



## Weekly Farm Economics: 2022 Updated Crop Budgets

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Illinois crop budgets for 2022 have been revised from their initial release in July (*farmdoc daily*, [July 27, 2021](#)). Significant changes from the initial release are increased corn prices, soybean prices, and non-land costs. The cost with the largest increase is fertilizer. Total costs will be at all-time highs in 2022. Still, we are projecting positive returns for 2022, given relatively high corn and soybean prices. Moreover, our return estimates do not suggest large changes in acres from 2021 to 2022.

### Updated Budgets

Updated 2021 and 2022 projections are contained in two publications in the [Management section of farmdoc](#). First, the [2022 Crop Budgets](#) give corn-after-corn, corn-after-soybeans, soybeans-after-corn, soybeans-after-soybeans, and wheat budgets for four regions: northern Illinois, central Illinois with high-productivity farmland, central Illinois with low-productivity farmland, and southern Illinois. A double-crop soybeans budget also is given for all regions except northern Illinois. The second publication — [Revenue and Costs for Illinois Grain Crop](#) — shows yearly returns and costs of producing corn, soybeans, wheat, and double-crop soybeans by region of Illinois. These budgets represent average returns no matter the preceding crop and are summarized from farms enrolled in Illinois Farm Business Farm Management (FBFM).

Table 1 shows corn and soybean performance for 2020, 2021, and 2022 on high-productivity farmland in central Illinois. Similar results for northern Illinois, central Illinois low-productivity farmland, and southern Illinois are available in the [Revenue and Costs for Illinois Grain Crops](#) publication. Trends in Table 1 for high-productivity farmland also occur across regions.

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**Table 1. Corn and Soybean Returns, Central Illinois, High-Productivity Farmland**

	Corn			Soybeans		
	2020	2021P	2022P	2020	2021P	2022P
Yield per acre	214	235	225	72	75	71
Price per bu	\$4.33	\$5.50	\$5.00	\$11.22	\$12.75	\$12.00
Crop revenue	\$927	\$1,293	\$1,125	\$808	\$956	\$852
ARC/PLC	0	0	0	0	10	0
Ad hoc Federal payments	68	0	0	45	0	0
Crop insurance proceeds	9	0	0	4	0	0
<b>Gross revenue</b>	<b>\$1,004</b>	<b>\$1,293</b>	<b>\$1,125</b>	<b>\$857</b>	<b>\$966</b>	<b>\$852</b>
Fertilizers	143	153	230	42	45	102
Pesticides	78	80	95	47	50	65
Seed	112	115	124	71	74	80
Drying	22	22	24	0	0	2
Storage	15	15	15	5	5	5
Crop insurance	21	24	24	14	16	16
<b>Total direct costs</b>	<b>\$391</b>	<b>\$409</b>	<b>\$512</b>	<b>\$179</b>	<b>\$190</b>	<b>\$270</b>
Machine hire/lease	16	17	19	14	14	16
Utilities	5	5	6	5	5	6
Machine repair	28	30	36	24	21	27
Fuel and oil	15	18	20	13	12	13
Light vehicle	2	2	2	1	1	1
Mach. depreciation	65	73	79	56	62	68
<b>Total power costs</b>	<b>\$131</b>	<b>\$145</b>	<b>\$162</b>	<b>\$113</b>	<b>\$115</b>	<b>\$131</b>
Hired labor	20	21	23	20	21	22
Building repair and rent	6	7	8	5	6	7
Building depreciation	13	14	15	11	12	13
Insurance	11	11	12	11	11	12
Misc	10	10	11	10	10	11
Interest (non-land)	17	14	12	15	12	10
<b>Total overhead costs</b>	<b>\$77</b>	<b>\$77</b>	<b>\$81</b>	<b>\$72</b>	<b>\$72</b>	<b>\$75</b>
<b>Total non-land costs</b>	<b>\$599</b>	<b>\$631</b>	<b>\$755</b>	<b>\$364</b>	<b>\$377</b>	<b>\$476</b>
<b>Operator and land return</b>	<b>\$405</b>	<b>\$662</b>	<b>\$370</b>	<b>\$493</b>	<b>\$589</b>	<b>\$376</b>
Land costs (cash rent)	279	284	309	279	284	309
<b>Farmer return</b>	<b>\$126</b>	<b>\$378</b>	<b>\$61</b>	<b>\$214</b>	<b>\$305</b>	<b>\$67</b>

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**Prices**

In the updated 2022 projections, we are using a \$5.00 per bushel corn price and a \$12.00 per bushel soybean price. These projected prices were based on prices from Chicago Mercantile Exchange (CME) futures contracts. Current fall bids for 2022 cash delivery were also considered and are close to projected prices.

Many forecasters are using much lower prices for 2022. For example, during a [November 29 farmdoc webinar](#), price forecasts were for a \$4.25 corn price and an \$11.00 soybean price. USDA is forecasting a \$4.80 corn price and \$10.50 soybean price in its preliminary long-run forecasts.

The alternative *farmdoc* forecast and USDA forecast are heavily based on historical supply/demand conditions. At this point, those historical relationships suggest much lower prices than are being offered by CME futures contracts. Several factors may explain this divergence:

1. Supply disruptions,
2. Extremely high fertilizer prices,
3. Overall increases in production and land costs, and
4. Prospects of inflation.

Whether prices will come down to those indicated by typical supply/demand relationships is an open question that will play out over the next year. Suffice it to say, there is considerable downside risk in the market, and lower prices will result in much lower revenues and returns.

### **Fertilizer Costs**

Fertilizer costs in 2022 are projected at \$230 per acre for corn, considerably higher than the \$153 per acre costs for 2021. Fertilizer prices have skyrocketed in recent months (see *farmdoc daily*, [October 26, 2021](#), [November 2, 2021](#), and [November 30, 2021](#)). The \$230 per acre does not reflect the over \$1,300 high price point for anhydrous ammonia in November. We did not raise fertilizer costs to reflect the highest prices because:

1. Many farmers booked nitrogen purchases earlier in the fall when ammonia prices were below \$1,000 per ton.
2. Fertilizer prices may decrease in the spring when many fertilizer purchases are made.
3. Farmers likely will be reducing fertilizer rates.

Soybean fertilizer costs are at \$102 per acre (see Table 1), up considerably from the \$45 costs for 2021. These higher fertilizer costs reflect higher prices for diammonium phosphate and potash.

Uncertainty exists about whether fertilizer prices will continue at high levels. The dynamics of fertilizer prices in conjunction with movements in corn and soybean prices will influence relative profitability of corn and soybeans and acreage decisions.

### **Non-land Costs**

Total non-land costs are projected at \$755 per acre for corn, a \$124 increase over the \$631 per acres cost in 2021 (see Table 1). Similarly, soybean non-land costs are projected at \$476 per acre, a \$101 per acre increase over the 2021 level. Both corn and soybean costs will be at record levels.

### **Cash Rents**

Cash rents in 2022 are projected to average \$309 per acre, an increase of \$25 per acre from the 2021 level of \$284 per acre. If it occurs, the \$25 per acre increase will be the second-highest, only exceeded by a \$33 per acre increase in cash rents between 2010 and 2011.

There will be great diversity in cash rent increases across farms. Some cash rents will not increase, while others will have much larger increases than \$25 per acre. The \$25 projected increase considers these variations and gives an average.

## **Farmer Return**

Farmer returns in 2021 are projected to be \$378 per acre for corn and \$305 per acre for soybeans. These returns are at record levels and will result in very high incomes in 2021.

Farmer returns for 2022 are projected at \$61 per acre for corn and \$67 per acre for soybeans, down considerably from 2021 levels. These per acre return levels will result in above-average net incomes based on high corn and soybean prices. However, any appreciable decline from the \$5.00 per bushel corn and \$12.00 per bushel soybean prices without corresponding increases in yields will result in very low incomes.

## **Corn versus Soybeans**

Overall, corn and soybeans have about the same projected profitability in 2022: \$61 farmer return for corn and \$67 farmer return for soybeans, giving a difference of -\$6 per acre. All regions have about equal corn and soybean returns (see the corn-minus-soybean returns in Table 2). Corn is projected \$15 per acre higher than soybeans in northern Illinois, corn is projected \$14 per acre higher than soybean on low productivity farmland in central Illinois, and soybeans are projected to be \$1 more profitable than corn in southern Illinois.

Differences in corn and soybean returns will be influenced by corn, soybean, and nitrogen fertilizer prices. Much uncertainty exists about all three prices levels, and it is likely that there will be changes in prices moving into the spring planting season. These price changes will influence the relative profitability of the two crops. At this point, our return estimates are not suggesting large changes in acreage.

**Table 2. 2022 Corn and Soybean Budgets for Northern, Central, and Southern Illinois**

	Northern		Central-High		Central-Low		Southern	
	Corn	Beans	Corn	Beans	Corn	Beans	Corn	Beans
Yield per acre	215	64	225	71	215	65	186	57
Price per bu	\$5.00	\$12.00	\$5.00	\$12.00	\$5.00	\$12.00	\$5.00	\$12.00
Crop revenue	\$1,075	\$768	\$1,125	\$852	\$1,075	\$780	\$930	\$684
ARC/PLC	0	0	0	0	0	0	0	0
Ad hoc Federal payments	0	0	0	0	0	0	0	0
Crop insurance proceeds	0	0	0	0	0	0	0	0
<b>Gross revenue</b>	<b>\$1,075</b>	<b>\$768</b>	<b>\$1,125</b>	<b>\$852</b>	<b>\$1,075</b>	<b>\$780</b>	<b>\$930</b>	<b>\$684</b>
Fertilizers	220	95	230	102	225	99	220	98
Pesticides	80	49	95	65	85	64	85	66
Seed	121	72	124	80	129	69	116	72
Drying	25	2	24	2	20	3	13	3
Storage	9	4	15	5	11	3	4	3
Crop insurance	27	18	24	16	24	16	22	16
<b>Total direct costs</b>	<b>\$482</b>	<b>\$240</b>	<b>\$512</b>	<b>\$270</b>	<b>\$494</b>	<b>\$254</b>	<b>\$460</b>	<b>\$258</b>
Machine hire/lease	30	25	19	16	17	14	15	14
Utilities	7	6	6	6	7	6	8	6
Machine repair	38	29	36	27	36	27	41	33
Fuel and oil	21	15	20	13	19	13	23	19
Light vehicle	2	1	2	1	1	1	1	1
Mach. depreciation	72	62	79	68	77	67	85	81
<b>Total power costs</b>	<b>\$170</b>	<b>\$138</b>	<b>\$162</b>	<b>\$131</b>	<b>\$157</b>	<b>\$128</b>	<b>\$173</b>	<b>\$154</b>
Hired labor	26	24	23	22	19	18	32	29
Building repair and rent	10	6	8	7	9	7	9	6
Building depreciation	18	10	15	13	14	10	21	12
Insurance	10	10	12	12	13	11	14	14
Misc	10	10	11	11	9	9	10	10
Interest (non-land)	17	13	12	10	13	10	16	5
<b>Total overhead costs</b>	<b>\$91</b>	<b>\$73</b>	<b>\$81</b>	<b>\$75</b>	<b>\$77</b>	<b>\$65</b>	<b>\$102</b>	<b>\$76</b>
<b>Total non-land costs</b>	<b>\$743</b>	<b>\$451</b>	<b>\$755</b>	<b>\$476</b>	<b>\$728</b>	<b>\$447</b>	<b>\$735</b>	<b>\$488</b>
<b>Operator and land return</b>	<b>\$332</b>	<b>\$317</b>	<b>\$370</b>	<b>\$376</b>	<b>\$347</b>	<b>\$333</b>	<b>\$195</b>	<b>\$196</b>
Land costs (cash rent)	286	286	309	309	263	263	188	188
<b>Farmer return</b>	<b>\$46</b>	<b>\$31</b>	<b>\$61</b>	<b>\$67</b>	<b>\$84</b>	<b>\$70</b>	<b>\$7</b>	<b>\$8</b>
<b>Corn-Minus-Soybean Return</b>	<b>\$15</b>		<b>-\$6</b>		<b>\$14</b>		<b>-\$1</b>	

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### Summary

Costs will be at all-time highs in 2022. However, profitability is expected if corn and soybean prices remain high. If corn and soybeans prices fall, 2022 net farm incomes could be very low. Much uncertainty exists concerning fertilizer prices moving into spring. Those levels will have an influence over total costs for 2022.

The updated budgets result in a comparative returns situation between corn and soybeans that does not indicate acreage would deviate from recent rotations. If the difference in expected returns for the two crops widens planting decisions may be affected.

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