



Weekly Farm Economics: 2024 Crop Budgets

Gary Schnitkey, Nick Paulson, and Jim Baltz

Department of Agricultural and Consumer Economics
University of Illinois

Carl Zulauf

Department of Agricultural, Environmental and Development Economics
Ohio State University

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Corn and soybean budgets for 2024 are now available [here](#) on the farmdoc website. Overall, projections are for lower costs on both corn and soybeans in 2024 than in 2023. The lower costs predominately come from fertilizer price reductions. Even given cost reductions, break-even prices are above \$5.00 per bushel for corn and \$12 per bushel for soybeans across all regions of Illinois. Current projections favor soybeans.

2024 Crop Budgets

Budgets are prepared for three regions of Illinois: northern, central, and southern Illinois (see Table 1). Central Illinois budgets are further broken down based on high and low-productivity farmland. From 2018 to 2022, average yield for central-high productivity farmland was 223 bushels per acre, while yields averaged 207 bushels per acre for the central low productivity farmland.

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Table 1. 2024 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	221	68	227	72	214	67	191	57
Price per bu	\$4.80	\$12.80	\$4.80	\$12.80	\$4.80	\$12.80	\$4.80	\$12.80
Crop revenue	\$1,061	\$870	\$1,090	\$922	\$1,027	\$858	\$917	\$730
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	10	0	10	0
Gross revenue	\$1,061	\$870	\$1,090	\$922	\$1,037	\$858	\$927	\$730
Fertilizers	180	70	180	73	175	70	175	80
Pesticides	121	68	140	74	136	70	133	95
Seed	136	84	126	80	144	76	129	70
Drying	28	5	34	4	28	6	22	4
Storage	3	4	8	4	6	2	6	4
Crop insurance	37	28	39	26	34	26	32	26
Total direct costs	\$505	\$259	\$527	\$261	\$523	\$250	\$497	\$279
Machine hire/lease	33	26	24	19	24	21	20	20
Utilities	9	7	9	8	10	9	9	9
Machine repair	43	34	45	40	50	44	52	52
Fuel and oil	40	26	20	26	30	26	37	26
Light vehicle	2	2	2	2	2	2	2	2
Mach. depreciation	75	67	79	70	83	69	92	85
Total power costs	\$202	\$162	\$179	\$165	\$199	\$171	\$212	\$194
Hired labor	31	26	26	23	24	21	33	29
Building repair and rent	16	8	8	7	10	8	13	8
Building depreciation	18	9	17	14	17	14	24	14
Insurance	13	9	14	14	15	15	19	19
Misc	12	13	13	13	11	11	11	11
Interest (non-land)	27	22	24	20	25	20	24	21
Total overhead costs	\$117	\$87	\$102	\$91	\$102	\$89	\$124	\$102
Total non-land costs	\$824	\$508	\$808	\$517	\$824	\$510	\$833	\$575
Operator and land return	\$237	\$362	\$282	\$405	\$213	\$348	\$94	\$155
Land costs (cash rent)	318	318	363	363	292	292	207	207
Farmer return	-\$81	\$44	-\$81	\$42	-\$79	\$56	-\$113	-\$52
Breakeven price to cover:								
Non-land costs	\$3.73	\$7.47	\$3.56	\$7.18	\$3.85	\$7.61	\$4.36	\$10.09
Total costs ¹	\$5.17	\$12.15	\$5.16	\$12.22	\$5.21	\$11.97	\$5.45	\$13.72

¹ Equals non-land costs plus land costs.

The basis for budgets is farm records from Illinois Farm Business Farm Management (FBFM). FBFM records for each of the four breakdowns are available from 2017 to 2022 in a publication on *farmdoc* entitled "[Revenue and Costs for Illinois Grain Crops](#)." The projections in Table 1 are updated from historical summaries in the following manner:

1. Projected yields are based on historical trends (see *farmdoc daily*, [June 6, 2023](#), for a discussion of trend yields). Trend yield projections for corn are 221 bushels per acre for northern Illinois, 227 for central-high, 214 for central-low, and 191 for southern Illinois. Trend yields for soybeans

are 68 bushels per acre for northern Illinois, 72 bushels per acre for central-high, 67 for central-low, and 57 for southern Illinois.

2. Corn and soybean prices are based on current futures prices on Chicago Mercantile Exchange (CME) contracts that will be used to market the 2024 crop. Projected 2024 prices are \$4.80 per bushel for corn and \$12.80 for soybeans.
3. Projected 2024 cost levels are based on 2022 levels, the last year for which FBFM summaries exist. Those 2022 levels are updated based on changes in input prices.

The only revenue included in the 2024 budget is crop revenue. The traditional commodity programs -- Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) would not make payments at prices and yields used to construct these budgets. Ad hoc Federal programs could provide an alternative source for payments, but those would require congressional or administrative action.

Total non-land costs include:

- Direct costs -- these costs will vary with the crop planted and include fertilizer, pesticides, seed, drying, storage, and crop insurance.
- Power costs relate to machinery and power and include machinery hire, utilities, machine repair, fuel and oil, light vehicle, and machinery depreciation.
- Overhead costs include hired labor, building repair and rent, building depreciation, insurance, miscellaneous., and interest on non-land costs.

Operator and land return equals gross revenue minus non-land costs and represents a return to the farmer and landowner. Subtracting out land costs results in a farmer return.

Projected 2024 farmer returns are negative for corn: -\$81 per acre for northern Illinois, -\$82 per acre for central-high, -\$79 for central-low, and -\$113 for southern Illinois. Soybeans are projected to be more profitable than corn. Soybeans in southern Illinois are projected at \$44 per acre, \$42 per acre in central-high, \$56 in central-low, and -\$52 in southern Illinois.

Table 1 shows break-even prices to cover non-land costs and total costs. Total costs include non-land and land costs. Break-even prices to cover total costs exceed \$5.00 per bushel for corn across all regions. For soybeans, break-even prices exceed \$12.00 per bushel in all regions.

Historical Perspective

Table 2 provides a perspective of the 2024 budgets relative to 2022 actual results and current expectations for 2023 returns. Two major changes have occurred.

Table 2. Corn and Soybean Returns, Central Illinois with High-Productivity Farmland

	Corn			Soybeans		
	2022	2023P	2024P	2022	2023P	2024P
Yield per acre	235	222	227	71	69	72
Price per bu	\$6.40	\$5.00	\$4.80	\$14.00	\$13.30	\$12.80
LDP per bu						
	\$/acre	\$/acre	\$/acre	\$/acre	\$/acre	\$/acre
Crop revenue	\$1,504	\$1,110	\$1,090	\$994	\$918	\$922
ARC/PLC	0	0	0	0	0	0
Ad hoc Federal payments	0	0	0	0	0	0
Crop insurance proceeds	2	10	0	4	0	0
Gross revenue	\$1,506	\$1,120	\$1,090	\$998	\$918	\$922
Fertilizers	240	250	180	71	95	73
Pesticides	128	136	140	77	88	74
Seed	117	126	126	74	80	80
Drying	26	20	34	0	2	4
Storage	8	8	8	4	4	4
Crop insurance	39	39	39	26	26	26
Total direct costs	\$558	\$579	\$527	\$252	\$295	\$261
Machine hire/lease	20	22	24	17	19	19
Utilities	7	8	9	6	7	8
Machine repair	39	42	45	34	37	40
Fuel and oil	28	34	20	24	26	26
Light vehicle	2	2	2	2	2	2
Mach. depreciation	71	79	79	66	70	70
Total power costs	\$167	\$187	\$179	\$149	\$161	\$165
Hired labor	22	24	26	21	22	23
Building repair and rent	6	7	8	5	6	7
Building depreciation	14	15	17	12	13	14
Insurance	12	13	14	12	13	14
Misc	11	12	13	11	12	13
Interest (non-land)	18	20	24	16	18	20
Total overhead costs	\$83	\$91	\$102	\$77	\$84	\$91
Total non-land costs	\$808	\$857	\$808	\$478	\$540	\$517
Operator and land return	\$698	\$263	\$282	\$520	\$378	\$405
Land costs (cash rent)	358	363	363	358	363	363
Farmer return	\$340	-\$100	-\$81	\$162	\$15	\$42
Break-even price to cover	\$/bu	\$/bu	\$/bu	\$/bu	\$/bu	\$/bu
Non-land costs	\$3.44	\$3.86	\$3.56	\$6.73	\$7.83	\$7.18
Total costs ¹	\$4.96	\$5.50	\$5.16	\$11.77	\$13.09	\$12.22

¹ Equals non-land costs plus land costs.

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Corn and soybean prices: Corn and soybean prices are projected to decline from 2022 to 2023, and again in 2024. Corn prices averaged \$6.40 per bushel in 2022. Projections place the 2023 corn price at \$5.00 and the 2024 price at \$4.80. Soybean prices declined from \$14.00 per bushel in 2022 to \$13.30 in 2023 and are projected to decline to \$12.80 in 2024. Corn and soybean prices were at relatively high

levels in 2020 through 2022. Price levels in 2023 and 2024 are lower, but remain above the average prices for 2014 through 2019: \$3.74 per bushel for corn and \$9.84 for soybeans.

Non-land costs: For corn, non-land costs increased from \$808 per acre in 2022 to \$857 per acre in 2023. Soybean non-land costs increased from \$478 in 2022 to \$540 in 2023. Both corn and soybean non-land costs are at record levels in 2023.

For both corn and soybeans, costs are projected to decrease in 2024. Non-land costs for corn are projected at \$808 per acre, back to the 2022 non-land cost level. Soybean non-land costs are projected at \$517, down from the \$540 level in 2023.

Reductions in fertilizer prices are the main factor in the non-land cost decline. In recent months, fertilizer prices have declined, leading to protected fertilizer cost declines (see *farmdoc daily*, [August 15, 2023](#)). No other costs are projected to decline.

While projected to be down, 2024 projected non-land costs are near historically high levels. For corn, the 2024 level of \$808 per acre is \$214 higher than the \$594 average from 2014 to 2019. For soybeans, the \$517 level in 2024 is \$154 higher than the 2014 through 2019 average of \$363 per acre.

Commentary

Farmer returns are projected to be much lower in 2023 and 2024 after being relatively high in 2020, 2021, and 2022, as illustrated for soybeans in Figure 1 and corn in Figure 2. Projected returns in 2023 and 2024 are at levels much like those from 2014 to 2019, a period when financial position stayed constant or declined on many Illinois farms. Declines in corn and soybean prices drive the projected revenue declines for 2023 and 2024. While not back at 2014-2019 levels, the price declines in 2023 and 2024 result in low returns because of much higher costs in 2023 and 2024 relative to the 2014-2019 period.

With yields at trend levels, break-even prices are above \$5.00 per bushel of corn and above \$12.00 for soybeans. Lower prices at trend yields will result in significant losses. Current commodity programs will only provide payments once significant losses occur. An estimated floor on 2024 revenue will become more apparent when projected prices for crop insurance are set in February.

In contrast, higher prices would improve the 2024 return outlook considerably. As always, higher prices are possible. Some possible events that could cause higher prices are 1) a poor finish to the 2023 crop, 2) production problems in South America, and 3) higher demand for U.S. crops from China. Whether these or other events would cause those higher prices are difficult to anticipate at this point.

Figure 1. Soybean Prices in \$ per bushel and Farmer Returns in \$ per acre on High Productivity Farmland in Central Illinois

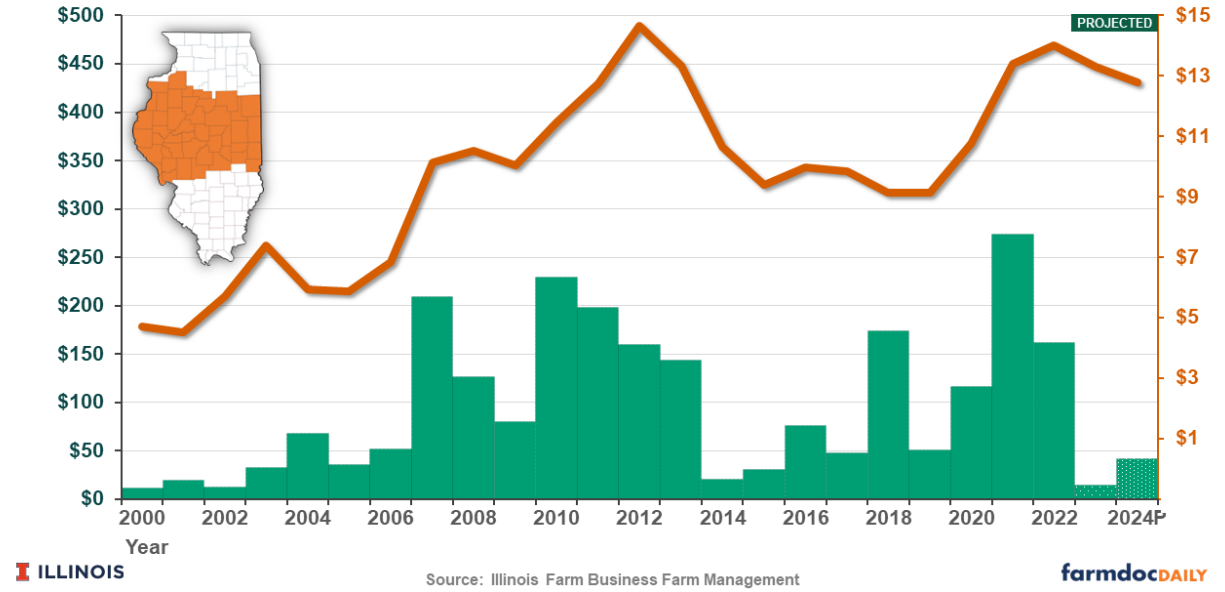
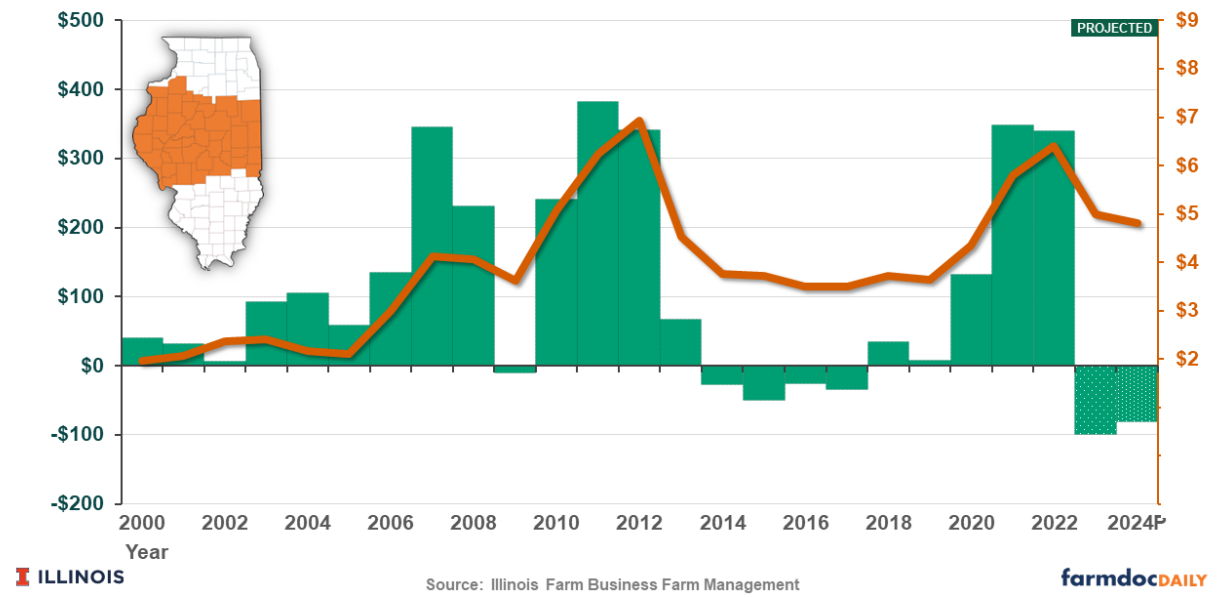


Figure 2. Corn Prices in \$ per bushel and Farmer Returns in \$ per acre on High Productivity Farmland in Central Illinois



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