



2003 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		\$2.40 /bu	\$312	\$312	\$312	_____
	Yield	130 bu/A				
VARIABLE COSTS ⁴						
Seed (kernels)	28000 seed/acre	7% price adjust	33	31	29	_____
Fertilizer ⁵						
N (lbs.)	110	10% price adjust	29	26	24	_____
P ₂ O ₅ (lbs)	45	10% price adjust	12	11	10	_____
K ₂ O(lbs)	50	10% price adjust	7	7	6	_____
Lime(ton)	0.5	10% price adjust	7	6	5	_____
Chemicals ⁶		7% price adjust	24	22	20	_____
Drying - Fuel & electric only		0.18 /bu	23	23	23	_____
Trucking - Fuel Only		0.04 /bu	5	5	5	_____
Fuel, Oil, Grease ⁷			6	5	5	_____
Repairs ⁸			13	13	18	_____
Miscellaneous ⁹			12	13	14	_____
Int. on Oper. Cap. ¹⁰	7 mo.	9.0%	7	7	7	_____
Hired Labor ¹¹			0	0	0	_____
TOTAL VARIABLE COSTS						
		-Per Acre	179	169	167	_____
		-Per Bushel	1.38	1.30	1.28	_____
FIXED COSTS						
Labor Charge (hrs.) ¹¹	4.0 3.6 3.2	9.00 /hr	36	32	29	_____
Mach. And Equip. Charge ¹²			81	61	47	_____
Land Charge	Rent		70	70	70	_____
Management Charge ¹³	4% 5% 6%	6% of gross revenue	12	16	19	_____
TOTAL FIXED COSTS			200	179	165	_____
TOTAL COSTS						
		-Per Acre	379	347	331	_____
		-Per Bushel	2.91	2.67	2.55	_____
RETURN ABOVE VARIABLE COSTS (ACRE)			133	143	145	_____
RETURN ABOVE TOTAL COSTS (ACRE)			(67)	(35)	(19)	_____
RETURN TO LABOR AND MANAGEMENT (ACRE) ¹⁴			(18)	13	28	_____
TOTAL RETURN TO LABOR AND MANAGEMENT FOR OPERATION ¹⁵			(9,044)	12,641	56,157	_____

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, corn-soybean rotation, 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 9% 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
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)
1	Fertilizer Spreader	10,400	9,400	0.11	0.23
1	15 ft. Chisel Plow	7,800	7,800	0.60	0.28
1	18 ft. Cultivator	11,000	11,000	0.32	0.29
1	6 Row Planter	13,700	13,700	0.50	1.37
1	30 ft. Sprayer	5,000	5,000	0.11	0.15
1	15 ft. Crop Cultivator	4,900	4,900	0.44	0.15
1	Small Combine w/ 15' head	144,900	144,900	1.93	5.90
2	240 bu. Gravity Wagons	3,500	7,000	1.20	0.84
1	Small Tractor	24,300	24,300	0.00	1.94
1	Medium Tractor	30,300	30,300	0.00	2.28
0	Large Tractor	112,600	0	0.00	0
1	Pickup Truck (1/2)	12,500	12,500	0.10	0.05
		TOTAL	270,800	5.31	13.48

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$40,620
Fixed Costs per Acre = \$81

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

1000 Acres

Number in Inventory	Machine	Purchase Price(\$)	Inventory Value(\$)	Fuel (\$/A)	Repair Costs (\$/A)
1	Fertilizer Spreader	10,400	9,400	0.11	0.23
1	23 ft. Chisel Plow	17,100	17,100	0.60	0.4
1	28 ft. Cultivator	19,400	19,400	0.32	0.33
1	8 Row Planter	21,500	21,500	0.35	0.68
1	50 ft. Sprayer	5,500	5,500	0.11	0.1
1	20 ft. Row Crop Cultivator	6,600	6,600	0.44	0.15
1	Med Combine w/ 20' head	162,400	162,400	1.60	5
2	240 bu. Gravity Wagons	3,500	7,000	0.60	0.84
0	Small Tractor	24,300	0	0.00	0
1	Medium Tractor	30,300	30,300	0.00	1.14
1	Large Tractor	112,600	112,600	0.00	3.84
1	Pickup Truck (1/2)	12500	12,500	0.10	0.05
		TOTAL	404,300	4.23	12.76

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$60,645
Fixed Costs per Acre = \$61

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

2000 Acres

Number in Inventory	Machine	Purchase Price(\$)	Inventory Value(\$)	Fuel (\$/A)	Repair Costs (\$/A)
1	Fertilizer Spreader	10,400	9,400	0.11	0.23
1	37 ft. Chisel Plow	24,600	24,600	0.60	0.36
1	47 ft. Cultivator	33,500	33,500	0.32	0.34
1	12 Row Planter	32,700	32,700	0.35	0.69
1	50 ft. Sprayer	5,500	5,500	0.20	0.22
1	30 ft. Row Crop Cultivator	12,600	12,600	0.44	0.19
1	Large Combine w/ 30' head	204,100	204,100	1.93	4.15
4	240 bu. Gravity Wagons	3,500	14,000	0.60	1.68
2	Small Tractor	24,300	48,600	0.00	3.88
2	Medium Tractor	60,600	121,200	0.00	2.28
1	Large Tractor	112,600	112,600	0.00	3.84
1	Pickup Truck (1/2)	12,500	12,500	0.10	0.05
		TOTAL	631,300	4.65	17.91

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$94,695
Fixed Costs per Acre = \$47

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