

# Drylot Backgrounding of Beef



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**Kansas State University Agricultural Experiment Station and Cooperative Extension Service**

**Kevin C. Dhuyvetter**  
Agricultural Economist  
Farm Management

**Glynn T. Tonsor**  
Agricultural Economist  
Livestock Marketing

Drylot backgrounding is an enterprise that is post weaning and prior to calves being finished in a feedlot. There are many different feeding programs used in backgrounding operations in Kansas. Furthermore, producers often have different objectives of their backgrounding programs (e.g., fast rate of gain to get cattle ready for feedlot, slow rate of gain so cattle can go to summer grass program, add value to a harvested feedstuffs, graze forage resource). This budget uses projected 2014 input and output prices for illustrative purposes (see MF1013 for details of projected prices). Individual producers should use their own prices and costs, and adjust production factors to match their individual situations. The break-even price is particularly sensitive to changes in feed and feeder prices.

## Production Level

Costs per unit and net returns to livestock production are highly dependent on production levels. The following estimated budget includes two production levels. Production levels vary for a number of reasons, including livestock quality or genetics, weather, input levels, and management. The two production levels included in this estimated budget reflect production variability from weather and management as opposed to the quality of the livestock, since livestock values are held constant. Budgeting at multiple production levels helps producers examine the financial risk directly related to production risk of a livestock enterprise.

This beef backgrounding budget includes a below-average column as well as an above-average column for both steer and heifer feeding. Performance varies due to differences in average daily gain and feed conversions. The values assumed are included in Table 1 and are deviations from long-term averages.

## Costs

Operating costs vary in the short run and can differ on a per-head basis from one feeding cycle to the next. The feed requirements used in this budget include additional roughage and grain to allow for waste. Feeding conditions will vary throughout the feeding period, which will alter projected weight gain. If poor feeding conditions are encountered, weight gains will be less than those projected. An allowance for shrink is included in the average daily gain and feed conversion estimates. Hundredweight produced is adjusted for death loss and shrink. Average daily gain may vary depending on the breed of the animals, the ration fed, and the time of the year.

Kansas Farm Management Association summary reports are used as a basis for estimating variable costs such as labor, veterinary, repairs, fuel, oil, and utilities. These cost items may vary considerably between individual producers. Each column shows interest on one-half the variable cost added to the cost of the purchased animal for the length of the feeding period. Producers who do not rely on borrowed funds should consider the interest charge as an opportunity cost of their own capital.

Some costs do not vary from one feeding period to the next and are incurred by virtue of owning equipment and facilities. Two turnovers of cattle per year are assumed when calculating the per head ownership costs. Facility and equipment requirements consist of feed-storage facilities, feeding facilities, corrals, handling equipment, and watering systems. Interest cost on facilities and equipment is based on the average investment times an interest rate of 6.5 percent. Depreciation is based on a remaining life of 10 and 8 years for equipment and machinery, respectively, and it is assumed there is no salvage value at the end of the remaining life of facilities and equipment.

**Table 1.** *Factors Used for Drylot Backgrounding Beef Cost-Return Budget*

|                                                       | Above<br>Average<br>Steer                                  | Below<br>Average<br>Steer | Above<br>Average<br>Heifer | Below<br>Average<br>Heifer |                        |                 |
|-------------------------------------------------------|------------------------------------------------------------|---------------------------|----------------------------|----------------------------|------------------------|-----------------|
| Days on feed                                          | 96                                                         | 120                       | 88                         | 110                        |                        |                 |
| Average daily gain                                    | 2.24                                                       | 1.79                      | 1.99                       | 1.59                       |                        |                 |
| Feed conversion (as fed)                              | 18.50                                                      | 19.50                     | 19.00                      | 20.00                      |                        |                 |
| Purchase weight                                       | 560                                                        | 560                       | 540                        | 540                        |                        |                 |
| Purchase price                                        | \$181.09                                                   | \$181.09                  | \$177.67                   | \$177.67                   |                        |                 |
| Sale weight, \$/cwt                                   | 775                                                        | 775                       | 715                        | 715                        |                        |                 |
| Sale price, \$/cwt                                    | \$167.51                                                   | \$167.51                  | \$169.95                   | \$169.95                   |                        |                 |
| Labor, hours @ \$15.00/hr                             | 0.95                                                       | 1.18                      | 0.87                       | 1.08                       |                        |                 |
| Ration:                                               | 81.5% sorghum silage, 14.0% grain sorghum, 4.5% supplement |                           |                            |                            |                        |                 |
|                                                       | Investment<br>(\$/head)                                    | Useful life<br>(years)    | Salvage<br>value, (%)      | Interest<br>rate, (%)      | Insurance<br>rate, (%) | Tax rate<br>(%) |
| Buildings and facilities                              | \$16.00                                                    | 10                        | 0%                         | 6.50%                      | 0.25%                  | 1.50%           |
| Equipment                                             | \$57.00                                                    | 8                         | 0%                         | 6.50%                      | 0.25%                  | 0.00%           |
| Interest rate on operating costs and purchased cattle | 6.50%                                                      |                           |                            |                            |                        |                 |

# COST-RETURN PROJECTION—DRYLOT BACKGROUNDING OF BEEF

|                                                         | Steers      |             | Heifers     |             |           |
|---------------------------------------------------------|-------------|-------------|-------------|-------------|-----------|
|                                                         | Above Avg.  | Below Avg.  | Above Avg.  | Below Avg.  | Your Farm |
| RETURNS PER HEAD                                        |             |             |             |             |           |
| 1. Market animal (See Table 1) .....                    | \$ 1,298.20 | \$ 1,298.20 | \$ 1,215.14 | \$ 1,215.14 |           |
| 2. Less cost of animal(See Table 1).....                | 1014.10     | 1014.10     | 959.42      | 959.42      |           |
| 3. Less death loss (1.0% of Line 1).....                | 12.98       | 12.98       | 12.15       | 12.15       |           |
| 4. Other income.....                                    |             |             |             |             |           |
| A. GROSS RETURNS PER HEAD .....                         | \$ 271.12   | \$ 271.12   | \$ 243.57   | \$ 243.57   |           |
| COSTS PER HEAD                                          |             |             |             |             |           |
| 5. Summer pasture.....                                  | \$          | \$          | \$          | \$          |           |
| 6. Harvested forage .....                               | 51.35       | 54.12       | 42.92       | 45.18       |           |
| 7. Grain .....                                          | 50.56       | 53.29       | 42.26       | 44.49       |           |
| 8. Supplement .....                                     | 41.70       | 43.96       | 34.86       | 36.70       |           |
| 9. Other feed .....                                     |             |             |             |             |           |
| 10. Labor .....                                         | 14.20       | 17.75       | 13.02       | 16.27       |           |
| 11. Veterinary, drugs, and supplies .....               | 20.00       | 20.00       | 20.00       | 20.00       |           |
| 12. Marketing costs .....                               | 12.00       | 12.00       | 12.00       | 12.00       |           |
| 13. Hauling.....                                        |             |             |             |             |           |
| 14. Utilities, fuel, oil.....                           | 10.87       | 13.59       | 9.97        | 12.46       |           |
| 15. Facilities and equipment repairs .....              | 15.00       | 15.00       | 15.00       | 15.00       |           |
| 16. Professional fees (legal, accounting, etc.).....    | 2.00        | 2.00        | 2.00        | 2.00        |           |
| 17. Miscellaneous .....                                 | 7.50        | 7.50        | 7.50        | 7.50        |           |
| 18. Depreciation on facilities and equipment .....      | 8.73        | 8.73        | 8.73        | 8.73        |           |
| 19. Interest on facilities and equipment.....           | 4.75        | 4.75        | 4.75        | 4.75        |           |
| 20. Insurance and taxes on facilities and equipment.... | 0.42        | 0.42        | 0.42        | 0.42        |           |
| B. SUBTOTAL.....                                        | \$ 239.08   | \$ 253.11   | \$ 213.43   | \$ 225.49   |           |
| 21. Interest on feeder and ½ Operating Costs .....      | 19.16       | 24.10       | 16.51       | 20.75       |           |
| C. TOTAL COSTS PER HEAD .....                           | \$ 258.24   | \$ 277.21   | \$ 229.94   | \$ 246.25   |           |
| D. RETURNS OVER TOTAL COSTS (A – C) .....               | \$ 12.88    | \$ -6.10    | \$ 13.64    | \$ -2.67    |           |
| 22. Hundredweight produced.....                         | 2.07        | 2.07        | 1.68        | 1.68        |           |
| 23. Feed cost per hundredweight.....                    | 69.29       | 73.04       | 71.52       | 75.29       |           |
| E. BREAK-EVEN PRICE, \$/cwt:.....                       | \$ 165.83   | \$ 168.30   | \$ 168.02   | \$ 170.33   |           |
| F. ASSET TURNOVER (A ÷ INVESTMENT) <sup>1</sup> .....   | 24.94%      | 24.94%      | 23.59%      | 23.59%      |           |
| G. NET RETURN ON INVESTMENT                             |             |             |             |             |           |
| [(D + 19 + 21) ÷ INVESTMENT] <sup>1</sup> .....         | 3.38%       | 2.09%       | 3.38%       | 2.21%       |           |

<sup>1</sup> Investment equals total value of feeder calf, facilities, and equipment

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In each case, credit Kevin C. Dhuyvetter and Glynn T. Tonsor, *Drylot Backgrounding of Beef*, Kansas State University, April 2014.