Soybean (Dryland) Planning Budget

This budget presents information useful to farmers planning the production, financing and marketing of soybeans for grain. Table 1 presents estimates for the 2021 crop year for dryland soybean production in northern, central and southwest Missouri. Assumptions were based on price conditions as of October 2020. 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.

Table 1. Missouri soybean (dryland) planning budget for 2021.

	Dollars per acre[1]	Your estimate
Income		
Grain sales	495.00	
Other income	0.00	
Total income	**495.00**	
Operating costs		
Seed	60.07	
Fertilizer and soil amendments	50.38	
Crop protection chemicals	46.00	
Crop supplies, storage, and marketing	3.00	
Crop consulting and insurance	12.00	
Custom hire and rental	6.20	
Machinery fuel, drying, and irrigation energy	11.79	
Machinery repairs and maintenance	20.21	
Operator and hired labor	16.29	
Operating interest	5.08	
Total operating costs	**231.02**	
Ownership costs		
Farm business overhead	4.00	
Machinery overhead	19.06	
Machinery depreciation	28.28	
Real estate charge	154.00	
Total ownership costs	**205.33**	
Total costs	**436.35**	
Income over operating costs	**263.98**	
Income over total costs	**58.65**	
Operating costs per bushel	4.20	
Ownership costs per bushel	3.73	
Total costs per bushel	7.93	

[1] Totals may not sum due to rounding.

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Table 2 shows input assumptions used to estimate the dryland soybean 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 soybean (dryland) planning budget for 2021.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Yield, bushels	55	Soybean market price, per bushel	9.00
Seeding rate, count	170,000	Seed, per 150,000 seed bag	53.00
Phosphorus rate, pounds P_2O_5	46	Phosphorus, per pound P_2O_5	0.38
Potassium rate, pounds K_2O	80	Potassium, per pound K_2O	0.28
Lime rate, tons	0.5	Lime, per ton	21.00
Sum of allocated labor, hours	0.88	Skilled labor, per hour	21.00
		Farm diesel, per gallon	2.38

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 soybean (dryland) planning budget for 2021, 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
Tandem disk (30 feet); 360 4WD	0.06	0.91	4.67	7.89	12.56	1
Row crop planter (16 row); 225 MFWD	0.05	0.53	5.26	10.85	16.11	1
Boom sprayer (90 feet); 130 MFWD	0.04	0.25	2.66	4.49	7.15	2
Combine, flexible grain head (30 feet); 275 HP	0.07	1.63	19.03	14.48	33.51	1
Grain cart (500 bushel); 225 MFWD	0.08	0.83	4.57	6.31	10.87	
Grain auger (5,000 bushels per hour); 130 MFWD	0.01	0.06	0.42	0.39	0.81	
Semi, tractor and trailer		0.36	1.52	0.81	2.32	
Pickup truck		0.33	1.42	2.13	3.54	
Total[3]	**0.38**	**4.90**	**39.54**	**47.33**	**86.87**	**5**

[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: 4WD = 4-wheel drive tractor; MFWD = mechanical front-wheel drive tractor; HP = horsepower

Farmers can see other Missouri budgets or customize existing Missouri budgets by visiting *https://extension.missouri.edu/programs/agricultural-business-and-policy-extension/missouri-crop-and-livestock-enterprise-budgets*.

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