

Dairy (Confinement) Planning Budget

Using this planning budget, dairy farmers may estimate their costs and returns for 2022. Table 1 presents estimates for a 150-cow confinement dairy (replacements raised on farm) in Missouri. Assumptions were based on price forecasts as of October 2021. 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 confinement dairies. Use the “Your estimate” column to plan your operation’s costs and returns for 2022.

Table 1. Missouri dairy (confinement) planning budget for 2022.

	20,000 pounds milk sold		24,000 pounds milk sold		Your estimate
	Dollars per cow ¹	Dollars per cwt ¹	Dollars per cow ¹	Dollars per cwt ¹	
Income					
Milk sales	3,649.96	18.25	4,379.93	18.25	
Government payments	250.00	1.25	300.00	1.25	
Bull and surplus heifer sales	58.38	0.29	58.38	0.24	
Cull cow sales	254.48	1.27	254.48	1.06	
Total income	4,212.81	21.06	4,992.78	20.80	
Operating costs					
Feed	2,424.41	12.12	2,667.39	11.11	
Labor	554.19	2.77	554.19	2.31	
Veterinary, drugs and supplies	114.00	0.57	115.00	0.48	
Utilities and water	60.00	0.30	75.00	0.31	
Fuel, oil and vehicle	65.00	0.33	65.00	0.27	
Milk hauling and promotion	200.00	1.00	240.00	1.00	
Building and equipment repair	225.77	1.13	225.77	0.94	
Breeding/genetic charges	54.00	0.27	54.00	0.23	
Professional fees (legal, accounting, etc.)	12.00	0.06	11.00	0.05	
Miscellaneous and DMC premiums	28.40	0.14	34.08	0.14	
Operating interest	81.37	0.41	87.43	0.36	
Total operating costs	3,819.13	19.10	4,128.85	17.20	
Ownership costs					
Depreciation on buildings and equipment	395.68	1.98	395.68	1.65	
Interest on land, buildings and equipment	164.56	0.82	164.56	0.69	
Interest on breeding stock	55.20	0.28	55.20	0.23	
Insurance/tax on capital items	115.12	0.58	115.12	0.48	
Total ownership costs	730.56	3.65	730.56	3.04	
Total costs	4,549.69	22.75	4,859.41	20.25	
Income over operating costs	393.67	1.97	863.93	3.60	
Income over total costs	-336.89	-1.68	133.37	0.56	

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

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Table 2. Input assumptions used in dairy (confinement) planning budget for 2022.

Selected input quantities	Quantity	Selected input prices	Dollars per unit
Cull cow sale weight, pounds	1,450	Cull cow sale price, per hundredweight	65
Labor, cows per worker	70	Annual labor salary and benefits, per worker	45,000
Calf crop, percent	95	Bull calf sale price, per head	100
Heifer replacement, percent	33	Surplus heifer calf sale price, per head	75
Operating interest, percent	4.6	Milk price, per hundredweight	18.25

Table 3. Feed requirements used in dairy (confinement) planning budget for 2022, on a per cow basis.

Feed description	Cost per unit	20,000 pounds milk sold		24,000 pounds milk sold	
		Pounds	Dollars ²	Pounds	Dollars ²
Corn silage, per ton	55.00	12,223	336.14	13,357	367.32
Alfalfa baleage, per ton	100.00	3,741	187.05	5,296	264.79
Corn, ground, per bushel	5.50	3,470	340.81	3,658	395.22
Alfalfa hay, per ton	240.00	1,708	204.94	1,934	232.09
Whole cotton seed, per ton	340.00	1,675	284.80	1,897	322.53
Soybean hulls, per ton	190.00	1,125	106.84	752	71.43
Soybean meal, per ton	380.00	1,095	208.01	1,354	257.35
Distillers grain, dry, per ton	230.00	1,005	115.60	949	109.09
Grass hay, per ton	85.00	914	38.82	914	38.82
Minerals/vitamins, per ton	1,100.00	577	317.38	656	360.72
Total lactating and dry cow feed cost			2,140.40	2383.37	
Replacement heifer feed and forage cost ¹			284.01	284.01	
Total feed cost per cow			2,424.41	2,667.39	

¹ Total replacement heifer (0 to 24 months) feed cost is \$860.64 and was adjusted to a 33% heifer replacement rate.

² Totals may not sum due to rounding.

Table 4. Investment assumptions in dairy (confinement) planning budget for 2022.

Description	Quantity	Dollars per unit	Total dollars	Dollars per cow ²
Land, acres	4	3,700	14,800	98
Milking parlor, stalls	12	30,000	360,000	2,387
Breeding herd, cows	150	1,250	180,960	1,200
Free stall barn, stalls	130	2,750	357,500	2,371
Land improvements			5,000	33
Feed storage			56,826	377
Manure storage system			97,500	647
Equipment			81,100	538
Total¹			1,153,686	7,650

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) (<https://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.



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