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# Alfalfa Small Bales Planning Budget for 2019

This budget presents information useful to farmers planning the production, financing and marketing of alfalfa small bales. Establishment costs for alfalfa can be found in MU Guide 661. Table 1 presents estimates for the 2019 crop year for established alfalfa small bale production in northern, central and southwest Missouri. Assumptions were based on price conditions as of October 2018. Detailed prices and practices are summarized in Tables 2 and 3. The production practices used to develop these cost estimates are common in Missouri. Farmers are encouraged to modify this budget based on their circumstances. For example, an alfalfa large round bale planning budget could be developed by modifying machinery activities and hay sales.

**Table 1. Missouri alfalfa small bales planning budget for 2019.**

| | Dollars per acre[1] | Your estimate |
|---|---|---|
| **Income per acre** | | |
| Hay sales (60 pound bales) | 1,000.02 | |
| Other income | 0.00 | |
| Total income per acre | **1,000.02** | |
| **Operating costs per acre** | | |
| Seed | 0.00 | |
| Fertilizer and soil amendments | 89.40 | |
| Crop protection chemicals | 7.50 | |
| Crop supplies, storage, and marketing | 10.00 | |
| Custom hire and rental | 162.17 | |
| Machinery fuel and irrigation energy | 27.69 | |
| Machinery repairs and maintenance | 27.94 | |
| Operator and hired labor | 44.64 | |
| Operating interest | 11.08 | |
| Total operating costs per acre | **380.42** | |
| **Ownership costs per acre** | | |
| Farm business overhead | 13.13 | |
| Machinery overhead | 12.04 | |
| Machinery depreciation | 48.36 | |
| Real estate charge | 91.00 | |
| Total ownership costs per acre | **164.52** | |
| **Total costs per acre** | **544.94** | |
| | | |
| **Income over operating costs per acre** | **619.60** | |
| **Income over total costs per acre** | **455.08** | |

[1] Totals may not sum due to rounding.



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Table 2 shows input assumptions used to estimate the alfalfa small bales budget. Price estimates reflect harvest time prices. Costs or returns from storage or other marketing methods are not included. No income from government programs are added. Farm business overhead includes liability insurance, utilities, accounting, etc. Real estate charge is an estimated rental rate for above average land.

**Table 2. Input assumptions used in alfalfa small bales planning budget for 2019.**

| Selected input quantities | Per acre | Selected input prices | Dollars per unit |
|---|---|---|---|
| Forage yield, 60 pound bales | 167 | Alfalfa market price, per bale | 6.00 |
| Phosphorus rate, pounds $P_2O_5$ | 70 | Phosphorus, per pound $P_2O_5$ | 0.42 |
| Potassium rate, pounds $K_2O$ | 200 | Potassium, per pound $K_2O$ | 0.30 |
| Sum of allocated labor, hours | 2.70 | Skilled labor, per hour | 18.00 |
| | | Farm diesel, per gallon | 2.86 |

Table 3 details the field activities assumed in this budget and their machinery costs. Machinery costs were estimated using an economic engineering approach.

**Table 3. Machinery assumptions used in alfalfa small bales planning budget for 2019, on a per acre basis.**

| Machine activity (not custom fieldwork) | Labor (hours) | Fuel (gallons) | Operating costs[1] (dollars) | Ownership costs[2] (dollars) | Total costs (dollars) | Trips across field |
|---|---|---|---|---|---|---|
| Swather mower-conditioner (9 feet); 105 MFWD | 0.92 | 4.24 | 36.48 | 27.36 | 63.83 | 4 |
| Hay tedder (8.5 feet); 60 2WD | 0.21 | 0.55 | 4.87 | 2.45 | 7.32 | 2 |
| Wheel rake (2-16'); 60 2WD | 0.15 | 0.40 | 4.84 | 6.59 | 11.43 | 4 |
| Small square baler; 75 2WD | 0.92 | 3.03 | 40.48 | 14.07 | 54.55 | 4 |
| Pickup truck | | 1.56 | 6.85 | 9.94 | 16.79 | |
| **Total[3]** | **2.20** | **9.78** | **93.52** | **60.40** | **153.92** | **14** |

[1] Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor.

[2] Machinery ownership cost is the sum of machinery overhead and depreciation.

[3] Totals may not sum due to rounding.

Abbreviations: 2WD = 2-wheel drive tractor; MFWD = modified front-wheel drive tractor

Farmers can also develop their own custom budget by using the Missouri Forage Budget Generator Tool (***http://crops.missouri.edu/economics/budgets/FBG.xlsm***). This spreadsheet tool allows users to develop a custom estimate for their costs and returns for growing alfalfa and other forage crops in Missouri.

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