



FEFO 10-14
August 16, 2010

2011 CROP BUDGETS: IMPLICATIONS FOR CROP ROTATIONS AND RETURNS

First estimates of 2011 returns for Illinois crops are provided in this report. Budgets for northern Illinois, central Illinois with high-productivity farmland, central Illinois with low productivity farmland, and southern Illinois are presented in Appendix Tables 1 through 4, respectively. From these budgets, a summary of returns, expected yields, expected prices, and non-land costs is presented in Table 1.

Table 1. Projected 2011 Operator and Farmland Returns for Corn, Soybeans, and Wheat Grown in Northern, Central, and Southern Illinois¹.

	Region			
	North	Central-High	Central-Low	South
Operator and farmland returns	\$ per acre			
Corn-after-soybeans	\$296	\$322	\$285	\$174
Corn-after-corn	256	285	248	120
Soybeans-after-corn	212	261	231	140
Wheat	101	102	99	64
Wheat/double-crop-soybeans		240	237	202
Expected yields	Bushels per acre			
Corn-after-soybeans	193	200	188	158
Corn-after-corn	183	190	178	148
Soybeans-after-corn	52	55	52	46
Wheat	73	72	70	66
Expected Prices	\$ per bushel			
Corn	\$3.75	\$3.75	\$3.75	\$3.75
Soybeans	9.50	9.50	9.50	9.50
Wheat	5.00	5.00	5.00	5.00
Non-land costs	\$ per acre			
Corn-after-soybeans	\$452	\$452	\$444	\$440
Corn-after-corn	455	452	444	456
Soybeans-after-corn	305	286	287	318
Wheat	287	282	275	287
Wheat/double-crop-soybeans		477	470	195

¹ See Appendix Tables 1 through 4 for a more detailed breakdown of returns and costs for northern, central-high, central-low, and southern Illinois.

Operator and farmland returns are used to compare returns across crops. Operator and farmland returns represent a return to the farmer and the land. The \$296 per acre operator and farmland return for corn-after-soybeans in northern Illinois means that there is \$296 per acre to split between the farmer and land owner. If farmland is rented under a cash rent arrangement and the cash rent is \$200 per acre, the farmer would have returns of \$96 per acre (\$296 operator and farmland return - \$200 cash rent).

Wheat in Southern Illinois

Recent wheat price increases suggest that wheat acres may increase in southern Illinois. In southern Illinois, operator and farmland returns are projected at \$174 per acre for corn-after-soybeans, \$140 for soybeans-after-corn, and \$64 for wheat (see Table 1). Given that only wheat is harvested, wheat is not projected to be as profitable as either corn or soybeans. However, wheat combined with double-crop soybeans, hereafter referred to as wheat/double-crop-soybeans, have projected return of \$202 per acre, exceeding the operator and returns for corn-after-soybeans and soybeans-after-corn.

In 2011, wheat/double-crop-soybeans are projected to have \$28 per acre higher returns than corn-after-soybeans. From 2003 through 2008, wheat/double crop soybeans averaged \$6 less returns than did corn. Hence, the 2011 is above the historical average and may prompt wheat acreage increases.

However, conditions may change, causing relative profitability between wheat/double-crop-soybeans and corn to change. Historical observations suggest that relative profitable across crops in variable. Wheat/double-crop soybeans' returns were \$63 below corn returns in 2003, \$26 above corn returns in 2004, \$13 below corn returns in 2005, \$23 below corn returns in 2006, \$32 below corn returns in 2007, \$58 above corn returns in 2008, and \$2 above corn returns in 2009. Expectations of relative crop profitability may change between now and harvest.

Corn versus soybeans

In northern Illinois, corn-after-soybeans is projected at a \$296 per acre operator and farmland return while soybeans are projected to have a \$212 return, indicating that corn will be \$84 per acre more profitable than soybeans. The 2011 projected difference in corn and soybeans is higher than the 2000 through 2008 historical average, in which corn averaged \$36 per acre more profitable than soybeans.

In central Illinois for high-productivity farmland, corn-after-soybeans is projected to have \$322 operator and farmland returns compared to \$261 for soybeans, giving a difference between corn returns and soybean returns of \$64 per acre. The \$64 per acre higher return for corn is above the 2000 through 2008 average of \$36 per acre.

Similar to relative wheat and corn returns, the relative profits between corn and soybeans can change between now and harvest. There is considerable variability between corn and soybean returns over time. In Central Illinois on high-productivity farmland, corn returns averaged \$30 higher than soybean returns in 2000, \$13 higher than soybeans returns in 2001, \$6 lower than soybean returns in 2002, \$59 higher than soybean returns in 2003, \$37 higher than soybean returns in 2004, \$24 higher than soybean returns in 2005, \$83 higher than soybean returns in 2006, and \$98 higher than soybean returns in 2007, \$118 higher in 2008, and \$94 lower in 2009.

Projected prices

The budgets use projected prices of \$3.75 for corn, \$9.50 for soybeans, and \$5.00 for wheat. These prices are slightly below cash prices suggest by futures contracts with delivery dates during the 2011 harvest. While below what futures prices might suggest, the projected prices reflect prices significantly above historical averages. They also suggest that hedging some of 2011 crop may be warranted, particularly in the case of wheat.

Expected yields

Yields are projected using historical averages for each region plus a trend yield increase. Trend yield increases used here are 2 bushels for corn, .5 bushels for soybeans, and .5 bushels for wheat.

Non-land costs

Non-land costs for 2011 are projected to be slightly higher than 2010 levels. These projections are based on modest increases in seed prices, fertilizer prices near summer-time 2010 levels, and fuel prices near summer-time 2010 levels. These projections result from an expectation of a continuing soft U.S. economy, leading to little upward pressure on crude oil, natural gas, and other input costs.

Cash rents

Operator and farmland returns do not suggest that average cash rents should increase from 2010 levels. To illustrate, take a northern Illinois situation in which a 50% corn and 50% soybean rotation has \$254 of projected operator and farmland returns (the average of \$296 for corn-after-soybeans and \$212 for soybean-after corn from Table 1). A \$70 projected return to the farmer is close to the average for the past ten years. Using this historical level as a benchmark for farmer returns results in a \$179 cash rent (\$254 operator and farmland return - \$70 farmland return). Northern Illinois cash rents in 2010 are projected at \$185 per acre, \$6 higher than the \$179 cash rent, suggesting that average cash rents should not increase.

Summary

Current projections suggest that 2011 returns will be below 2007 and 2008 levels, but above those for 2009. This return outlook is considerably brighter than would have been the case several months ago when commodity prices were below those shown in these budgets.

As always, the returns situation can change between now and the 2011 harvest. Just as commodity prices rose in recent months, they could fall between now and 2011 harvest. Actual 2011 yields will have large impacts on returns. In addition, scenarios could arise in which cost increase. Again, there is considerable uncertainty about agricultural return levels a year in advance of harvest.

Submitted by: Gary Schnitkey, Department of Agricultural and Consumer Economics, University of Illinois

Appendix Table 1. 2011 Crop Budgets, Northern Illinois.

	Corn- after- Soybeans	Corn- after- Corn	Soybeans- after- Corn	Soybeans- after-Two Years-Corn	Wheat
Yield per acre	193	183	52	53	73
Price per bu	\$3.75	\$3.75	\$9.50	\$9.50	\$5.00
LDP per bu	0.00	0.00	0.00	0.00	0.00
Crop revenue	\$725	\$688	\$494	\$504	\$365
ACRE and LDP revenue	0	0	0	0	0
Other gov't payments	23	23	23	23	23
Crop insurance proceeds	0	0	0	0	0
Gross revenue	\$748	\$711	\$517	\$527	\$388
Fertilizers	\$113	\$113	\$52	\$52	\$91
Pesticides	45	49	29	29	19
Seed	90	90	58	58	41
Drying	16	15	4	4	1
Storage	6	6	5	5	0
Crop insurance	21	21	17	17	3
Total direct costs	\$291	\$294	\$165	\$165	\$155
Machine hire/lease	\$17	\$17	\$15	\$15	\$9
Utilities	5	5	5	5	5
Machine repair	24	24	21	21	24
Fuel and oil	16	16	13	13	16
Light vehicle	2	2	2	2	2
Mach. depreciation	38	38	34	34	22
Total power costs	\$102	\$102	\$90	\$90	\$78
Hired labor	\$12	\$12	\$10	\$10	\$16
Building repair and rent	8	8	4	4	5
Building depreciation	7	7	4	4	3
Insurance	10	10	10	10	7
Misc	6	6	7	7	7
Interest (non-land)	16	16	15	15	16
Total overhead costs	\$59	\$59	\$50	\$50	\$54
Total non-land costs	\$452	\$455	\$305	\$305	\$287
Operator and land return	\$296	\$256	\$212	\$222	\$101

Prepared by: Gary Schnitkey
Revised: August 2010

Appendix Table 2. 2011 Crop Budgets, Central Illinois -- High Productivity Farmland.

	Corn- after- Soybeans	Corn- after- Corn	Soybeans- after- Corn	Soybeans- after-Two Years-Corn	Wheat	Double- Crop Soybeans
Yield per acre	200	190	55	57	72	35
Price per bu	\$3.75	\$3.75	\$9.50	\$9.50	\$5.00	\$9.50
LDP per bu	0.00	0.00	0.00	0.00	0.00	0.00
Crop revenue	\$750	\$713	\$523	\$542	\$360	\$333
ACRE and LDP revenue	0	0	0	0	0	0
Other gov't payments	24	24	24	24	24	0
Crop insurance proceeds	0	0	0	0	0	0
Gross revenue	\$774	\$737	\$547	\$566	\$384	\$333
Fertilizers	\$110	\$110	\$54	\$54	\$91	\$22
Pesticides	52	52	31	31	19	19
Seed	96	96	62	62	41	41
Drying	19	19	1	1	1	1
Storage	11	11	4	4	0	0
Crop insurance	21	21	14	14	3	3
Total direct costs	\$309	\$309	\$166	\$166	\$155	\$86
Machine hire/lease	\$9	\$9	\$8	\$8	\$8	\$9
Utilities	5	5	4	4	4	5
Machine repair	18	18	16	16	16	24
Fuel and oil	17	17	11	11	11	16
Light vehicle	2	2	1	1	1	2
Mach. depreciation	38	38	33	33	33	22
Total power costs	\$89	\$89	\$73	\$73	\$73	\$78
Hired labor	\$12	\$12	\$12	\$12	\$16	\$16
Building repair and rent	5	5	4	4	5	5
Building depreciation	5	5	3	3	3	3
Insurance	10	10	10	10	7	0
Misc	7	7	7	7	7	0
Interest (non-land)	15	15	11	11	16	7
Total overhead costs	\$54	\$54	\$47	\$47	\$54	\$31
Total non-land costs	\$452	\$452	\$286	\$286	\$282	\$195
Operator and land return	\$322	\$285	\$261	\$280	\$102	\$138

Prepared by: Gary Schnitkey
Revised: August 2010

Appendix Table 3. 2011 Crop Budgets, Central Illinois -- Low Productivity Farmland.

	Corn- after- Soybeans	Corn- after- Corn	Soybeans- after- Corn	Soybeans- after-Two Years-Corn	Wheat	Double- Crop Soybeans
Yield per acre	188	178	52	54	70	35
Price per bu	\$3.75	\$3.75	\$9.50	\$9.50	\$5.00	\$9.50
LDP per bu	0.00	0.00	0.00	0.00	0.00	0.00
Crop revenue	\$705	\$668	\$494	\$513	\$350	\$333
ACRE and LDP revenue	0	0	0	0	0	0
Other gov't payments	24	24	24	24	24	0
Crop insurance proceeds	0	0	0	0	0	0
Gross revenue	\$729	\$692	\$518	\$537	\$374	\$333
Fertilizers	\$115	\$115	\$54	\$54	\$86	\$22
Pesticides	50	50	33	33	14	19
Seed	96	96	49	49	35	41
Drying	10	10	1	1	1	1
Storage	6	6	4	4	1	0
Crop insurance	21	21	13	13	4	3
Total direct costs	\$298	\$298	\$154	\$154	\$141	\$86
Machine hire/lease	\$12	\$12	\$10	\$10	\$10	\$9
Utilities	5	5	4	4	4	5
Machine repair	22	22	19	19	19	24
Fuel and oil	15	15	13	13	13	16
Light vehicle	2	2	2	2	2	2
Mach. depreciation	33	33	32	32	32	22
Total power costs	\$89	\$89	\$80	\$80	\$80	\$78
Hired labor	\$12	\$12	\$12	\$12	\$16	\$16
Building repair and rent	6	6	5	5	5	5
Building depreciation	6	6	5	5	3	3
Insurance	10	10	10	10	7	0
Misc	7	7	7	7	7	0
Interest (non-land)	16	16	14	14	16	7
Total overhead costs	\$57	\$57	\$53	\$53	\$54	\$31
Total non-land costs	\$444	\$444	\$287	\$287	\$275	\$195
Operator and land return	\$285	\$248	\$231	\$250	\$99	\$138

Prepared by: Gary Schnitkey

Revised: August 2010

Appendix Table 4. 2011 Crop Budgets, Southern Illinois.

	Corn- after- Soybeans	Corn- after- Corn	Soybeans- after- Corn	Soybeans- after-Two Years-Corn	Wheat	Double- Crop Soybeans
Yield per acre	158	148	46	47	66	35
Price per bu	\$3.75	\$3.75	\$9.50	\$9.50	\$5.00	\$9.50
LDP per bu	0.00	0.00	0.00	0.00	0.00	0.00
Crop revenue	\$593	\$555	\$437	\$447	\$330	\$333
ACRE and LDP revenue	0	0	0	0	0	0
Other gov't payments	21	21	21	21	21	0
Crop insurance proceeds	0	0	0	0	0	0
Gross revenue	\$614	\$576	\$458	\$468	\$351	\$333
Fertilizers	\$100	\$110	\$43	\$43	\$86	\$22
Pesticides	55	61	40	40	14	19
Seed	89	89	53	53	35	41
Drying	9	9	1	1	1	1
Storage	4	4	1	1	1	0
Crop insurance	16	16	16	16	4	3
Total direct costs	\$273	\$289	\$154	\$154	\$141	\$86
Machine hire/lease	\$9	\$9	\$9	\$9	\$13	\$9
Utilities	5	5	5	5	5	5
Machine repair	24	24	24	24	24	24
Fuel and oil	16	16	17	17	15	16
Light vehicle	1	1	1	1	3	2
Mach. depreciation	45	45	42	42	32	22
Total power costs	\$100	\$100	\$98	\$98	\$92	\$78
Hired labor	\$19	\$19	\$19	\$19	\$16	\$16
Building repair and rent	8	8	8	8	5	5
Building depreciation	8	8	8	8	3	3
Insurance	9	9	9	9	7	0
Misc	8	8	8	8	7	0
Interest (non-land)	15	15	14	14	16	7
Total overhead costs	\$67	\$67	\$66	\$66	\$54	\$31
Total non-land costs	\$440	\$456	\$318	\$318	\$287	\$195
Operator and land return	\$174	\$120	\$140	\$150	\$64	\$138

Prepared by: Gary Schnitkey
Revised: August 2010