



2003 Economies of Scale Soybean Production Budget¹
500, 1000, and 2000 Acres
40 Bushel per Acre Yield
Conservation Tillage Practices

ITEM	EXPLANATION	PRICE PER UNIT	ACRES ²			YOUR BUDGET		
			500	1000	2000			
RECEIPTS								
Soybeans		\$5.15 /bu	\$206	\$206	\$206	_____		
	Yield	40 bu/A						
VARIABLE COSTS³								
Seed	80 lbs.	7% price adjust	21	20	19	_____		
Fertilizer ⁴								
P2O5(lbs)	30	10% price adjust	8	7	6	_____		
K2O(lbs)	75	10% price adjust	11	10	9	_____		
Lime(ton)	0.5	10% price adjust	7	6	5	_____		
Chemicals ⁵		7% price adjust	28	26	24	_____		
Trucking - Fuel Only		0.03 /bu	1	1	1	_____		
Fuel, Oil, Grease			5	5	5	_____		
Repairs			14	15	17	_____		
Miscellaneous ⁶			12	13	14	_____		
Int. on Oper. Cap. ⁷	5 mo.	9.0%	4	4	4	_____		
Hired Labor ⁸			0	0	0	_____		
TOTAL VARIABLE COSTS	-Per Acre		111	107	105	_____		
	-Per Bushel		2.77	2.66	2.62	_____		
FIXED COSTS								
Labor charge (hrs.) ⁸	2.9	2.6	2.3	9.00 /hr	26	23	21	_____
Mach. and Equip. Charge ⁹					79	62	40	_____
Land Charge					70	70	70	_____
Management Charge ¹⁰	4%	5%	6% of gross revenue		8	10	12	_____
TOTAL FIXED COSTS			183	165	143	_____		
TOTAL COSTS	-Per Acre		294	272	248	_____		
	-Per Bushel		7.36	6.80	6.20	_____		
RETURN ABOVE VARIABLE COSTS (ACRE)			95	99	101	_____		
RETURN ABOVE TOTAL COSTS (ACRE)			(88)	(66)	(42)	_____		
RETURN TO LABOR AND MANAGEMENT (ACRE)¹¹			(54)	(32)	(8)	_____		
TOTAL RETURN TO LABOR AND MANAGEMENT FOR OPERATION¹²			(27,200)	(32,356)	(16,854)	_____		

- 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 Acreage is total acres of soybeans produced. Does not include acreage of other crops produced on the same farm.
- ³ 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 1000 acre column pays base price less price adjustment. Some costs may not reflect adjustment due to rounding.
- ⁴ Assumes only maintenance application of fertilizer needed, soil test values of 20 ppm P/A and 125 ppm K/A.
- ⁵ Based on use of Canopy, Fusion, COC.
- ⁶ Includes supplies, utilities, soil tests, small tools, crop insurance, etc...
- ⁷ Interest on all variable costs, except trucking, for 5 months at 9% interest rate.
- ⁸ 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.
- ⁹ 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.
- ¹⁰ Management charges are greater for more acres due to the likelihood of having more fields/farms to manage and more transporting of equipment.
- ¹¹ Estimated return that the operator will receive for supplying labor and management skills to the operation.
- ¹² 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 (gal/A)	Repair Costs (\$)
1	Fertilizer Spreader	10,400	10,400	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	25 ft. drill	26,100	26,100	0.49	0.84
1	30 ft. Sprayer	5,000	5,000	0.11	0.15
1	Small Combine w/ 15 ft. head	146,400	146,400	2.02	5.26
1	240 bu. Gravity Wagons	3,500	3,500	0.60	0.42
1	Small Tractor	24,300	24,300		1.94
1	Medium Tractor	30,300	30,300		1.14
0	Large Tractor	112,600	0		3.84
1	Pickup Truck (1/2)	12,500	12,500	0.10	0.05
		TOTAL	264,800	4.25	14.44

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$39,720
Fixed Costs per Acre = \$79

Diesel Price (\$/gal) =

1000 Acres

Number in Inventory	Machine	Purchase Price (\$)	Inventory Value (\$)	Fuel (gal/A)	Repair Costs (\$)
1	Fertilizer Spreader	10,400	10,400	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	30 ft. Drill	34,600	34,600	0.49	0.92
1	50 ft. Sprayer	5,500	5,500	0.11	0.1
1	Medium Combine	172,900	172,900	2.02	5.24
2	240 bu. Gravity Wagons	3,500	7,000	0.60	0.42
0	Small Tractor	24,300	0		1.94
1	Medium Tractor	30,300	30,300		1.14
1	Large Tractor	112,600	112,600		3.84
1	Pickup Truck (1/2)	12,500	12,500	0.10	0.05
		TOTAL	411,900	4.35	14.61

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$61,785
Fixed Costs per Acre = \$62

Diesel Price (\$/gal) =

2000 Acres

Number in Inventory	Machine	Purchase Price (\$)	Inventory Value (\$)	Fuel (gal/A)	Repair Costs (\$)
1	Fertilizer Spreader	10,400	10,400	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	35 ft Drill	39,700	39,700	0.49	0.91
1	50 ft. Sprayer	5,500	5,500	0.11	0.1
1	Large Combine	175,900	175,900	2.02	3.81
4	240 bu. Gravity Wagons	3,500	14,000	0.60	1.68
2	Small Tractor	24,300	48,600		3.88
2	Medium Tractor	30,300	60,600		2.28
1	Large Tractor	112,600	112,600		3.84
1	Pickup Truck (1/2)	12,500	12,500	0.10	0.05
		TOTAL	527,500	4.35	17.48

Fixed Cost Expense Rate = 15%
 Total Annual Fixed Costs = \$79,125
Fixed Costs per Acre = \$40

Diesel Price (\$/gal) =