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UPDATED 2009 BUDGETS: RETURN PROJECTIONS, 2010 CASH RENTS, AND PLANTING DECISIONS

Corn and soybean budgets are presented for four regions of Illinois given that inputs are priced in the fall and the spring. These budgets are used to place 2009 projected returns in historical perspective. Cash rent levels for 2010 and planting decision for 2009 also are discussed.

Fall and Spring Input Pricing

Fall budgets contain input prices prevalent prior to the financial meltdown occurring in late September and early October of 2008. These budgets contain significantly higher costs than spring budgets. Since September, wholesale fertilizer prices and energy prices have declined substantially.

To illustrate, fertilizer costs per acre are calculated for corn and soybean grown in northern and central Illinois, with quantities of fertilizers applied based on University of Illinois recommendations (see Table 1). For corn, 180 pounds of anhydrous ammonia, 80 pounds of diammonium phosphates (DAP) and 53 pounds of potash are used. For soybeans, 48 pounds of DAP and 72 pounds of potash are used.

Table 1. Per Acre Fertilizer Costs Given Fall 2008 and Projected Spring 2009 Pricing.

	Quantity ¹	Fall Pricing		Spring Pricing		Difference ²
		Price	Per Acre	Price	Per Acre	
Panel A. Corn	(lbs./acre)	\$/ton	\$/acre	\$/ton	\$/acre	\$/acre
Anhydrous Ammonia	180	1,000	\$90	700	\$63	-\$27
Diammonium phosphate	80	1,000	40	500	20	-20
Potash	53	900	24	900	24	0
Total			\$154		\$107	-\$47
Panel B. Soybeans	(lbs./acre)	\$/ton	\$/acre	\$/ton	\$/acre	\$/acre
Diammonium phosphate	48	1,000	\$24	500	\$12	-\$12
Potash	72	900	32	900	32	0
Total			\$56		\$44	-\$12

¹ Quantities are representative of fertility programs in northern and central Illinois.

² Spring pricing costs - fall pricing costs.

Fall prices are \$1,000 per ton for anhydrous ammonia, \$1,000 per ton for DAP, and \$900 per ton for potash. Resulting fertilizer costs are \$154 per acre for corn and \$56 for soybeans for soybeans (see Table 1).

There is considerable variability in retail fertilizer prices during the spring, depending on when retailers purchased fertilizers. Purchases occurring in summer and early fall of 2008 likely occurred at high prices. If this high-priced fertilizer remains in their inventories, these retailers may be attempting to charge higher prices in order to cover costs.

Other retailers who purchased less high-priced fertilizer may offer lower prices. In general fertilizer prices are higher in northern Illinois as the fall fertilizer application was shortened due to adverse weather. This shortened season reduced sales of fertilizer in the fall, thereby increasing the chance that retailers have large fertilizer inventories.

For spring pricing, a \$700 per ton anhydrous ammonia, \$500 per ton DAP, and \$900 per ton potash prices are used. These prices result in a \$107 per ton fertilizer costs for corn, down by \$47 per acre from fall pricing. For soybeans, fertilizer costs are \$44 per acre, down \$12 per acre from fall pricing.

2009 Budgets

Budgets given fall and spring input prices are shown in Table 2 for northern Illinois. The first two columns of this table show average yields, returns, and costs for corn and soybeans from 2001 through 2008. These averages are from farms enrolled in Illinois Farm Business Farm Management (FBFM) and are useful for placing 2009 costs and returns in context. The second set of columns labeled "Fall Input Pricing" shows costs given that inputs were purchased in the fall. The last two columns give costs based on "spring input pricing". Similar budgets are shown for central Illinois -- high productivity farmland, central Illinois -- low productivity farmland, and southern Illinois in Appendix Tables 1 through 3, respectively.

Table 2. Historical and 2009 Estimated Crop Returns and Costs, Northern Illinois Farmland.

	<u>Averages for 2001-2008¹</u>		<u>2009 Budgets</u>		<u>2009 Budgets</u>	
	Corn	Soybeans	<u>Fall Input Pricing</u>		<u>Spring Input Pricing</u>	
	Corn	Soybeans	Corn	Soybeans	Corn	Soybeans
Yield per acre	173	49	180	51	180	51
Price per bu	\$2.77	\$6.99	\$3.75	\$8.30	\$3.75	\$8.30
LDP per bu	0.10	0.17	0.00	0.00	0.00	0.00
Crop revenue	\$490	\$341	\$675	\$423	\$675	\$423
LDP revenue	17	8	0	0	0	0
Other government payments	32	32	23	23	23	23
Crop insurance proceeds	6	6	0	0	0	0
Gross revenue	\$545	\$387	\$698	\$446	\$698	\$446
Fertilizers	\$71	\$24	\$154	\$56	\$107	\$44
Pesticides	38	28	55	29	55	29
Seed	44	31	110	53	80	50
Drying	13	4	16	5	16	5
Storage	5	3	5	3	5	3
Crop insurance	11	6	27	20	27	20
Total direct costs	\$182	\$96	\$367	\$166	\$290	\$151
Machine hire/lease	\$11	\$9	\$16	\$13	\$16	\$13
Utilities	4	3	5	5	5	5
Machine repair	16	14	22	19	22	19
Fuel and oil	13	12	26	22	20	18
Light vehicle	2	1	2	2	2	2
Mach. depreciation	23	20	28	22	28	22
Total power costs	\$69	\$59	\$99	\$83	\$93	\$79
Hired labor	\$9	\$9	\$11	\$10	\$11	\$10
Building repair and rent	5	3	8	5	8	5
Building depreciation	6	4	7	4	7	4
Insurance	7	7	10	9	10	9
Misc.	5	5	6	6	6	6
Interest (non-land)	17	15	22	20	22	20
Total overhead costs	\$49	\$43	\$64	\$54	\$64	\$54
Total non-land costs	\$300	\$198	\$530	\$303	\$447	\$284
Operator and land return	\$245	\$189	\$168	\$143	\$251	\$162

¹ Averages for grain farms enrolled in Illinois Farm Business Farm Management.

The 2009 budgets contain a \$3.75 per bushel price for corn and \$8.30 per bushel price for soybeans. These prices are prevalent new crop bids during the last half of March 2009. Because fall and spring pricing budgets use the same corn and soybean prices, budgets solely reflect differences in input costs.

Budgets have three cost differences between fall and spring input pricing:

1. Fertilizer costs differ as detailed in Table 1.
2. Seed costs are lower given spring pricing. Corn seed costs are projected at \$110 per acre given fall pricing and \$80 per acre given spring pricing. Soybean seed costs are projected to decline by \$3 per acre. This decline represents expectations of falling seed prices due to lower demand.
3. Fuel prices are lower in the spring pricing budgets. For corn, fuel prices are projected at \$26 per acre given fall pricing and \$20 given spring pricing. Similarly, soybean costs are projected at \$22 given fall pricing and \$18 given spring pricing.

Budgets in Table 2 include all costs except for land. Hence, land costs have to be added to arrive at total costs. In a cash rental situation, adding cash rent to total non-land costs will arrive at total costs. Expectations are that 2009 cash rents will average \$180 per acre in northern Illinois.

Operator and land returns equal total revenues minus total non-land costs (see bottom row of Table 2). This is the amount remaining to pay for farmland and provide a return to the farmer. Given spring pricing, operator and land returns are \$251 per acre for corn and \$162 per acre for soybeans. If cash rent equals \$180 per acre, cash rent farmland provides the farmer with a \$71 per acre return for corn (\$251 operator and land return - \$180 cash rent) and -\$18 per acre return for soybeans (\$162 operator and land return - \$180 cash rent).

Return Implications

Several implications can be drawn from budgets contain in 2009.

Costs are lower for spring pricing: Costs are substantially lower given spring pricing as compared to fall pricing. Corn costs are projected to be \$530 per acre given fall pricing as compared to \$447 per acre given spring pricing, a cost difference of \$83 per acre. Similarly, soybean costs are projected at \$303 per acre given fall pricing compared to \$284 per acre given spring pricing, a difference of \$19 per acre.

Even given lower costs, spring pricing still results in significantly higher costs compared to historical averages. Non-land costs for corn averaged \$300 from 2001 through 2008, \$147 per acre below the spring pricing projection of \$447 per acre. Non-land costs for soybeans averaged \$198 per acre from 2001 through 2008, \$86 per acre lower than the spring pricing projection of \$284 per acre.

Moreover, 2009 costs will be substantially above 2008 costs. Non-land costs for corn are projected at \$408 per acre in 2008. The 2008 cost is \$39 per acre lower than the spring pricing non-land costs. Non-land costs for soybeans are projected at \$261 per acre in 2008. The 2008 non-land cost is \$23 lower than the 2009 spring pricing projection of \$261 per acre.

Costs will vary across farms: Non-land costs will vary across farms depending on when inputs were priced. Farmers that purchased more inputs in the fall will have higher costs and those that purchased more input in the spring will have lower costs.

Low returns are projected for 2009: Given projections in Table 2, 2009 will be a low return year for corn and soybeans. Table 3 shows historic costs, returns, and cash rents on northern Illinois farms. Also shown are projected 2009 cost and returns. Projected non-land costs and returns for 2009 are an average of the fall pricing and spring pricing budgets.

Projected 2009 operator and land return for corn is projected at \$210 per acre. This is substantially below returns from 2006 through 2008: \$270 per acre in 2006, \$376 in 2007, and \$376 in 2008 (see Table 3). Projected 2009 operator and land return is above 2000 through 2002 levels: \$150 in 2000, \$147 in 2001, and \$142 in 2002.

While operator and farmland returns in 2009 are above 2000 through 2002 levels, farmer returns are projected at roughly the same level in 2009 at 2000 through 2002 because cash rents are much higher in 2009 than in 2000 through 2002. Average cash rent in 2009 is projected at \$180 per acre. This compares cash rents of \$123 per acre in 2000, \$126 per acre in 2001, and \$129 per acre in 2002. Cash rents have increased by about \$55 per acre in this decade.

Obviously realized returns can vary from those presented in Table 3. Higher yields or higher prices will increase returns over those shown in the previous tables. Conversely lower yield or lower prices will decrease returns from those shown in the previous tables.

Table 3. Historical and Forecast Costs, Cash Rents and Returns in Northern Illinois, 2000 - 2009F.

Year	Corn				Soybeans			
	Total Non-Land Costs	Operator and Land Return	Average Cash Rent	Farmer Return ¹	Total Non-Land Costs	Operator and Land Return	Average Cash Rent	Farmer Return ¹
	\$ per Acre				\$ per Acre			
2000	255	150	123	27	193	119	123	-4
2001	255	147	126	21	174	147	126	21
2002	247	142	129	13	171	121	129	-8
2003	244	207	130	77	161	145	130	15
2004	273	229	135	94	179	183	135	48
2005	291	152	137	15	188	147	137	10
2006	317	270	139	131	203	172	139	33
2007	354	444	149	295	226	354	149	205
2008P	408	376	160	216	261	257	160	97
2009F	489	210	180	30	294	153	180	-28

¹ Equals operator and land return minus average cash rent and gives returns given a cash rent situation.

P indicates that costs and returns for 2008 are preliminary

F indicates that costs and returns for 2009 are forecast as the average of fall and spring pricing (see Table 1)

Source: Total non-land costs, operator and land returns, and average cash rents are summarized from Illinois Farm Business Farm Management farms as reported in "Historic Corn, Soybean, Wheat, and Double-Crop Soybean Returns", Department of Agriculture and Consumer Economics, University of Illinois. This publication is available in the management section of farmdoc (www.farmdoc.uiuc.edu).

Cash Rents in 2010

Lower operator and farmland returns in 2009 suggest that there may be downward pressure on cash rents in 2010. If expected commodity prices remain in the high \$3.00 range for corn and low \$8 range for soybeans for 2010 production, cash rents will need to decline if farmer returns are too approach historical averages.

Planting Decisions in 2009

Many farmers still may not have decided which crop to plant on a small number of acres. Some of these decisions may be impacted by expected profitability of corn and soybeans. Obviously both costs and commodity prices have impacts on returns

Relative profits can be examined using corn-minus-soybean returns. Corn-minus-soybean returns equal corn returns minus soybean returns. Positive numbers indicate that corn is more profitable than soybeans. Given the budgets in Table 2, corn-minus-soybean returns are 251 given fall input prices and \$89 per acre given spring input pricing. Spring pricing increases corn profits relative to soybean returns because cost have decreased more for corn than for soybeans.

All regions of Illinois have similar changes in corn-minus-soybean returns. For spring input pricing, corn-minus-soybean returns are \$111 for central Illinois with high-productivity farmland, \$71 for central Illinois with low-productivity farmland and \$32 for southern Illinois (see Table 4). Generally, corn-minus-soybean returns increase with expected corn yields. Southern Illinois has the lowest corn yield and the lowest corn-minus-soybean returns.

For planting decisions, a key will be whether farmers are facing fall pricing versus spring pricing. In some areas, input prices have not fallen as much as in other areas. In areas where input prices have not fallen, soybeans may be more profitable than corn.

Table 4. Corn-Minus-Soybean Returns Given Spring and Fall Input Pricing.

Region ¹	Expected	Expected	Corn-Minus-Soybean Return ²	
	Corn	Soybean	Fall Input	Spring Input
	Yield	Yield	Pricing	Pricing
	Bushels per Acre		\$ per Acre	
Northern	180	51	25	89
Central -- High	191	54	46	111
Central -- Low	171	50	4	71
Southern	151	47	-22	32

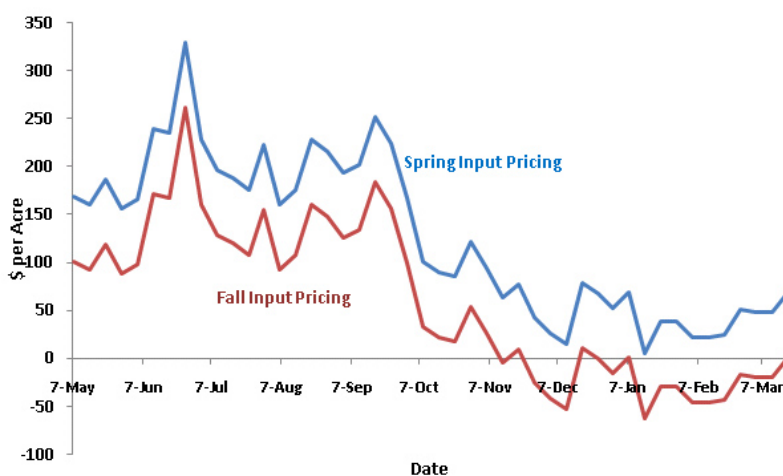
¹ See budgets in Table 1 and the Appendix Tables for more detail on costs and returns.

Equals operator and land returns for corn minus operator and land return for soybeans

Expectations of corn and soybean prices have also changed considerably over time. To gauge how price changes impact relative profits, Figure 1 shows 2009 projected corn-minus-soybean returns calculated each Wednesday since May 2008. Yields and costs from budgets in Table 2 are used to calculate corn-minus-soybean returns. Corn-minus-soybean returns are shown for both fall input and spring input pricing. Corn and soybean prices used to calculate returns are based on futures prices from the December 2009 Chicago Board of Trade (CBOT) corn contract and the November 2009 CBOT soybean contract. These futures prices provide forecast of prices at harvest. Cash prices used in calculating corn-minus-soybean returns equal the futures prices minus \$.50 basis.

Corn-minus-soybean returns decreased dramatically from September 2008 until February 2009. Since February, futures price changes indicate increasing profits for corn relative to soybeans.

Figure 1. 2009 Projected Corn-Minus-Soybean Returns for Northern Illinois.



Summary

Given current projections, returns for 2009 are likely to be substantially below returns in 2006 through 2010. Projected 2009 returns below those experienced during 2000 through 2002. Lower returns could place downward pressure on 2010 cash rents. Recent cost and price changes have increased the expected profitability of corn relative to soybeans.

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Appendix Table 1. Historical and 2008 Estimated Crop Returns and Costs, Central Illinois High Productivity Farmland.

	Averages for 2001-2008¹		2009 Budgets		2009 Budgets	
	Corn	Soybeans	Fall Input Pricing		Spring Input Pricing	
			Corn	Soybeans	Corn	Soybeans
Yield per acre	180	52	191	54	191	54
Price per bu	\$2.76	\$7.02	\$3.75	\$8.30	\$3.75	\$8.30
LDP per bu	0.10	0.17	0.00	0.00	0.00	0.00
Crop revenue	\$506	\$361	\$716	\$448	\$716	\$448
LDP revenue	19	9	0	0	0	0
Other government payments	31	31	24	24	24	24
Crop insurance proceeds	4	2	0	0	0	0
Gross revenue	\$560	\$403	\$740	\$472	\$740	\$472
Fertilizers	\$76	\$25	\$154	\$56	\$107	\$44
Pesticides	39	28	50	30	50	30
Seed	43	30	110	55	80	50
Drying	10	2	14	3	14	3
Storage	7	3	8	4	8	4
Crop insurance	10	6	27	17	27	17
Total direct costs	\$185	\$94	\$363	\$165	\$286	\$148
Machine hire/lease	\$7	\$6	\$9	\$7	\$9	\$7
Utilities	4	3	5	3	5	3
Machine repair	13	12	18	14	18	14
Fuel and oil	12	11	26	19	20	18
Light vehicle	2	1	2	1	2	1
Mach. depreciation	23	20	29	26	29	26
Total power costs	\$61	\$53	\$89	\$70	\$83	\$69
Hired labor	\$8	\$8	\$11	\$10	\$11	\$10
Building repair and rent	4	2	5	3	5	3
Building depreciation	4	3	4	3	4	3
Insurance	8	8	10	10	10	10
Misc.	6	6	7	7	7	7
Interest (non-land)	15	14	18	17	18	17
Total overhead costs	\$45	\$41	\$55	\$50	\$55	\$50
Total non-land costs	\$291	\$188	\$507	\$285	\$424	\$267
Operator and land return	\$269	\$215	\$233	\$187	\$316	\$205

¹ Averages for grain farms enrolled in Illinois Farm Business Farm Management.

Appendix Table 2. Historical and 2008 Estimated Crop Returns and Costs, Central Illinois Low Productivity Farmland.

	Averages for 2001-2008¹		2009 Budgets		2009 Budgets	
	Corn	Soybeans	Fall Input Pricing		Spring Input Pricing	
			Corn	Soybeans	Corn	Soybeans
Yield per acre	166	49	171	50	171	50
Price per bu	\$2.77	\$6.99	\$3.75	\$8.30	\$3.75	\$8.30
LDP per bu	0.10	0.17	0.00	0.00	0.00	0.00
Crop revenue	\$471	\$341	\$641	\$415	\$641	\$415
LDP revenue	16	8	0	0	0	0
Other government payments	30	30	24	24	24	24
Crop insurance proceeds	4	2	0	0	0	0
Gross revenue	\$521	\$381	\$665	\$439	\$665	\$439
Fertilizers	\$76	\$26	\$154	\$56	\$107	\$44
Pesticides	37	28	50	33	50	33
Seed	43	30	115	55	80	50
Drying	9	2	14	2	14	2
Storage	6	3	9	4	9	4
Crop insurance	10	6	29	19	29	19
Total direct costs	\$181	\$95	\$371	\$169	\$289	\$152
Machine hire/lease	\$7	\$6	\$12	\$10	\$12	\$10
Utilities	4	3	5	4	5	4
Machine repair	15	13	20	18	20	18
Fuel and oil	12	11	22	18	20	18
Light vehicle	2	1	2	2	2	2
Mach. depreciation	23	20	27	24	27	24
Total power costs	\$63	\$54	\$88	\$76	\$86	\$76
Hired labor	\$9	\$9	\$11	\$10	\$11	\$10
Building repair and rent	4	3	7	4	7	4
Building depreciation	5	3	5	4	5	4
Insurance	8	8	10	10	10	10
Misc.	5	5	7	7	7	7
Interest (non-land)	15	13	19	16	19	16
Total overhead costs	\$46	\$41	\$59	\$51	\$59	\$51
Total non-land costs	\$290	\$190	\$518	\$296	\$434	\$279
Operator and land return	\$231	\$191	\$147	\$143	\$231	\$160

¹ Averages for grain farms enrolled in Illinois Farm Business Farm Management.

Appendix Table 3. Historical and 2008 Estimated Crop Returns and Costs, Southern Illinois Farmland.

	Averages for 2001-2008¹		2009 Budgets Fall Input Pricing		2009 Budgets Spring Input Pricing	
	Corn	Soybeans	Corn	Soybeans	Corn	Soybeans
Yield per acre	141	44	151	47	151	47
Price per bu	\$2.82	\$7.05	\$3.75	\$8.30	\$3.75	\$8.30
LDP per bu	0.10	0.16	0.00	0.00	0.00	0.00
Crop revenue	\$400	\$302	\$566	\$390	\$566	\$390
LDP revenue	16	7	0	0	0	0
Other government payments	23	22	21	21	21	21
Crop insurance proceeds	6	3	0	0	0	0
Gross revenue	\$445	\$334	\$587	\$411	\$587	\$411
Fertilizers	\$76	\$25	\$154	\$56	\$107	\$44
Pesticides	36	28	50	33	50	33
Seed	44	29	103	53	80	50
Drying	5	2	9	1	9	1
Storage	3	1	4	2	4	2
Crop insurance	12	6	21	14	21	14
Total direct costs	\$176	\$91	\$341	\$159	\$271	\$144
Machine hire/lease	\$7	\$6	\$7	\$7	\$7	\$7
Utilities	4	4	4	4	4	4
Machine repair	17	15	21	20	21	20
Fuel and oil	13	13	23	22	20	18
Light vehicle	1	1	1	1	1	1
Mach. depreciation	25	21	30	26	30	26
Total power costs	\$67	\$60	\$86	\$80	\$83	\$76
Hired labor	\$12	\$12	\$15	\$14	\$15	\$14
Building repair and rent	5	2	6	3	6	3
Building depreciation	5	3	6	3	6	3
Insurance	6	6	7	7	7	7
Misc.	5	5	7	7	7	7
Interest (non-land)	15	13	18	15	18	15
Total overhead costs	\$48	\$41	\$59	\$49	\$59	\$49
Total non-land costs	\$291	\$192	\$486	\$288	\$413	\$269
Operator and land return	\$154	\$142	\$101	\$123	\$174	\$142

¹ Averages for grain farms enrolled in Illinois Farm Business Farm Management.