

Dairy (Grazing) Planning Budget

Using this planning budget, dairy farmers may estimate their costs and returns for 2022. 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 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 grazing dairies. Use the “Your estimate” column to plan your operation’s costs and returns for 2022.

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

| | 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 | 2,007.54 | 18.25 | 2,555.05 | 18.25 | |
| Government payments | 137.50 | 1.25 | 175.00 | 1.25 | |
| Bull and surplus heifer sales | 66.63 | 0.61 | 66.63 | 0.48 | |
| Cull cow sales | 128.70 | 1.17 | 128.70 | 0.92 | |
| Total income | 2,340.37 | 21.28 | 2,925.38 | 20.90 | |
| Operating costs | | | | | |
| Feed | 1,067.68 | 9.71 | 1,158.56 | 8.28 | |
| Labor | 375.00 | 3.41 | 375.00 | 2.68 | |
| Veterinary, drugs and supplies | 85.00 | 0.77 | 95.00 | 0.68 | |
| Utilities and water | 55.00 | 0.50 | 55.00 | 0.39 | |
| Fuel, oil and vehicle | 65.00 | 0.59 | 65.00 | 0.46 | |
| Milk hauling and promotion | 110.00 | 1.00 | 140.00 | 1.00 | |
| Building and equipment repair | 166.09 | 1.51 | 166.09 | 1.19 | |
| Breeding/genetic charges | 54.00 | 0.49 | 54.00 | 0.39 | |
| 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 | 43.59 | 0.40 | 46.01 | 0.33 | |
| Total operating costs | 2,048.99 | 18.63 | 2,186.55 | 15.62 | |
| Ownership costs | | | | | |
| Depreciation on buildings and equipment | 106.18 | 0.97 | 106.18 | 0.76 | |
| Interest on land, buildings and equipment | 225.17 | 2.05 | 225.17 | 1.61 | |
| Interest on breeding stock | 55.20 | 0.50 | 55.20 | 0.39 | |
| Insurance/taxes on capital items | 54.91 | 0.50 | 54.91 | 0.39 | |
| Total ownership costs | 441.46 | 4.01 | 441.46 | 3.15 | |
| Total costs | 2,490.45 | 22.64 | 2,628.01 | 18.77 | |
| Income over operating costs | 291.38 | 2.65 | 738.84 | 5.28 | |
| Income over total costs | -150.07 | -1.36 | 297.38 | 2.12 | |

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 2022.

| Selected input quantities | Quantity | Selected input prices | Dollars per unit |
|------------------------------|----------|--|------------------|
| Cull cow sale weight, pounds | 1,100 | Cull cow sale price, per hundredweight | 65 |
| Labor, cows per worker | 100 | Annual labor salary and benefits, per worker | 45,000 |
| 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 | 4.6 | Milk price, per hundredweight | 18.25 |

Table 3. Feed requirements in dairy (grazing) planning budget for 2022, 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 | 90.00 | 7,335 | 330.09 | 7,658 | 344.59 |
| Alfalfa hay, per ton | 240.00 | 1,289 | 154.73 | 1,289 | 154.73 |
| Corn, cracked, per bushel | 5.25 | 910 | 85.31 | 1,384 | 129.78 |
| Soybean hulls, per ton | 190.00 | 910 | 86.45 | 1,068 | 101.47 |
| Distillers grain, dry, per ton | 230.00 | 791 | 90.91 | 949 | 109.09 |
| Grass hay, per ton | 85.00 | 670 | 28.47 | 639 | 27.18 |
| Minerals/vitamins, per ton | 1,100.00 | 186 | 102.38 | 186 | 102.38 |
| Total lactating and dry cow feed cost | | | 878.34 | 969.22 | |
| Replacement heifer feed and forage cost ¹ | | | 189.34 | 189.34 | |
| Total feed cost per cow | | | 1,067.68 | 1,158.56 | |

¹ Total replacement heifer (0 to 24 months) feed cost is \$860.64 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 2022.

| Description | Quantity | Dollars per unit | Total dollars | Dollars per cow ² |
|--------------------------|----------|------------------|------------------|------------------------------|
| Land, acres | 200 | 3,700 | 740,000 | 4,111 |
| Milking parlor, stalls | 24 | 7,000 | 168,000 | 933 |
| Breeding herd, cows | 180 | 1,200 | 216,000 | 1,200 |
| Working facility | | | 14,800 | 82 |
| Feed storage | | | 11,480 | 64 |
| Manure storage system | | | 31,250 | 174 |
| Equipment | | | 31,000 | 172 |
| Total¹ | | | 1,212,530 | 6,736 |

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.