

**Cool Season Grass, Hay Crop Silage  
Estimated Expenses per Acre**

| Item                          | Description            | Unit | Quantity                       | Price    | Amount<br>(\$/acre) | Your<br>Farm |
|-------------------------------|------------------------|------|--------------------------------|----------|---------------------|--------------|
| <b>Variable Expenses</b>      |                        |      |                                |          |                     |              |
| Fertilizer <sup>1</sup>       | N                      | lb   | 120.00                         | \$ 0.48  | \$ 57.60            | _____        |
|                               | P2O5                   | lb   | 30.00                          | \$ 0.34  | \$ 10.20            | _____        |
|                               | K2O                    | lb   | 30.00                          | \$ 0.23  | \$ 6.90             | _____        |
|                               | Custom Application     | acre | 3.00                           | \$ 5.00  | \$ 15.00            | _____        |
| Lime <sup>2</sup>             | Custom Application     | ton  | 0.33                           | \$ 21.00 | \$ 6.93             | _____        |
| Overseeding <sup>3</sup>      | Fescue or Orchardgrass | lb   | 2.00                           | \$ 1.00  | \$ 2.00             | _____        |
| No-Till Drill, Rental         |                        | acre | 0.17                           | \$ 8.00  | \$ 1.36             | _____        |
| Weed Control <sup>4</sup>     |                        |      |                                |          |                     |              |
| Post-Emerge                   | 2,4-D Ester 4EC        | pt   | 1.00                           | \$ 2.04  | \$ 2.04             | _____        |
|                               | Custom Application     | acre | 0.50                           | \$ 5.00  | \$ 2.50             | _____        |
| Machinery                     |                        |      |                                |          |                     |              |
| Fuel                          |                        | acre | 1.00                           | \$ 36.47 | \$ 36.47            | _____        |
| Oil & Filter                  |                        | acre | 1.00                           | \$ 5.47  | \$ 5.47             | _____        |
| Repairs & Maintenance         |                        | acre | 1.00                           | \$ 36.51 | \$ 36.51            | _____        |
| Interest on Operating Capital | 6 months               | acre | \$ 182.98                      | 8.0%     | \$ 7.32             | _____        |
|                               |                        |      | <b>Total Variable Expenses</b> |          | \$ 190.30           | _____        |
| <b>Fixed Expenses</b>         |                        |      |                                |          |                     |              |
| Establishment Cost            | Prorated over 6 years  | acre | 1.00                           | \$ 31.99 | \$ 31.99            | _____        |
| Machinery                     |                        |      |                                |          |                     |              |
| Depreciation                  |                        | acre | 1.00                           | \$ 28.60 | \$ 28.60            | _____        |
| Interest                      |                        | acre | 1.00                           | \$ 34.53 | \$ 34.53            | _____        |
| Housing & Insurance           |                        | acre | 1.00                           | \$ 3.09  | \$ 3.09             | _____        |
|                               |                        |      | <b>Total Fixed Expenses</b>    |          | \$ 98.22            | _____        |
| <b>Labor Expenses</b>         |                        |      |                                |          |                     |              |
| Labor <sup>5</sup>            |                        | hour | 6.18                           | \$ 8.50  | \$ 52.51            | _____        |
|                               |                        |      | <b>Total Budgeted Expenses</b> |          | \$ 341.03           | _____        |

**Footnotes:**

<sup>1</sup>60 lbs of nitrogen applied in March, 30 lbs applied in May, and 30 lbs applied in September to produce Fall cutting of silage.

<sup>2</sup>Lime is applied at the rate of 2 tons every 6 years.

<sup>3</sup>Overseed 12 lbs once over 6 years. Prorated over stand-life.

<sup>4</sup>Weed spray is done every other year at a rate of 2 pt/acre, to supplement clipping and control broadleaf weeds.

<sup>5</sup>Labor expense is \$8.50 per hour, including wages, Social Security and Medicaid taxes and payroll administration costs.

**Cool Season Grass, Hay Crop Silage  
Estimated Machinery and Labor Requirements per Acre**

| Month | Operation                     | Power Unit      | Implement                                     | Hours per Acre |             |
|-------|-------------------------------|-----------------|---|----------------|-------------|
|       |                               |                 |   | Machine        | Labor       |
| Mar   | Fertilize                     | Custom          | Custom  | ---            | ---         |
| Mar   | Post-Emerge (2,4-D Ester 4EC) | Custom          | Custom  | ---            | ---         |
| Apr   | Mow                           | Tractor, 70 hp  | Mower-Conditioner, 9'                         | 0.37           | 0.46        |
| Apr   | Chop                          | Tractor, 100 hp | Forage Chopper Windrow Header Forage Wagon #1 | 0.56           | 0.70        |
| Apr   | Stack & Move                  | Tractor, 70 hp  | Forage Wagon #2                               | 0.28           | 0.35        |
| Apr   | Store                         | Tractor, 70 hp  | Forage Blower                                 | 0.28           | 0.35        |
| May   | Fertilize                     | Custom          | Custom  | ---            | ---         |
| Jun   | Mow                           | Tractor, 70 hp  | Mower-Conditioner, 9'                         | 0.37           | 0.46        |
| Jun   | Chop                          | Tractor, 100 hp | Forage Chopper Windrow Header Forage Wagon #1 | 0.56           | 0.70        |
| Jun   | Stack & Move                  | Tractor, 70 hp  | Forage Wagon #2                               | 0.28           | 0.35        |
| Jun   | Store                         | Tractor, 70 hp  | Forage Blower                                 | 0.28           | 0.35        |
| Sep   | Fertilize                     | Custom          | Custom  | ---            | ---         |
| Oct   | Mow                           | Tractor, 70 hp  | Mower-Conditioner, 9'                         | 0.37           | 0.46        |
| Oct   | Chop                          | Tractor, 100 hp | Forage Chopper Windrow Header Forage Wagon #1 | 0.56           | 0.70        |
| Oct   | Stack & Move                  | Tractor, 70 hp  | Forage Wagon #2                               | 0.28           | 0.35        |
| Oct   | Store                         | Tractor, 70 hp  | Forage Blower                                 | 0.28           | 0.35        |
| Oct   | Overseed                      | Tractor, 70 hp  | No-Till Drill, Rental                         | 0.47           | 0.59        |
|       |                               |                 |   | <b>Total</b>   | <b>6.18</b> |

**Estimated Machinery Expenses per Acre**

| Machine                     | Hours per Acre | Variable Cost   |                |                 | Total Variable Costs | Fixed Cost      |                     |                | Total Fixed Costs |
|-----------------------------|----------------|-----------------|----------------|-----------------|----------------------|-----------------|---------------------|----------------|-------------------|
|                             |                | Fuel            | Oil & Filter   | Repairs         | Depreciation         | Interest        | Housing & Insurance |                |                   |
| Tractor, 100 hp             | 1.68           | 15.49           | 2.32           | 6.22            | 24.03                | 4.51            | 5.66                | 0.30           | 10.47             |
| Tractor, 70 hp              | 3.26           | 20.98           | 3.15           | 6.91            | 31.04                | 4.18            | 4.97                | 0.37           | 9.53              |
| Mower-Conditioner, 9'       | 1.10           | 0.00            | 0.00           | 5.65            | 5.65                 | 3.05            | 4.97                | 0.40           | 8.41              |
| Forage Chopper              | 1.68           | 0.00            | 0.00           | 9.08            | 9.08                 | 4.50            | 5.16                | 0.41           | 10.07             |
| Windrow Header              | 1.68           | 0.00            | 0.00           | 1.09            | 1.09                 | 1.33            | 1.52                | 0.33           | 3.17              |
| Forage Wagon #1             | 1.68           | 0.00            | 0.00           | 4.57            | 4.57                 | 6.81            | 7.57                | 0.66           | 15.05             |
| Forage Wagon #2             | 0.84           | 0.00            | 0.00           | 2.28            | 2.28                 | 3.41            | 3.79                | 0.51           | 7.70              |
| Forage Blower               | 0.84           | 0.00            | 0.00           | 0.71            | 0.71                 | 0.82            | 0.91                | 0.11           | 1.83              |
| <b>Total</b>                |                | <b>\$ 36.47</b> | <b>\$ 5.47</b> | <b>\$ 36.51</b> | <b>\$ 78.45</b>      | <b>\$ 28.60</b> | <b>\$ 34.53</b>     | <b>\$ 3.09</b> | <b>\$ 66.23</b>   |
| <b>Total Machinery Cost</b> |                |                 |                |                 |                      |                 |                     |                | <b>\$ 144.68</b>  |

**Break-even Analysis**

|  |                     | Yield/Acre |      | Break-even Price/Ton |
|--|---------------------|------------|------|----------------------|
| Break-even Price over Total Variable Expenses: | Below-Average Yield | 4.5        | tons | \$ 42.29             |
|  | Average Yield       | 6.0        | tons | \$ 31.72             |
|  | Above-Average Yield | 8.5        | tons | \$ 22.39             |
| Break-even Price over Total Budgeted Expenses: | Below-Average Yield | 4.5        | tons | \$ 75.79             |
|  | Average Yield       | 6.0        | tons | \$ 56.84             |
|  | Above-Average Yield | 8.5        | tons | \$ 40.12             |