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Alfalfa Establishment Planning Budget for 2019

This budget presents information useful to farmers planning the financing, establishment and marketing of alfalfa. Table 1 presents estimates for the 2019 crop year for alfalfa establishment in the fall for 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, spring established alfalfa would have a higher crop protection cost to account for necessary herbicides.

Table 1. Missouri alfalfa establishment planning budget for 2019.

	Dollars per acre[1]	Your estimate
Income per acre		
Hay sales (60 pound bales)	420.00	
Other income	0.00	
Total income per acre	**420.00**	
Operating costs per acre		
Seed	69.00	
Fertilizer and soil amendments	116.40	
Crop protection chemicals	20.50	
Crop supplies, storage, and marketing	7.50	
Custom hire and rental	73.50	
Machinery fuel and irrigation energy	20.22	
Machinery repairs and maintenance	21.96	
Operator and hired labor	37.58	
Operating interest	11.00	
Total operating costs per acre	**377.66**	
Ownership costs per acre		
Farm business overhead	4.38	
Machinery overhead	20.10	
Machinery depreciation	38.80	
Real estate charge	91.00	
Total ownership costs per acre	**154.28**	
Total costs per acre	**531.94**	
Income over operating costs per acre	**42.34**	
Income over total costs per acre	**-111.94**	

[1] Totals may not sum due to rounding.

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Table 2 shows input assumptions used to estimate the alfalfa establishment budget for small bale production. 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 establishment planning budget for 2019.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Forage yield, 60 pound bales	70	Alfalfa market price, per bale	6.00
Seeding rate, pounds	15	Alfalfa seed, per pound	4.60
Phosphorus rate, pounds P_2O_5	70	Phosphorus, per pound P_2O_5	0.42
Potassium rate, pounds K_2O	90	Potassium, per pound K_2O	0.30
Lime rate, tons	3	Lime, per ton	20.00
Sum of allocated labor, hours	2.46	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 establishment 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
Chisel plow (15 feet); 130 MFWD	0.12	0.67	4.97	5.88	10.85	1
Tandem disk (21 feet); 130 MFWD	0.16	0.94	7.88	7.89	15.77	2
Roller harrow (12 feet); 105 2WD	0.13	0.65	4.85	5.49	10.34	1
No-till drill (15 feet); 130 MFWD	0.16	0.90	9.31	13.72	23.03	1
Disk mower-conditioner (9 feet); 105 2WD	0.35	1.71	14.31	10.82	25.13	2
Wheel rake (2-16'); 60 2WD	0.08	0.20	2.42	3.75	6.17	2
Small square baler; 75 2WD	0.46	1.51	20.24	8.04	28.29	2
Pickup truck		0.52	2.28	3.31	5.59	
Total[3]	**1.46**	**7.10**	**66.26**	**58.90**	**125.16**	**11**

[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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