



2001 Economies of Scale Corn Production Budgets ¹
500, 1000, and 2000 Acres
130 Bushel/Acre Yield
Reduced Tillage Practices ²

ITEM	EXPLANATION	PRICE PER UNIT	ACRES ³			YOUR BUDGET
			500	1000	2000	
RECEIPTS						
Corn		\$1.92 /bu	\$250	\$250	\$250	_____
	Yield	130 bu/A				
VARIABLE COSTS ⁴						
Seed (kernels)	28000 seed/acre	7% price adjust	33	31	29	_____
Fertilizer ⁵						
N (lbs.)	140	10% price adjust	37	34	30	_____
P ₂ O ₅ (lbs)	45	10% price adjust	12	11	10	_____
K ₂ O(lbs)	50	10% price adjust	7	7	6	_____
Lime(lbs)	1000	10% price adjust	8	8	7	_____
Chemicals ⁶		7% price adjust	21	20	19	_____
Drying - Fuel & electric only		0.18 /bu	23	23	23	_____
Trucking - Fuel Only		0.03 /bu	4	4	4	_____
Fuel, Oil, Grease ⁷			6	6	6	_____
Repairs ⁸			16	13	13	_____
Miscellaneous ⁹			12	13	14	_____
Int. on Oper. Cap. ¹⁰	7 mo.	9.0%	8	7	7	_____
Hired Labor ¹¹			0	0	0	_____
TOTAL VARIABLE COSTS			188	176	168	_____
	-Per Acre					
	-Per Bushel		1.44	1.35	1.29	_____
FIXED COSTS						
Labor Charge (hrs.) ¹¹	4.0 3.6 3.2	8.00 /hr	32	29	26	_____
Mach. And Equip. Charge ¹²			76	55	38	_____
Land Charge	Rent		70	70	70	_____
Management Charge ¹³	4% 5% 6%	6% of gross revenue	10	12	15	_____
TOTAL FIXED COSTS			188	167	149	_____
TOTAL COSTS			376	343	316	_____
	-Per Acre					
	-Per Bushel		2.89	2.64	2.43	_____
RETURN ABOVE VARIABLE COSTS (ACRE)			62	74	82	_____
RETURN ABOVE TOTAL COSTS (ACRE)			(126)	(93)	(67)	_____
RETURN TO LABOR AND MANAGEMENT (ACRE) ¹⁴			(84)	(52)	(26)	_____
TOTAL RETURN TO LABOR AND MANAGEMENT FOR OPERATION ¹⁵			(42,227)	(51,817)	(52,581)	_____

1. This budget is intended to provide an example of how size of operations can affect the costs and returns of a crop enterprise. It is only one of many possible scenarios and is not intended to provide the user with specific revenues, costs, or returns.
2. Primary tillage implement is chisel plow.
3. Acreage is total acres of corn produced. Does not include acreage of other crops produced on the same farm.
4. A price adjustment is included for some variable costs. This reflects the possible price difference of an input based on quantity purchased. The 1000 acre column is the base price, the 500 acre column pays base price plus price adjustment, the 2000 acre pays base price less price adjustment. Some costs may not reflect adjustment due to rounding.
5. Assumes only maintenance application of fertilizer needed, continuous corn 3.8 O.M., 20 CEC, and soil test values of 25 ppm P/A and 150 ppm K/A.
6. Based on use of Bicep II Magnum
7. See specific calculations in Machinery Inventory.
8. See specific calculations in Machinery Inventory.
9. Includes supplies, utilities, soil tests, small tools, crop insurance, etc...
10. Interest on all variable costs, except drying and trucking, for 7 months at 10% interest rate.
11. Part or all of labor may be a variable cost if paid labor varies with acres farmed. It's a fixed cost if labor costs do not change with acres farmed. Labor required per acre is increased 10% for 500 acres and decreased 10% for 2000 acres.
12. Machinery charge includes depreciation, interest, insurance, and housing. Machinery is assumed to be 100% owned and recently purchased. Tractors and implements increase in size and number as acreage of operation increases. All machinery is assumed to be used only on operator's farm, no custom work included. The following page shows the machinery inventory for each size operation.
13. Management charges are greater for more acres due to the likelihood of having more fields/farms to manage and more transporting of equipment.
14. Return to labor and management is the revenue less total expenses except operator labor and management charge. It is a measure of the returns to the operator's labor and management.
15. Total return that can be expected for the entire operation. (Total Returns = return per acre x number of acres)

Machinery Inventory

500 Acres

Number in Inventory	Machine	Purchase Price(\$)	Inventory Value(\$)	Fuel (\$/A)	Repair Costs (\$/A)	# of times used
1	Fertilizer Spreader	9,400	9,400	0.13	0.26	1
1	11 ft. Chisel Plow	5,200	5,200	1.10	0.34	1
1	18 ft. Cultivator	9,000	9,000	0.60	0.25	1
1	6 Row Planter	17,800	17,800	0.50	1.37	1
1	30 ft. Sprayer	4,500	4,500	0.20	0.28	2
1	12 ft. Crop Cultivator	3,600	3,600	0.45	0.24	1
1	Small Combine w/ 10' head	137,400	137,400	1.60	7.8	1
2	185 bu. Gravity Wagons	2,500	5,000	0.60	0.84	1
1	Small Tractor	23,200	23,200	0.00	1.94	1
1	Medium Tractor	27,200	27,200	0.00	2.28	1
0	Large Tractor	106,600	0	0.00	0	0
1	Pickup Truck (1/2)	12,500	12,500	0.10	0.05	1
		TOTAL	254,800	5.28	15.65	

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$38,220
Fixed Costs per Acre = \$76

Diesel Price (\$/gal) = \$1.00

1000 Acres

Number in Inventory	Machine	Purchase Price(\$)	Inventory Value(\$)	Fuel (\$/A)	Repair Costs (\$/A)	# of times used
1	Fertilizer Spreader	9,400	9,400	0.13	0.26	1
1	19 ft. Chisel Plow	11,700	11,700	1.10	1.03	1
1	28 ft. Cultivator	14,200	14,200	0.60	0.25	1
1	8 Row Planter	25,500	25,500	0.50	1.47	1
1	60 ft. Sprayer	6,000	6,000	0.20	0.22	2
1	20 ft. Row Crop Cultivator	6,100	6,100	0.45	0.25	1
1	Med Combine w/ 20' head	157,100	157,100	1.60	4.13	1
2	240 bu. Gravity Wagons	4,000	8,000	0.60	0.42	1
0	Small Tractor	23,200	0	0.00	0	0
1	Medium Tractor	27,200	27,200	0.00	1.14	1
1	Large Tractor	91,400	91,400	0.00	3.84	1
1	Pickup Truck (1/2)	12,500	12,500	0.10	0.05	1
		TOTAL	369,100	5.28	13.06	

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$55,365
Fixed Costs per Acre = \$55

Diesel Price (\$/gal) = \$1.00

2000 Acres

Number in Inventory	Machine	Purchase Price(\$)	Inventory Value(\$)	Fuel (\$/A)	Repair Costs (\$/A)	# of times used
1	Fertilizer Spreader	9,400	9,400	0.13	0.26	1
1	30 ft. Chisel Plow	18,600	18,600	1.10	0.44	1
1	40 ft. Cultivator	14,700	14,700	0.60	0.18	1
1	12 Row Planter	38,700	38,700	0.50	2.23	1
1	60 ft. Sprayer	6,000	6,000	0.20	0.22	2
1	30 ft. Row Crop Cultivator	12,000	12,000	0.45	0.23	1
1	Large Combine w/ 30' head	199,500	199,500	1.60	3.77	1
4	240 bu. Gravity Wagons	4,000	16,000	0.60	0.84	1
1	Small Tractor	23,200	23,200	0.00	0.49	1
2	Medium Tractor	27,200	54,400	0.00	2.4	1
1	Large Tractor	106,600	106,600	0.00	2.24	1
1	Pickup Truck (1/2)	12,500	12,500	0.10	0.05	1
		TOTAL	511,600	5.28	13.35	

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$76,740
Fixed Costs per Acre = \$38

Diesel Price (\$/gal) = \$1.00