

2021 Corn, Conventional Tillage, Non-Irrigated Budget

	<u>Unit</u>	<u>Quantity</u>	<u>Price</u>	<u>Total</u>	<u>Your Farm</u>
Revenue ¹					
			Gross Revenue (\$/Acre)		
Corn	Bu/acre	170	\$4.40	\$748.00	_____
Government Payments	\$/acre	1	\$0.00	\$0.00	_____
Other Revenue	\$/acre	1	\$0.00	\$0.00	_____
			Total Revenue \$748.00		_____
Variable Expenses					
Seed ²	Thous.	32	\$3.30	\$105.60	_____
Fertilizer & Lime (Table 1) ³	Acre	1	\$148.47	\$148.47	_____
Chemical (Table 2) ⁴	Acre	1	\$49.77	\$49.77	_____
Crop Scout or Consultant	Acre	1	\$10.00	\$10.00	_____
Repair & Maintenance (Table 3) ⁵	Acre	1	\$46.71	\$46.71	_____
Fuel, Oil & Filter (Table 3) ⁵	Acre	1	\$21.38	\$21.38	_____
Operator Labor (Table 3) ⁵	Acre	1	\$16.17	\$16.17	_____
Crop Insurance ⁶	Acre	1	\$11.21	\$11.21	_____
Machinery Rental	Acre	1	\$0.00	\$0.00	_____
Custom Work	Acre	1	\$0.00	\$0.00	_____
Drying (Fuel/Electric)	Bu	170	\$0.00	\$0.00	_____
Other	Acre	1	\$0.00	\$0.00	_____
Other	Acre	1	\$0.00	\$0.00	_____
Operating Interest ⁷	%	\$409.31	4.65%	\$9.52	_____
			Total Variable Expenses \$418.83		_____
			Return Above Variable Expenses \$329.17		_____
Fixed Expenses					
Machinery ⁵					
Capital Recovery (Table 3)	Acre	1	\$113.24	\$113.24	_____
Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	_____
Property Taxes	Acre	1	\$0.00	\$0.00	_____
Cash Rent ⁸	Acre	1	\$97.00	\$97.00	_____
Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	_____
Management Labor	Acre	1	\$18.00	\$18.00	_____
Other	Acre	1	\$0.00	\$0.00	_____
			Total Fixed Expenses \$228.24		_____
			Total Expenses \$647.06		_____
			Return Above Specified Expenses \$100.94		_____

Breakeven Price for Selected Yield

Yield (bu)	Variable Cost (\$/bu)	Total Specified Cost (\$/bu)
120	\$3.49	\$5.39
130	\$3.22	\$4.98
140	\$2.99	\$4.62
150	\$2.79	\$4.31
160	\$2.62	\$4.04
170	\$2.46	\$3.81
180	\$2.33	\$3.59
190	\$2.20	\$3.41
200	\$2.09	\$3.24
210	\$1.99	\$3.08
220	\$1.90	\$2.94

Breakeven Yield for Selected Price

Price (\$/bu)	Variable Cost (bu)	Total Specified Cost (bu)
\$3.15	133	205
\$3.40	123	190
\$3.65	115	177
\$3.90	107	166
\$4.15	101	156
\$4.40	95	147
\$4.65	90	139
\$4.90	85	132
\$5.15	81	126
\$5.40	78	120
\$5.65	74	115

FOOTNOTES

- 1) Corn price was estimated using weighted average futures prices from September 2021 to July 2022, adjusted by average monthly basis in Tennessee. Corn yield is the predicted 2021 linear trend line yield for corn in Tennessee, using state average yields from 2000-2020.
- 2) Assumes a bag of seed costs \$264 and contains 80,000 seeds (\$3.30/thousand seeds). Seeding rate of 32,000 seeds/acre. Seed treatment is included in the price.
- 3) Lime is assumed to be applied once every four years at a rate of 2 tons per acre. Includes the cost of application. Fertilizer quantities and prices are shown in elemental lb. Check with farm suppliers for rebates, discounts and incentives for fertilizers, seed and chemicals. Substantial cost savings may be available. Substantial variation in prices for seed, chemical and fertilizer exist based on quantity purchased, product purchased and location of purchase.
- 4) A foliar fungicide application may be used in some cropping systems at a cost of \$15 to \$20 per acre. Cost will vary depending on the fungicide used, the application rate and method of application.
- 5) Machinery expenses will vary dramatically by operation, financial resources and land base. The machinery cost estimates provided in Table 3 are provided as an estimate of cost of ownership and operation for specified pieces of machinery that would be available to a "representative" row-crop farm in Tennessee. To estimate machinery costs for a specific set of equipment, interested parties can utilize the Excel version of the budgets and modify the Machinery Assumptions Table.
- 6) Crop insurance is an estimate and will vary by policy, county and coverage election. The estimate provided is the average premium paid per insured acre of corn in Tennessee for the previous production year, as reported by USDA RMA's Summary of Business Report.
- 7) Operating interest is assumed to be charged on half of all variable expenses.
- 8) Cash rental rates are the 2020 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.

Table 1. Fertilizer & Lime³

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea - Planting	60	\$0.39	\$23.41	_____
	UAN 32 - Side dress	120	\$0.39	\$46.88	_____
Phosphorous	P ₂ O ₅	70	\$0.37	\$25.98	_____
Potassium	K ₂ O	70	\$0.29	\$19.95	_____
Zinc Sulfate		15	\$0.60	\$9.00	_____
Ammonium Sulfate		50	\$0.17	\$8.25	_____
Lime	Limestone	1,000	\$30.00	\$15.00	_____
Other		0	\$0.00	\$0.00	_____
Other		0	\$0.00	\$0.00	_____
Total				\$148.47	_____

Table 2. Chemicals⁴

Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acre)
Herbicides	Pre-Emerge	Atrazine	qt.	1	1	\$3.98	\$3.98	_____
		Gramoxone SL	oz.	1	40	\$0.28	\$11.20	_____
	Post-Emerge	Halex GT	pt.	1	3.6	\$6.70	\$24.12	_____
		Atrazine	qt.	1	1.5	\$3.98	\$5.97	_____
		Surfactant	\$/acre	3	1.0	\$1.50	\$4.50	_____
Insecticides	Harvest Aid	Other		0	0	\$0.00	\$0.00	_____
		Other		0	0	\$0.00	\$0.00	_____
		Other		0	0	\$0.00	\$0.00	_____
		Other		0	0	\$0.00	\$0.00	_____
		Other		0	0	\$0.00	\$0.00	_____
Total						\$49.77	_____	

Table 3. Machinery⁵

Chisel	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
	Tractor, 215 hp	Chisel Plow	21'	\$5.47	\$1.81	\$2.33	\$1.85	\$11.46	_____
Disk	Tractor, 215 hp	Tandem Disk	29'	\$9.26	\$1.82	\$1.87	\$1.49	\$14.44	_____
Prepare Seedbed	Tractor, 215 hp	Do-All	26.5'	\$6.18	\$1.66	\$1.96	\$1.56	\$11.36	_____
Plant	Tractor, 215 hp	Planter	16-row	\$13.54	\$2.82	\$1.60	\$1.27	\$19.22	_____
Fertilize	Tractor, 215 hp	Fertilize Spreader		\$4.21	\$1.53	\$1.70	\$1.35	\$8.79	_____
Fertilize	Tractor, 215 hp	Fertilize Spreader		\$4.21	\$1.53	\$1.70	\$1.35	\$8.79	_____
Fertilize	Tractor, 215 hp	Fertilize Spreader		\$4.21	\$1.53	\$1.70	\$1.35	\$8.79	_____
Weed Control	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Weed Control	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Weed Control	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Harvest	Combine	Corn Head	8-row	\$30.50	\$31.18	\$5.94	\$2.62	\$70.24	_____
Haul	Tractor, 215 hp	Grain Cart	800 bu	\$5.63	\$0.76	\$1.04	\$0.83	\$8.26	_____
Haul	Semi Tractor/Trailer			\$7.68	\$1.25	\$0.79	\$1.76	\$11.48	_____
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	_____
Total				\$113.24	\$46.71	\$21.38	\$16.17	\$197.50	_____