

**FORAGE-LIVESTOCK
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ECONOMIC ASSESSMENT OF SIMMENTAL-SIRED STEERS AND HEIFERS FROM PASTURE TO PACKER

G.M. Clary and F.M. Rouquette, Jr.

Background. Beef producers face multifaceted, yet segmented production systems that require a wide variety of management decisions. Producers must understand the factors that impact the profitability of each phase of this system and the interrelationships that affect profitability of the overall system. Profits from pasture phases depend on the efficiency of forage utilization, which may be accomplished with a variety of grazing strategies. Cattle feeding profits are highly variable since they are affected by numerous factors including cattle type and weight, feed costs, market prices, etc. The objective of this economic assessment was to evaluate potential returns from a winter pasture-stocker phase and a feedlot phase, as well as the total system.

Research Findings. Simmental-sired steers and heifers were grazed on winter pasture at three stocking rates (Table 1). Stocking rates affected off-pasture weights, which resulted in net returns of \$185, \$282 and \$343/ac for the low, medium and high stocking rates, respectively. A general upward movement in prices (positive margin) during the pasture phase significantly affected the final profit analysis. Net returns must pay for items such as depreciation, owner labor, and management not included in budgets. The feedlot phase showed net returns of \$11, \$5, and -\$45 per head for these three respective stocking rates. The total pasture-feedlot venture showed annualized rates of return on capital of 16%, 15% and 6% for low, medium, and high stocking rates.

Application. Some producers might consider returns to retained ownership as illustrated here to be quite acceptable. Annual rates of return on capital near 15% generally are considered competitive with other investment opportunities. However, if cattle gained well on pasture and were sold at heavier weights, producers might realize much greater returns by not retaining ownership through much less profitable subsequent phases. However, it is conceivable that off-pasture weights may exceed that for which competitive bidding for feeders exists. Often, retaining ownership through the feedlot phase may be the only way of capturing the full value of cattle accrued during the stocker phase. It is important that management evaluate the economics of each production phase in addition to the overall system. Animal performance, buy-sell price margins, shrink, and death loss presents major challenges to positive cash flow. Producers need as much information as possible in order to make informed marketing decisions and thoroughly understand the profits or losses associated with retaining ownership. This is true whether producers choose to retain ownership by design or by default.

Table 1. Actual economic performance for Simmental sired steers and heifers pastured at three stocking rates and fed in a commercial feedlot.

| Item | | Stocking rate | | |
|---|----------|---------------|----------|----------|
| | | LOW | MEDIUM | HIGH |
| WINTER PASTURE PHASE | | | | |
| On-pasture pay weight (lbs) | 11/20/96 | 640 | 641 | 636 |
| On-pasture market value (\$/cwt) | | \$64.45 | \$64.45 | \$64.45 |
| On-pasture stocker value (\$/hd) | | \$412.48 | \$413.12 | \$409.90 |
| Days on pasture | | 184 | 184 | 184 |
| Interest - animal & misc. costs (\$/hd) | 8.00% | \$18.05 | \$18.07 | \$17.94 |
| Winter pasture cost, incl. interest (\$/ac) | | \$137.00 | \$137.00 | \$137.00 |
| Stocking rate (hd/ac) | | 1.47 | 2.14 | 2.95 |
| Winter pasture cost (\$/hd) | | \$93.20 | \$64.02 | \$46.44 |
| Health care, supplements, feed, hay, etc. (\$/hd) | | \$35.00 | \$35.00 | \$35.00 |
| Total pasture phase production costs (\$/hd) | | \$146.24 | \$117.09 | \$99.38 |
| Off-pasture pay weight (lbs) | | 978 | 921 | 782 |
| Off-pasture market value (\$/cwt) | | \$70.00 | \$72.00 | \$80.00 |
| Breakeven price (\$/cwt) | | \$57.13 | \$57.57 | \$65.13 |
| Off-pasture market value (\$/hd) | | \$684.60 | \$663.12 | \$625.60 |
| Pasture phase cost/lb gain (\$/cwt) | | \$43.27 | \$41.82 | \$68.07 |
| Net return to pasture phase (\$/hd) | | \$125.88 | \$132.90 | \$116.31 |
| Net return to pasture phase (\$/ac) | | \$185.04 | \$284.42 | \$343.13 |
| Annualized rate of return on capital | | 44.69% | 49.72% | 45.31% |
| FEEDLOT PHASE | | | | |
| In-feedlot pay weight (lbs) | | 928 | 857 | 743 |
| Shipping costs (\$/hd) | | \$16.87 | \$15.58 | \$13.51 |
| In-feedlot value (\$/hd) | | \$649.60 | \$617.04 | \$594.40 |
| Days on feed | | 115 | 115 | 131 |
| Cattle interest | 8.0% | \$16.37 | \$15.55 | \$17.07 |
| Feedlot gain - payweight (lbs) | | 408 | 420 | 494 |
| Feedlot average daily gain (lbs/da) | | 3.55 | 3.65 | 3.77 |
| Out-feedlot pay weight (lbs) | | 1336 | 1277 | 1237 |
| Feedlot phase cost/lb gain incl. interest (\$/lb) | | \$0.49 | \$0.48 | \$0.48 |
| Feedlot costs incl. interest (\$/hd) | | \$201.55 | \$202.61 | \$236.28 |
| Selling price (\$/cwt) | | \$67.00 | \$67.00 | \$66.00 |
| Breakeven price (\$/cwt) | | \$64.93 | \$65.40 | \$68.53 |
| Out-feedlot revenue (\$/hd) | | \$895.12 | \$855.59 | \$816.42 |
| Net return to feedlot phase (\$/hd) | | \$10.72 | \$4.81 | -\$44.84 |
| Annualized rate of return on capital | | 3.92% | 1.83% | -14.74% |
| TOTAL STOCKER THROUGH FEEDLOT PHASE | | | | |
| Initial stocker cost (\$/hd) | | \$412.48 | \$413.12 | \$409.90 |
| Final receipts (\$/hd) | | \$895.12 | \$855.59 | \$816.42 |
| Total days | | 299 | 299 | 315 |
| Total production costs (\$/hd) | | \$381.04 | \$350.83 | \$366.24 |
| Overall cost/lb gain (\$/lb) | | \$0.55 | \$0.55 | \$0.61 |
| Breakeven price (\$/cwt) | | \$59.40 | \$59.82 | \$62.74 |
| Returns to other factors of production (\$/hd) | | \$101.60 | \$91.63 | \$40.28 |
| Annualized rate of return on capital | | 15.63% | 14.64% | 6.01% |