pass, operator and land return for corn and soybeans would be below the average projected cash rent of $245 per acre. Since 2000, operator and land returns have not averaged below cash rent for both crops (see Figure 1). As a result, farmer returns are projected at -$68 per acre for corn and -$18 per acre for soybeans in 2017. These losses occur even after large projected decreases in both non-land costs and cash rents.



Much of the reason for these low returns are the low commodity prices used in the budgets. In 2016, large acreages planted and above trend yields have led to high production levels and high supplies of both corn and soybeans. These large 2016 supplies cause low price projections for 2017.

2016 Grain Farm Incomes

In 2015, net income for all farms in Illinois Farm Business Farm Management averaged -$2,791 per farm (see *farmdoc daily* September 16, 2016). A sub-set of farms that receive a majority of their income from grain operations are classified as grain farms. These grain farms had a slightly higher average income of $500 per farm. Overall, the $500 net income for grain farms was the lowest income on grain farms since at least 1995 (See Figure 2).



Given the above return and cost projections for 2016, incomes likely are in the $30,000 to $40,000 range, a sizable increase over 2015 levels. Higher 2016 projected incomes result from:

- Cost reductions. Non-land costs are projected to decrease between 2015 and 2016.
- Higher yields, particularly for soybeans.

As is always the case, net incomes will vary across farms. Farms with non-exceptional yields will have lower incomes. Much of the income built into forecasts is based on high yields.

Even at this late point in the year, much could change these 2016 income forecasts, with changes in prices being an important source of uncertainty. The price used to inventory grain held at the end of the year has a large impact on net income. Perhaps the largest risk factor for lower incomes are lower soybean prices (see *farmdoc daily* September 26, 2016).

2017 Grain Farm Incomes

The 2017 corn and soybean return projections also could be used to make projections for 2017 net incomes. It seems premature to make those projections at this point, except to note that values in 2017 budgets would result in negative net incomes, significantly below those even for 2015. These low incomes result even after substantial reductions in both non-land costs and cash rents. Large yields that are increasing 2016 incomes also cause large supplies leading to lower 2017 prices. Given these price decreases, continuing cuts need to be made to both non-land costs and cash rents.

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