

BULL FEEDING PHASE II
COMPARING FINISHING PERFORMANCE OF
STEERS WITH LATE CASTRATED BULLS AND BULLS

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In Phase I of this study the backgrounding performance of steers implanted with Zeranol (Ralgro) was compared with bull calves in which castration was delayed until the end of the backgrounding phase. In Phase II one-half of the animals in each treatment were retained and continued on feed to evaluate the effects that castration at approximately 700 pounds would have on finishing performance, overall economics and carcass quality.

The steers used in this trial were implanted with 36 mg. Ralgro at the beginning of the backgrounding and finishing phases. The bulls and late castrated bulls were not implanted in this study.

Self-fed complete mixed rations blended in a portable mixing wagon and consisting of mixed hay, oats, barley, salt and minerals were used. The AGNET computer system was used in 1979 and 1980 to formulate least cost rations for this study.

Ration changes and the days they were fed are shown in Table 1. Animal weights, gains, feed summary, carcass data and net returns are shown in Tables 2 and 3.

Summary:

Crossbred steers grown out to slaughter weights gained faster, were more efficient, and graded higher and yielded higher gross returns than did crossbred bulls castrated at the end of the backgrounding phase. Crossbred bulls that remained intact produced the fastest gains, ate less feed, yielded the highest average gross returns and were more economical than either of the other treatments. Bull carcasses were higher yielding, possessed 1.5 sq. inch larger loin eye areas, and had a very desirable .3 inch fat cover.

There was no feeding profitability from any of the treatments in this study. However, the smallest net loss was received for the slaughter bull group. Castration, as shown in this study, is very detrimental and should be done before feeding starts or not at all.

Table 1. Ration Percentages and Changes as They Were Fed 1978-1980

| | Ration Changes | | | | | | |
|-------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Warm-up | 1 st | 2 nd | 3 rd | 4 th | 5 th | 6 th |
| 1978: | | | | | | | |
| No. days fed | 20 | 90 | 30 | 95 | -- | -- | -- |
| Oats, % | 40 | 50 | 75 | 50 | -- | -- | -- |
| Barley, % | -- | -- | -- | 25 | -- | -- | -- |
| Mixed Hay, % | 57.5 | 47.5 | 22.5 | 22.5 | -- | -- | -- |
| Di-calcium Phosphate, % | .5 | .5 | .5 | .5 | -- | -- | -- |
| Salt, % | 2 | 2 | 2 | 2 | -- | -- | -- |
| 1979: | | | | | | | |
| No. days fed | 12 | 7 | 93 | 15 | 97 | 32 | 17 |
| Oats, % | 30 | 40 | 50 | 50 | 50 | 40 | 40 |
| Barley, % | -- | 5 | 5 | 20 | 30 | 40 | 40 |
| Mixed Hay, % | 67.5 | 25 | 15 | 15 | 19.3 | 19.3 | 17.5 |
| Oat Straw, % | -- | 29.5 | 29.5 | 14.3 | -- | -- | -- |
| Di-calcium Phosphate, % | .5 | -- | -- | -- | -- | -- | .5 |
| Limestone, % | -- | .23 | .23 | .4 | .4 | .4 | -- |
| Salt, % | .2 | .27 | .27 | .3 | .3 | .3 | .2 |
| 1980: | | | | | | | |
| No. days fed | 21 | 82 | 22 | 19 | 92 | -- | -- |
| Oats, % | 30 | 25.1 | 25.1 | 25.1 | 25 | -- | -- |
| Barley, % | -- | 31.2 | 41.2 | 41.2 | 50 | -- | -- |
| Mixed Hay, % | 67.5 | -- | -- | 20.7 | 24.2 | -- | -- |
| Oat Straw, % | -- | 22.4 | 12.4 | 12.4 | -- | -- | -- |
| Alfalfa, % | -- | 20.7 | 20.7 | -- | -- | -- | -- |
| Di-calcium Phosphate, % | .5 | .2 | .2 | .2 | .2 | -- | -- |
| Limestone, % | .1 | .1 | .1 | .1 | .3 | -- | -- |
| Salt, % | 2 | .3 | .3 | .3 | .3 | -- | -- |

Table 2. 1980 and 3 Year Average Weights, Gains, and Feed Summary for Steers, Bulls and Late Castrated Bulls

| | Beef Steers | | Late Castrated Beef Bulls | | Beef Bulls | |
|------------------------|-------------|------------------|---------------------------|------------------|------------|-------------|
| | 1980 | 3 – Yr Avg. | 1980 | 3 – Yr Avg. | 1980 | 3 – Yr Avg. |
| No. head | 6 | 17 ^{1/} | 5 | 17 ^{2/} | 6 | 18 |
| Days on feed | 236 | 248 | 236 | 248 | 208 | 205 |
| Initial wt., lbs. | 535 | 513 | 567 | 533 | 575 | 578 |
| Final wt., lbs. | 1058 | 1081 | 1059 | 1055 | 1120 | 1126 |
| Gain, lbs. | 523 | 568 | 492 | 522 | 545 | 548 |
| ADG, lbs. | 2.26 | 2.29 | 2.1 | 2.10 | 2.62 | 2.67 |
| Feed Summary: | | | | | | |
| Feed/hd, lbs. | 5247 | 5601 | 5601 | 5614 | 5373 | 5089 |
| Feed/hd/day, lbs. | 22.2 | 22.6 | 23.7 | 22.6 | 25.8 | 24.8 |
| Feed/lb of gain, lbs, | 9.8 | 9.9 | 11.4 | 10.8 | 9.9 | 9.3 |
| Feed cost/hd, \$ | 212.88 | 217.92 | 226.24 | 217.97 | 214.63 | 199.09 |
| Feed cost/cwt gain, \$ | 40.70 | 38.37 | 45.98 | 41.76 | 39.38 | 36.33 |

^{1/} One steer and one bull died.

^{2/} One steer and one bull died.

Table 3. 1980 and 3 Year Average Carcass Data and Returns for Steers, Bulls and Late Castrated Bulls

| | Beef Steers | | Late Castrated Beef Bulls | | Beef Bulls | |
|--|-------------|-------------|---------------------------|-------------|------------|-------------|
| | 1980 | 3 – Yr Avg. | 1980 | 3 – Yr Avg. | 1980 | 3 – Yr Avg. |
| Hot carcass wt, lbs. | 611 | 635 | 612 | 606 | 643 | 641 |
| USDA Grade: Choice | 3 | 7 | 3 | 7 | -- | -- |
| Good | 3 | 10 | 2 | 7 | 4 | 11 |
| Stag | -- | -- | -- | 3 | -- | 3 |
| Std. | -- | -- | -- | -- | 2 | 4 |
| Dressing, % | 57.7 | 57 | 57.8 | 57.6 | 57.4 | 57 |
| Loin eye area/sq. in. | 10.7 | 11.3 | 11.1 | 11.4 | 12.1 | 12.9 |
| Fat thickness/in. | .57 | .49 | .42 | .42 | .38 | .31 |
| Gross return/carcass, \$ | 669.16 | 570.30 | 644.78 | 552.43 | 621.50 | 572.89 |
| Partial Economic Analysis^{1/}: | | | | | | |
| Implant cost, \$ | 1.20 | 1.20 | -- | -- | -- | -- |
| Feed cost/hd, \$ | 212.88 | 217.92 | 226.24 | 217.97 | 214.63 | 199.09 |
| Feeder calf cost, \$ | 481.50 | 383.05 | 481.95 | 376.02 | 488.75 | 386.40 |
| Net profit or loss, \$ | -26.42 | -30.67 | -63.41 | -41.56 | -81.88 | -12.60 |

^{1/} Economic analysis accounts for only direct feed costs, grinding expense at \$20.00/ton, estimated feeder calf value, and implant expense. No values have been placed for other variable and fixed costs associated with livestock feeding.