



2008 GRASS HAY PRODUCTION BUDGET ¹

Large Bale System

5 year stand

Author: Barry Ward, Leader Production Business Management

Updated:

5/19/2008

| ITEM | EXPLANATION | YOUR PROD. NUMBERS | PRICE PER UNIT | YIELD (ton/A) ² | | | YOUR BUDGET | |
|---|---------------------|--------------------------|-------------------|----------------------------|--------|--------|----------------|--------|
| | | | | 2.5 | 3.75 | 5.0 | 6.0 | |
| (&Year1) | | | | | | | | |
| RECEIPTS ³ | | | | | | | | |
| Grass Hay | | | \$125 /ton | 312.50 | 468.75 | 625.00 | 750.00 | |
| VARIABLE COSTS | | | | | | | | |
| Seed (prorated over 5 years) | 10 pounds | 10 | 1.75 /lb | 3.50 | 3.50 | 3.50 | 3.50 | |
| Fertilizer ⁴ | | | | | | | | |
| Establishment ⁵ | 72.06 97.14 130.88 | 130.88 | /A (prorated) | 14.41 | 19.43 | 26.18 | 26.18 | |
| N (lbs.) | 0 65 130 | 130 | 0.7125 /lb | 0.00 | 46.31 | 92.63 | 92.63 | |
| P ₂ O ₅ (lbs) | 25 40 65 | 65 | 0.8654 /lb | 21.63 | 34.62 | 56.25 | 56.25 | |
| K ₂ O (lbs) | 60 85 110 | 110 | 0.4842 /lb | 29.05 | 41.15 | 53.26 | 53.26 | |
| Lime(ton) | 0.25 | 0.25 | 23.5 /ton | 5.88 | 5.88 | 5.88 | 5.88 | |
| Fuel, Oil, Grease ⁶ | | | | 17.17 | 17.17 | 17.17 | 17.17 | |
| Repairs ⁷ | | | | 18.30 | 18.30 | 18.30 | 18.30 | |
| Miscellaneous ⁸ | | | | 4.00 | 5.00 | 6.00 | 6.00 | |
| Int. on Oper. Cap. ⁹ | 6 mo | | 9.0% | 5.13 | 8.61 | 12.56 | 12.56 | |
| Hired Labor ¹⁰ | | | | 0.00 | 0.00 | 0.00 | 0.00 | |
| TOTAL VARIABLE COSTS | | | | - Per Acre | 119.07 | 199.97 | 291.72 | 291.72 |
| | | | | - Per Ton | 47.63 | 53.33 | 58.34 | 48.62 |
| FIXED COSTS | | | | | | | | |
| Labor Charge ¹⁰ | 3 hours | | 13.50 /hr | 40.50 | 40.50 | 40.50 | 40.50 | |
| Mach. And Equip. Charge ¹¹ | | | | 22.83 | 22.83 | 22.83 | 22.83 | |
| Seedbed Preparation/Seeding Costs - Custom Hire ¹² | | | | 12.00 | 12.00 | 12.00 | 12.00 | |
| Land Charge ¹³ | | | | 50.00 | 60.00 | 70.00 | 80.00 | |
| Management Charge | 5% of gross revenue | | | 15.63 | 23.44 | 31.25 | 37.50 | |
| TOTAL FIXED COSTS | | | | | 140.95 | 158.77 | 176.58 | 192.83 |
| TOTAL COSTS | | | | - Per Acre | 260.03 | 358.74 | 468.30 | 484.55 |
| | | | | - Per Ton | 104.01 | 95.66 | 93.66 | 80.76 |
| RETURN ABOVE VARIABLE COSTS | | | | | 193.43 | 268.78 | 333.28 | 458.28 |
| RETURN ABOVE TOTAL COSTS | | | | | 52.47 | 110.01 | 156.70 | 265.45 |
| RETURN TO LABOR AND MANAGEMENT ¹⁴ | | | | | 108.60 | 173.95 | 228.45 | 343.45 |
| RETURN TO LAND | | | | | 102.47 | 170.01 | 226.70 | 345.45 |

Values highlighted in gold may be changed to assist in computing "Your Budget" Column using macros embedded within the spreadsheet.

Values highlighted in light blue are cells embedded with macros and will be calculated for the user based on data entered. These cells may be input manually, but macros will be overwritten!

Values highlighted in gray are stand alone cells that require direct input from the user.

¹ Assumes 200 acres Orchard Grass Hay in addition to 1300 acre Conservation Tillage Corn/Soybeans. Does not include costs for moving bales or storage.

² Assumes a 2.5 ton yield in seeding year; yields of approximately 2.5, 3.75 and 5 tons, respectively, in the following years.

³ Based on 90% DM grass hay. Price could be higher for small square bales.

⁴ Maintenance fertilizer only. If grass acreage utilized as summer and winter pasture, potash requirements will be approximately 1/3 of that shown. Prices were quoted in 2008. Fertilizer prices vary over time and by area. Check with local sources for current prices.

Assumes UAN(28-0-0): 399 /ton MAP(11-52-0): 900 /ton Potash(0-0-60): 581 /ton

⁵ Annual application , plus 30 lb. N at seeding (prorated). Soil test values CEC=20, P=25 ppm, K=150 ppm.

⁶ See table below for specific calculations. Lubrication costs are assumed to be 10% of fuel costs.

⁷ See table below for specific calculations.

⁸ Includes supplies, utilities, soil tests, small tools, etc...

⁹ Interest charged for 6 months at 9.0% interest rate.

¹⁰ 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.

¹¹ Reflects 200 acres, conservation tillage. See table below for details.

¹² Seedbed preparation and seeding costs are charged at custom hire rates and prorated over 4 years. The following rates are included: Chisel Plowing-\$13, Field Cultivate-\$8, Cultimulch-\$9, Spray-\$5, Seeding-\$12.

¹³ Based on pasture/lower quality land rental rates. Land charges vary throughout the state, check your local rates.

¹⁴ 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.

Machinery Inventory

| | Number times used | Machinery Cost | Acres per Year | Cost per Acre | Acres/ Hr | Fuel* (gal/A) | Hours / Year | Repairs (\$/A) |
|--|-------------------------|-------------------|-------------------|------------------|----------------|------------------|-----------------|-------------------|
| Mower Conditioner 9 ft. | 3 | \$18,900 | 200 | \$7.35 | 4.4 | 1.20 | 137.61 | 2.55 |
| Hay Rake (Hyd) 9 ft. | 3 | \$6,300 | 200 | \$2.45 | 3.5 | 1.20 | 171.92 | 1.44 |
| Round Baler 1000 lb. | 3 | \$11,600 | 200 | \$4.51 | 4.0 | 1.50 | 149.25 | 9.93 |
| Hay Wagons (2) | 3 | \$7,500 | 200 | \$3.77 | 4.4 | 0.30 | 136.36 | 0.30 |
| Fertilizer Spreader | 1 | \$11,550 | 1,500 | \$0.88 | 25.6 | 0.11 | 58.59 | 0.24 |
| 75 HP Tractor | 10 | \$32,000 | 1,500 | \$2.56 | ----- | ----- | 653.75 | 3.69 |
| Pickup Truck (1/2)** | 3 | \$16,000 | 1,500 | \$1.29 | ----- | 0.15 | | 0.15 |
| | | | | | | Fuel | 15.61 | |
| Machinery and Equipment Charge per Acre | | | | \$22.83 | F&L | 17.17 | Repairs | 18.30 |

Price of Diesel Fuel = \$3.50

Machinery cost estimates, fuel estimates and cost calculations based on information from the "Farm Machinery Cost Estimates For 2008". See the reference online at:

<http://www.extension.umn.edu/distribution/businessmanagement/DF6696.pdf>

Machinery and Equipment charge =

Cost per Acre = Machinery Cost (New Cost) Assumes 25 or 10 Year Useful Life using Straight Line Depreciation plus 100 acres custom work per year.

6.0% Interest on Average Value, 0.5% Insurance Cost on Average Value and 1.0% Housing Cost on Average Value.

Salvage Values are based on ASAE formulas.

Machines are all assumed to be new and in the first year of use (Except for Semi Tractor Trailer and Pickup Truck).

*Fuel calculations are based on the implement plus tractor.

**Semi Tractor Trailer and Pickup Truck are assumed to be used equipment.

***Fuel for Semi is included in Budget as Trucking - Fuel Only