

**October 30, 2006****FEFO 06-18****2007 Crop Budgets Indicate Higher Returns for Corn and Wheat**

Corn, soybeans, wheat, and double-crop soybeans budgets for the 2007 cropping year have been estimated for northern, central, and southern Illinois. These budgets are shown in the tables at the end of this article. Highlights are given below.

**Relatively High Prices are Projected for 2007**

Prices used in the budgets are \$2.75 for corn, \$6.25 for soybeans, and \$3.75 for wheat. All prices are significantly above historical averages. During the last six crop-marketing years, corn prices in Illinois averaged \$2.15 per bu., soybean prices averaged \$5.65 per bu., and wheat averaged \$2.87 per bu. Hence, the projected 2007 corn price is 28% above the six-year average, the 2007 soybean price is 10% above average, and the wheat price is 31% above average.

**Corn has Higher Projected Returns than Soybeans**

Corn returns are projected higher than soybean returns. This fact is not unusual, especially in northern and central Illinois. Summaries from Illinois Farm Business Farm Management (FBFM) indicate that per acre corn returns exceeded per acre soybean returns an average of \$23 per year between 2000 and 2005 in northern Illinois and \$16 an acre in central Illinois (high productivity farmland). In southern Illinois, on the other hand, soybean returns averaged \$10 per acre higher than corn returns.

Unlike most years, corn-after-corn returns in 2007 are projected higher than soybean returns in northern and central Illinois (In southern Illinois, soybean returns are projected higher than corn-after-corn). In central Illinois (high productivity farmland), for example, estimated corn-after-corn returns to the operator and landlord are \$186 per acre while soybean returns are \$160 per acre. Because corn-after-corn returns exceed soybean returns, some farmers may switch acres from soybeans to corn production.

**Switching to More Corn**

A key factor in determining whether corn-after-corn returns exceed soybean returns are relative yields, which can vary from farm-to-farm. Breakeven corn-after-corn yields were determined for different soybean yields for northern, central, and southern Illinois (see Table 1). For central Illinois (high productivity farmland), the breakeven corn yield is 143 bu. if a 45 bu. soybean yield is obtained. Any yield above 143 bu. causes corn-after-corn to have higher returns than soybeans. The breakeven corn yield is 154 bu. for a 50 bu. soybean yield while the breakeven corn yield is 165 bu for a 55 bu yield.

**Table 1. Breakeven Corn-after-Corn Yields for Different Expected Soybean Yields Given Prices and Costs in 2007 Illinois Crop Budgets.<sup>1</sup>**

Soybean Yield	Region of the State			
	Northern Illinois	Central Illinois (High Productivity Farmland)	Central Illinois (Low Productivity Farmland)	Southern Illinois
Bu./Acre	Corn-after-Corn Yields (bu. per Acre)			
45	143	143	142	140
50	154	154	153	151
55	165	165	164	162
60	177	177	176	174
65	188	188	187	185

<sup>1</sup> Breakeven corn yields are calculated so that corn-after-corn has the same returns as soybeans given the soybean yields in the first column. Budgets are shown at the end of the article.

While switching to more corn may increase returns in 2007, returns in 2008 could suffer from the switch. Corn-after-soybeans production generally is more profitable than corn-after-corn because corn-after-corn has higher production costs and lower yields than corn-after-soybeans. Increasing corn acres above a 50-50 corn-soybeans rotation in 2007 will result in more corn-after-corn production in 2008. For example, a 2/3 corn – 1/3 soybeans rotation in 2007 only allows for 1/3 of corn-after-soybean production in 2008. Hence, 2007 acreage decisions could impact 2008 returns.

### **Yield Reductions on Corn-after-Corn Important for the Corn versus Soybeans Decision**

The budgets have a 10 bu. yield reduction for corn-after-corn compared to corn-after-soybeans. Yield drags are controversial. Some farmers do not believe yield drags exist while agronomic research consistently shows that corn-after-corn has a 10% lower yield than corn-after-soybeans. Beliefs about yield drag impact return projections. In the current price environment, similar yields for corn-after-corn and corn-after-soybeans almost always results in corn being more profitable than soybeans. Moreover, having no yield drag eliminates the concern that 2007 acreage decisions will reduce 2008 returns.

### **Higher Corn Prices Favor Corn**

Budgets use a \$2.75 corn price. Currently bids for 2007 harvest delivery are around \$3.00 per bu. At \$3.00 and higher corn prices, soybean prices have to be significantly higher than their current levels for soybean returns to exceed corn-after-corn returns. Using northern Illinois budgets, the soybean price must be \$6.83 per bu for soybeans to have the same returns as corn-after-corn given a \$2.75 corn price (see Table 2). At a \$3.00 corn price, the breakeven soybean price is \$7.71 per bu.

Projected prices can change between now and harvest, particularly if large acres shift to more corn. Hence, there are risks in making large acreage shifts.

**Table 2. Breakeven Soybean Prices for Different Corn Prices Given Yields and Costs in 2007 Illinois Crop Budgets.<sup>1</sup>**

Corn Price	Region of the State			
	Northern Illinois	Central Illinois (High Productivity Farmland)	Central Illinois (Low Productivity Farmland)	Southern Illinois
\$/bu.	Soybean Price (\$ per bu.)			
2.50	6.01	5.92	5.74	5.19
2.75	6.83	6.73	6.53	5.92
3.00	7.65	7.53	7.32	6.64
3.25	8.47	8.33	8.11	7.37
3.50	9.28	9.13	8.90	8.09

<sup>1</sup> Breakeven soybean prices are calculated so that corn-after-corn has the same returns as soybeans given the corn price in the first column. Budgets are shown at the end of the article.

### Wheat Returns Higher Than in Recent Years

Wheat returns also are relatively high given a \$3.75 per bu. wheat price. Wheat returns in northern Illinois are projected to be above soybean returns. Wheat and double-crop soybean returns exceed soybean returns in southern Illinois.

### Tools for Examining Rotations

Budgets are available in the management section of *farmdoc* in the “Per Acre Revenue and Costs for Illinois Crops” area. Select the “corn, soybeans, and wheat budgets” option to obtain regional budgets. These budgets contain the default budgets in the following tables. In addition, users can modify defaults in order to evaluate individual farm situations.

In addition, there are Microsoft Excel spreadsheets available for download. These can be selected from the *FAST* section of *farmdoc*:

*Corn-Soybeans Rotation Tool* – evaluates alternative corn-soybean rotations.

*Corn-Soybeans-Wheat Rotation Tool* – evaluates alternative corn-soybeans-wheat rotations.

*Crop Budgeting Tool* – evaluates returns from alternative crops.

### Summary

Changes in relative prices have caused corn and wheat to have higher relative returns compared to soybeans. Hence, some farms may wish to consider switching acreages away from soybeans and more into corn.

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# FARM BUSINESS MANAGEMENT

## Crop Budgets Northern Illinois

University of Illinois  
Grain Farm Returns and Costs

### 2007 Crop Budgets, Northern Illinois

	Corn- after- Soybeans	Corn- after- Corn	Soybeans- after- Corn	Soybeans- after-Two Years-Corn	Wheat
Yield per acre	177	167	51	53	85
Price per bu	\$2.75	\$2.75	\$6.25	\$6.25	\$3.75
LDP per bu	0.00	0.00	0.00	0.00	0.00
Crop revenue	\$487	\$459	\$319	\$331	\$319
LDP revenue	0	0	0	0	0
Other gov't payments	29	29	29	29	29
Crop insurance proceeds	0	0	0	0	0
<b>Gross revenue</b>	<b>\$516</b>	<b>\$488</b>	<b>\$348</b>	<b>\$360</b>	<b>\$348</b>
Fertilizers	\$71	\$80	\$25	\$25	\$52
Pesticides	43	45	31	31	30
Seed	46	46	31	31	11
Drying	12	11	2	2	2
Storage	5	5	5	5	2
Crop insurance	8	8	6	6	3
<b>Total direct costs</b>	<b>\$185</b>	<b>\$195</b>	<b>\$100</b>	<b>\$100</b>	<b>\$100</b>
Machine hire/lease	\$8	\$9	\$6	\$6	\$6
Utilities	4	4	3	3	3
Machine repair	15	16	13	13	12
Fuel and oil	16	17	14	14	11
Light vehicle	2	2	1	1	1
Mach. depreciation	20	21	19	19	19
<b>Total power costs</b>	<b>\$65</b>	<b>\$69</b>	<b>\$56</b>	<b>\$56</b>	<b>\$52</b>
Hired labor	\$8	\$8	\$8	\$8	\$8
Building repair and rent	5	5	5	5	5
Building depreciation	5	5	5	5	5
Insurance	7	7	7	7	7
Misc	5	5	5	5	5
Interest (non-land)	19	19	16	16	14
<b>Total overhead costs</b>	<b>\$49</b>	<b>\$49</b>	<b>\$46</b>	<b>\$46</b>	<b>\$44</b>
<b>Total non-land costs</b>	<b>\$299</b>	<b>\$313</b>	<b>\$202</b>	<b>\$202</b>	<b>\$196</b>
<b>Operator and land return</b>	<b>\$217</b>	<b>\$175</b>	<b>\$146</b>	<b>\$158</b>	<b>\$152</b>

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# FARM BUSINESS MANAGEMENT

**Crop Budgets  
Central Illinois**  
University of Illinois  
Grain Farm Returns and Costs

## 2007 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	180	170	53	55	85	22
Price per bu	\$2.75	\$2.75	\$6.25	\$6.25	\$3.75	\$6.25
LDP per bu	0.00	0.00	0.00	0.00	0.00	0.00
Crop revenue	\$495	\$468	\$331	\$344	\$319	\$138
LDP revenue	0	0	0	0	0	0
Other gov't payments	27	27	27	27	27	0
Crop insurance proceeds	0	0	0	0	0	0
<b>Gross revenue</b>	<b>\$522</b>	<b>\$495</b>	<b>\$358</b>	<b>\$371</b>	<b>\$346</b>	<b>\$138</b>
Fertilizers	\$73	\$83	\$27	\$27	\$52	\$10
Pesticides	43	45	32	32	30	12
Seed	46	46	32	32	11	28
Drying	12	11	1	1	2	0
Storage	6	5	4	4	2	2
Crop insurance	8	8	6	6	3	3
<b>Total direct costs</b>	<b>\$188</b>	<b>\$198</b>	<b>\$102</b>	<b>\$102</b>	<b>\$100</b>	<b>\$55</b>
Machine hire/lease	\$7	\$8	\$5	\$5	\$5	\$3
Utilities	4	4	3	3	3	1
Machine repair	13	14	12	12	12	10
Fuel and oil	16	17	13	13	11	8
Light vehicle	1	2	1	1	1	0
Mach. depreciation	21	22	20	20	19	12
<b>Total power costs</b>	<b>\$62</b>	<b>\$67</b>	<b>\$54</b>	<b>\$54</b>	<b>\$51</b>	<b>\$34</b>
Hired labor	\$9	\$9	\$9	\$9	\$9	\$7
Building repair and rent	4	4	4	4	4	0
Building depreciation	3	3	3	3	3	0
Insurance	7	7	7	7	7	0
Misc	6	6	6	6	6	0
Interest (non-land)	15	15	13	13	11	5
<b>Total overhead costs</b>	<b>\$44</b>	<b>\$44</b>	<b>\$42</b>	<b>\$42</b>	<b>\$40</b>	<b>\$12</b>
<b>Total non-land costs</b>	<b>\$294</b>	<b>\$309</b>	<b>\$198</b>	<b>\$198</b>	<b>\$191</b>	<b>\$101</b>
<b>Operator and land return</b>	<b>\$228</b>	<b>\$186</b>	<b>\$160</b>	<b>\$173</b>	<b>\$155</b>	<b>\$37</b>

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### 2007 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	168	158	50	52	75	22
Price per bu	\$2.75	\$2.75	\$6.25	\$6.25	\$3.75	\$6.25
LDP per bu	0.00	0.00	0.00	0.00	0.00	0.00
Crop revenue	\$462	\$435	\$313	\$325	\$281	\$138
LDP revenue	0	0	0	0	0	0
Other gov't payments	25	25	25	25	25	0
Crop insurance proceeds	0	0	0	0	0	0
<b>Gross revenue</b>	<b>\$487</b>	<b>\$460</b>	<b>\$338</b>	<b>\$350</b>	<b>\$306</b>	<b>\$138</b>
Fertilizers	\$75	\$84	\$27	\$27	\$52	\$10
Pesticides	40	42	31	31	30	12
Seed	46	46	32	32	11	28
Drying	9	7	1	1	2	0
Storage	8	7	3	3	2	2
Crop insurance	8	8	6	6	3	3
<b>Total direct costs</b>	<b>\$186</b>	<b>\$194</b>	<b>\$100</b>	<b>\$100</b>	<b>\$100</b>	<b>\$55</b>
Machine hire/lease	\$6	\$7	\$5	\$5	\$5	\$3
Utilities	5	5	4	4	4	1
Machine repair	15	16	13	13	13	10
Fuel and oil	16	17	13	13	11	8
Light vehicle	1	1	1	1	1	0
Mach. depreciation	21	22	20	20	18	12
<b>Total power costs</b>	<b>\$64</b>	<b>\$68</b>	<b>\$56</b>	<b>\$56</b>	<b>\$52</b>	<b>\$34</b>
Hired labor	\$10	\$10	\$10	\$10	\$10	\$8
Building repair and rent	4	4	4	4	4	0
Building depreciation	4	4	4	4	4	0
Insurance	8	8	8	8	8	0
Misc	5	5	5	5	5	0
Interest (non-land)	16	16	14	14	12	4
<b>Total overhead costs</b>	<b>\$47</b>	<b>\$47</b>	<b>\$45</b>	<b>\$45</b>	<b>\$43</b>	<b>\$12</b>
<b>Total non-land costs</b>	<b>\$297</b>	<b>\$309</b>	<b>\$201</b>	<b>\$201</b>	<b>\$195</b>	<b>\$101</b>
<b>Operator and land return</b>	<b>\$190</b>	<b>\$151</b>	<b>\$137</b>	<b>\$149</b>	<b>\$111</b>	<b>\$37</b>

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Grain Farm Returns and Costs

### 2007 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	155	145	50	52	65	27
Price per bu	\$2.75	\$2.75	\$6.25	\$6.25	\$3.75	\$6.25
LDP per bu	0.00	0.00	0.00	0.00	0.00	0.00
Crop revenue	\$426	\$399	\$313	\$325	\$244	\$169
LDP revenue	0	0	0	0	0	0
Other gov't payments	19	19	19	19	19	0
Crop insurance proceeds	0	0	0	0	0	0
<b>Gross revenue</b>	<b>\$445</b>	<b>\$418</b>	<b>\$332</b>	<b>\$344</b>	<b>\$263</b>	<b>\$169</b>
Fertilizers	\$75	\$84	\$25	\$25	\$48	\$10
Pesticides	40	42	29	29	30	12
Seed	47	47	30	30	11	28
Drying	4	3	1	1	1	0
Storage	3	3	2	2	3	2
Crop insurance	8	8	6	6	3	3
<b>Total direct costs</b>	<b>\$177</b>	<b>\$187</b>	<b>\$93</b>	<b>\$93</b>	<b>\$96</b>	<b>\$55</b>
Machine hire/lease	\$6	\$7	\$6	\$6	\$6	\$3
Utilities	3	3	3	3	3	1
Machine repair	15	16	15	15	15	10
Fuel and oil	16	17	14	14	14	8
Light vehicle	1	1	1	1	1	0
Mach. depreciation	23	24	22	22	20	12
<b>Total power costs</b>	<b>\$64</b>	<b>\$68</b>	<b>\$61</b>	<b>\$61</b>	<b>\$59</b>	<b>\$34</b>
Hired labor	\$12	\$12	\$12	\$12	\$12	\$12
Building repair and rent	5	5	5	5	5	0
Building depreciation	5	5	5	5	5	0
Insurance	4	4	4	4	4	0
Misc	5	5	5	5	5	0
Interest (non-land)	17	17	15	15	12	4
<b>Total overhead costs</b>	<b>\$48</b>	<b>\$48</b>	<b>\$46</b>	<b>\$46</b>	<b>\$43</b>	<b>\$16</b>
<b>Total non-land costs</b>	<b>\$289</b>	<b>\$303</b>	<b>\$200</b>	<b>\$200</b>	<b>\$198</b>	<b>\$105</b>
<b>Operator and land return</b>	<b>\$156</b>	<b>\$115</b>	<b>\$132</b>	<b>\$144</b>	<b>\$65</b>	<b>\$64</b>

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