

Industrial Hemp for Fiber Planning Budget

Using this budget, growers of industrial hemp fiber can estimate their production costs for 2024. Table 1 presents cost estimates for industrial hemp fiber production based on price conditions in October 2023. Assumptions are summarized in Tables 2 and 3. Use the “Your estimate” column to plan your operation’s costs and returns for 2024.

Table 1. Missouri industrial hemp for fiber planning budget for 2024.

	Dollars per acre ¹	Your estimate
Income		
Hemp fiber	1,050.00	
Other income	0.00	
Total income	1,050.00	
Operating costs		
Seed	233.75	
Fertilizer	150.60	
Crop supplies, storage and marketing	15.00	
Custom hire and rental	83.08	
Machinery fuel	16.17	
Machinery repairs and maintenance	54.62	
Operator and hired labor	22.17	
Sampling and testing costs	20.00	
Other expense	5.00	
Operating interest	27.02	
Total operating costs	627.41	
Ownership costs		
Farm business overhead	21.66	
Machinery ownership	60.10	
Real estate charge	155.21	
Total ownership costs	236.97	
Total costs	864.38	
Income over operating costs	422.59	
Income over total costs	185.62	

¹ Totals may not sum due to rounding.

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Table 2. Input assumptions used in industrial hemp for fiber planning budget for 2024.

Selected input quantities	Per acre	Selected input prices	Dollars per unit
Hemp fiber yield, pounds	7,000	Hemp fiber price, per pound	0.15
Seeding rate, pounds	55	Seed, per pound	4.25
Nitrogen rate, pounds N	100	Nitrogen, per pound N	0.60
Phosphorus rate, pounds P ₂ O ₅	60	Phosphorus, per pound P ₂ O ₅	0.62
Potassium rate, pounds K ₂ O	90	Potassium, per pound K ₂ O	0.41
Lime rate, tons	0.6	Delivered and spread lime, per ton	27.50
Fuel for machinery, gallons	4.04	Fuel, per gallon	4.00
Labor, hours	1.28	Labor, per hour	17.31

Table 3. Machinery used in industrial hemp for fiber planning budget for 2024, on a per acre basis.

Machinery activity (including custom fieldwork)	Labor (hours)	Fuel (gallons)	Operating costs ¹ (dollars)	Ownership costs ¹ (dollars)	Total costs (dollars)	Trips across field
Tandem disk (21 feet), 160 MFWD	0.08	0.63	11.43	9.63	42.13	2
Cultimulcher (21 feet), 160 MFWD	0.08	0.63	10.81	9.51	20.32	1
Presswheel drill (16 feet), 105 MFWD	0.16	0.53	8.59	8.32	16.90	1
Disk mower (9 feet), 75 HP TWD	0.19	0.64	9.11	5.59	14.70	1
Hay rake (30 feet), 75 HP TWD	0.04	0.16	3.82	1.68	11.00	2
Round baler (30 feet), 160 HP MFWD	0.09	0.66	18.29	7.06	25.35	1
Pickup truck			7.00	7.00	14.00	
Dry fertilizer application, custom charge					7.25	1
Moving round bales on farm, custom charge					37.92	
Moving round bales locally, custom charge					37.92	
Total²	0.78	4.04	84.31	60.10	227.49	9

¹ Machinery operating cost is the sum of fuel, repairs, maintenance, and the value of labor. Machinery ownership cost is the sum of overhead and depreciation.

² Totals may not sum due to rounding.

Abbreviations: MFWD = mechanical front-wheel drive tractor; TWD = two-wheel drive tractor; HP = horsepower.

Farmers can also customize this budget to fit their own operations by using the [Missouri Industrial Hemp Budget](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/IndustrialHempBudget.xlsx) (extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/IndustrialHempBudget.xlsx). Download the spreadsheet tool to create an electronic copy of your cost and return estimates for industrial hemp production in Missouri.