

Dairy (Grazing) Planning Budget

Using this planning budget, dairy farmers may estimate their costs and returns for 2023. Table 1 presents estimates for a 150-cow rotational grazing dairy (replacements raised on farm) in Missouri. Assumptions were based on price forecasts as of September 2022. Detailed inputs, feed requirements and investments are summarized in Tables 2, 3 and 4. The production practices used to develop these cost estimates are common for Missouri grazing dairies. Use the “Your estimate” column to plan your operation’s costs and returns for 2023.

Table 1. Missouri dairy (grazing) planning budget for 2023.

	11,000 pounds milk sold		14,000 pounds milk sold		Your estimate
	Dollars per cow ¹	Dollars per cwt ¹	Dollars per cow ¹	Dollars per cwt ¹	
Income					
Milk sales	2,420.05	22.00	3,080.07	22.00	
Government payments	82.50	0.75	105.00	0.75	
Bull and surplus heifer sales	66.63	0.61	66.63	0.48	
Cull cow sales	158.40	1.44	158.40	1.13	
Total income	2,727.58	24.80	3,410.09	24.36	
Operating costs					
Feed	1,335.00	12.14	1,454.37	10.39	
Labor	416.67	3.79	416.67	2.98	
Veterinary, drugs and supplies	90.00	0.82	100.00	0.71	
Utilities and water	60.00	0.55	60.00	0.43	
Fuel, oil and vehicle	70.00	0.64	70.00	0.50	
Milk hauling and promotion	126.50	1.15	161.00	1.15	
Building and equipment repair	195.82	1.78	195.82	1.40	
Breeding/genetic charges	57.00	0.52	57.00	0.41	
Professional fees (legal, accounting, etc.)	12.00	0.11	12.00	0.09	
Miscellaneous and DMC premiums	15.62	0.14	19.88	0.14	
Operating interest	73.19	0.67	77.54	0.55	
Total operating costs	2,451.80	22.29	2,624.27	18.74	
Ownership costs					
Depreciation on buildings and equipment	136.97	1.25	136.97	0.98	
Interest on land, buildings and equipment	373.75	3.40	373.75	2.67	
Interest on breeding stock	91.00	0.83	91.00	0.65	
Insurance/taxes on capital items	64.06	0.58	64.06	0.46	
Total ownership costs	665.78	6.05	665.78	4.76	
Total costs	3,117.58	28.34	3,290.05	23.50	
Income over operating costs	275.78	2.51	785.82	5.61	
Income over total costs	-390.00	-3.55	120.04	0.86	

¹ Totals may not sum due to rounding.
Abbreviations: cwt = hundredweight

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Table 2. Input assumptions used in dairy (grazing) planning budget for 2023.

Selected input quantities	Quantity	Selected input prices	Dollars per unit
Cull cow sale weight, pounds	1,100	Cull cow sale price, per hundredweight	80
Labor, cows per worker	100	Annual labor salary and benefits, per worker	50,000
Calf crop, percent	95	Bull calf sale price, per head	100
Heifer replacement, percent	22	Surplus heifer calf sale price, per head	75
Operating interest, percent	6.5	Milk price, per hundredweight	22

Table 3. Feed requirements in dairy (grazing) planning budget for 2023, on a per cow basis.

Feed description	Cost per unit	11,000 pounds milk sold		14,000 pounds milk sold	
		Pounds	Dollars ²	Pounds	Dollars ²
Pasture (intensive dairy), dry matter per ton	100.00	7,335	366.77	7,658	382.88
Alfalfa hay, per ton	275.00	1,289	177.29	1,289	177.29
Corn, cracked, per bushel	7.00	910	113.75	1,384	173.04
Soybean hulls, per ton	275.00	910	125.13	1,068	146.87
Distillers grain, dry, per ton	310.00	791	122.53	949	147.04
Grass hay, per ton	150.00	670	50.24	639	47.96
Minerals/vitamins, per ton	1,250.00	186	116.34	186	116.34
Total lactating and dry cow feed cost			1072.05	1,191.42	
Replacement heifer feed and forage cost ¹			262.95	262.95	
Total feed cost per cow			1,335.00	1,454.37	

¹ Total replacement heifer (0 to 24 months) feed cost is \$1,195.21 and was adjusted to a 22% heifer replacement rate.

² Totals may not sum due to rounding.

Table 4. Investment assumptions in dairy (grazing) planning budget for 2023.

Description	Quantity	Dollars per unit	Total dollars	Dollars per cow ²
Land, acres	200	4,320	864,000	4,800
Milking parlor, stalls	24	8,000	192,000	1,067
Breeding herd, cows	180	1,400	252,000	1,400
Working facility			17,060	95
Feed storage			14,350	80
Manure storage system			37,500	208
Equipment			50,000	278
Total¹			1,426,910	7,927

¹ Totals may not sum due to rounding.

² Represents total cows in herd.

Farmers can also customize this budget to fit their own operations by using the [Missouri Dairy Enterprise Tool](https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/MODairyBudget.xlsx) (extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/AgBusinessPolicyExtension/Docs/MODairyBudget.xlsx). Download the spreadsheet tool to keep an electronic copy of your cost and return estimates for dairy production and heifer raising in Missouri.