



2003 SPELTZ BUDGET
Horse Drawn/ Amish Practices 1
1 Acre

ITEM	EXPLANATION	PRICE PER UNIT	YIELD (bu/A)	YOUR BUDGET
			115	
RECEIPTS				
Speltz		\$1.80 /bu	\$207	_____
Straw	60 bales	\$1.50 /bale	\$90	_____
Total Receipts			\$297	_____
VARIABLE COSTS				
Seed (kernels)	100 pounds/acre	\$0.32 /pound	\$32	_____
Fertilizer	200 pounds/acre	\$0.11 /pound	\$22	_____
Lime	1000 pounds/acre	\$21 /ton	\$11	_____
Gasoline	2.2 gallons/acre	\$1.40 /gallon	\$3	_____
Binder Twine	1 ball/acre	\$7 /ball	\$7	_____
Grease, Oil, and Miscellaneous Supplies			\$2	_____
TOTAL VARIABLE COSTS		-Per Acre	\$77	_____
		-Per Bushel	\$0.67	_____
FIXED COSTS				
Horse Days ²	5 horse days	\$2.30 /horse day	\$12	_____
Machinery and Equipment Charge				_____
Depreciation ³			\$11	_____
Repairs ⁴			\$8	_____
Opportunity Cost ⁵			\$14	_____
Land Charge	Rent		\$50	_____
TOTAL FIXED COSTS			\$94	_____
TOTAL COSTS		-Per Acre	\$171	_____
		-Per Bushel	\$1.48	_____
RETURN ABOVE VARIABLE COSTS			\$220	_____
RETURN TO LABOR AND MANAGEMENT⁶			\$126	_____

- 1 Includes the use of a stationary tractor for power to some implements. All other work is performed by horse or people.
- 2 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 5 horses one day or one horse five days to complete one acre of this speltz operation. The estimated cost per day includes feed, depreciation, and harness.
- 3 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
Grain Binder	700	100	28	15	1.43
Grain Drill	467	90	22	15	1.14
Harrow	800	200	27	30	0.74
Hay Baler	1767	430	22	35	1.74
Plow	530	67	30	30	0.51
Thrashing Mach.*	2170	133	30	15	1.51
Tractor	2130	666	30	22.5	2.17
2 Wagons	2000	460	27	50	1.14
Total					11.07

Example Calculation: Disk

(Purchase Price - Salvage Value) ÷ Useful Life ÷ Acres Used/yr.

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

* *Thrashing machines are typically part of a multi-farm thrashing circle. For this budget, the thrashing circle is assumed to include three farms. Therefore, the costs associated with the thrashing machine are divided between the three farms. This method is used for depreciation, repair, and opportunity costs.*

- 4 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
Grain Binder	10	15	0.67
Grain Drill	10	15	0.67
Harrow	0	30	0.00
Hay Baler	50	35	1.43
Plow	43	30	1.43
Thrashing Mach.*	28	15	0.62
Tractor	50	22.5	2.22
2 Wagons	34	50	0.68
Total			7.80

Example Calculation: Grain Drill

Annual Repair Costs ÷ Acres Used/yr.

$$10 \div 15 = \$0.67/\text{acre}$$

- ⁵ 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
Grain Binder	700	100	15	1.60
Grain Drill	467	90	15	1.11
Harrow	800	200	30	1.00
Hay Baler	1767	430	35	1.88
Plow	530	67	30	0.60
Thrashing Mach.*	2170	133	15	1.54
Tractor	2130	666	22.5	3.73
2 Wagons	2000	460	50	1.48
Total				13.78

interest rate = 6%

Example Calculation: Disc

$\{(Purchase\ Price + Salvage\ Value) \div 2\} \times interest\ rate \div Acres\ Used/year$

$$\{(450 + 33) \div 2\} \times 6\% \div 30 = \$0.48$$

- ⁶ 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