



**2003 CORN BUDGET**  
**Horse Drawn/ Amish Practices 1**  
**1 Acre**

ITEM	EXPLANATION	PRICE PER UNIT	YIELD (bu/A)	YOUR BUDGET
			<b>100</b>	
<b>RECEIPTS</b>				
Corn		\$2.40 /bu	\$240	_____
<b>VARIABLE COSTS</b>				
Seed (kernels)	24,000	1.10 /1000 kernels	26	_____
Fertilizer				_____
N (lbs)	60	0.24	14	_____
P <sub>2</sub> O <sub>5</sub> (lbs)	35	0.24	8	_____
K <sub>2</sub> O	45	0.13	6	_____
Lime (ton)	1,000	21 /ton	11	_____
Chemicals		22 /acre	22	_____
Grease, Oil, and Miscellaneous Supplies			2	_____
<b>TOTAL VARIABLE COSTS</b>		<b>-Per Acre</b>	90	_____
		<b>-Per Bushel</b>	0.90	_____
<b>FIXED COSTS</b>				
<sup>1</sup> Horse Days	7.5 horse days	\$2.30 /horse day	\$17	_____
<sup>2</sup> Machinery and Equipment Charge				_____
Depreciation			\$7	_____
Repairs			\$3	_____
Opportunity Cost			\$7	_____
<sup>3</sup> Labor	18 hours		n/a	_____
Land Charge			\$50	_____
<b>TOTAL FIXED COSTS</b>		<b>-Per Acre</b>	\$84	_____
		<b>-Per Bushel</b>	\$0.84	_____
<b>TOTAL COSTS</b>		<b>-Per Acre</b>	\$174	_____
		<b>-Per Bushel</b>	\$1.74	_____
<b>RETURN ABOVE VARIABLE COSTS</b>			\$150	_____
<b><sup>4</sup>RETURN TO LABOR AND MANAGEMENT</b>			\$66	_____

- 1 One horse day is the amount of work one horse will do in a 6 hour day. For example, it is estimated that it would take 7.5 horses one day or one horse 7.5 days to complete one acre of this corn operation. The estimated cost per day includes feed, depreciation, and harness.
- 2 Machinery and Equipment charge includes depreciation, repair and opportunity cost. Depreciation is the loss in value of a machine due to normal wear and tear. The depreciation for each machine is listed below. Purchase price, salvage value, and useful life were estimated from information collected at focus group interviews with Amish farmers. Based on a farm crop rotation of 15 acres small grains, 15 acres corn (50% silage, 50% husked) and 20 acres of hay.

	Purchase Price	Salvage Value	Useful Life	Acres Used/yr.	Annual Depr.
Disc	450	33	27	30	0.51
Drag	37	0	17	30	0.07
Forecart	342	200	27	50	0.11
Corn Planter	436	105	22	15	1.00
Sprayer	800	0	30	20	1.33
Fertilizer Spread	850	30	25	20	1.64
Harrow	800	200	27	30	0.74
1 Wagon	1000	230	27	5	0.57
Plow	530	67	30	30	0.51
Elevator	700	230	27	35	0.50
<b>Total</b>					<b>6.99</b>

Example Calculation: Disk

$$\text{(Purchase Price - Salvage Value)} \div \text{Useful Life} \div \text{Acres Used/yr.}$$

$$(450 - 33) \div 27 \div 30 = \$0.51/\text{acre}$$

Repair costs are the normal maintenance costs associated with maintaining the equipment. Annual repair costs were estimated from information collected at focus group interviews with Amish farmers.

	Annual Repair Cost	Acres Used/yr.	Cost/ Acre
Disc	0	30	0.00
Drag	0	30	0.00
Forecart	4	50	0.08
Corn Planter	7	15	0.47
Sprayer	2	20	0.10
Fertilizer Spreader	1	20	0.05
Harrow	0	30	0.00
1 Wagon	17	50	0.34
Plow	43	30	1.43
Elevator	7	35	<u>0.20</u>
<b>Total</b>			<b>2.67</b>

Example Calculation: Corn Planter

$$\text{Annual Repair Costs} \div \text{Acres Used/yr.}$$

$$7 \div 15 = \$0.47/\text{acre}$$

Opportunity cost is the money that could be made if the money invested in the machinery was invested in the next best opportunity. It is typically not a cash cost but the cost of not having the opportunity to invest machinery capital in an alternative investment.

	Purchase Price	Salvage Value	Acres Used/yr.	Opp. Cost
Disc	450	33	30	0.48
Drag	37	0	30	0.04
Forecart	342	200	50	0.33
Corn Planter	436	105	15	1.08
Sprayer	800	0	20	1.20
Fertilizer Spreader	850	30	20	1.32
Harrow	800	200	35	0.86
1 Wagon	1000	330	50	0.80
Plow	530	67	30	0.60
Elevator	700	230	35	0.80

**Total** **7.50**

interest rate = 6%

Example Calculation: Disc

$$\frac{\text{Purchase Price} - \text{Salvage Value}}{2} \times \text{interest rate} \times \text{Acres Used/yr.}$$

$$\frac{450 - 33}{2} \times 6\% \times 30 = \$0.48/\text{acre}$$

<sup>3</sup> Operator Labor Hrs/Acre = 6hrs/day ÷ Acre/day

<u>Field Operation</u>	<u>Acres/Day</u>	<u>Hrs/Acre</u>
Plowing	3	2.00
Discing	9.5	0.63
Harrowing	9.5	0.63
Corn Planting	9.0	0.67
Fertilizing	30	0.20
Spraying	45	0.13
Cultivation	9.0	0.67
Picking	0.5	12.00
		16.93 or 17 <u>Hrs/Acre</u>

<sup>4</sup> Return to labor and management is the revenue less total expenses except operator labor and management. It is a measure of the returns to the operator's labor and management.

Budget Developed by:

Randall James, PhD  
 Associate Professor, OSU Extension  
 Geauga County  
 440-834-4656  
 james.7@osu.edu

Robert Moore  
 Extension Associate, OSU Extension  
 Agricultural, Environmental, and Development Econ.  
 614-688-3959  
 moore.301@osu.edu

Les Ober  
 Program Assistant, Agriculture  
 OSU Extension, Geauga County  
 440-834-4656  
 ober.10@osu.edu