

# **A TO Z RETAINED OWNERSHIP, INC.**

## **1998 Year-End Summary**

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### **INTRODUCTION**

The A to Z Retained Ownership program was started in 1992 as a cooperative venture by cow-calf producers, the Bruneau Cattle Company feedlot, veterinarians, packers, bankers, allied industry representatives and University of Idaho Cooperative Extension System. The primary goal of this educational program is to give cow-calf producers information on how their cattle perform through the feeding and carcass phases. This report presents the results of the sixth year of the retained ownership program.

The 1997-98 A to Z feeding program saw some very interesting developments in terms of animal performance, feeding economics and market developments. Optimism in terms of cattle markets during the fall of 1997 was guarded due to several things taking place in the meat industry. Poultry and pork production were at near-record levels. The Asian economies were teetering on the brink of ruin. Corn stocks were very favorable, even with increased demand from poultry and pork producers.

As the year progressed, we did not see improvement in prices from the doldrums that usually coincide with the holiday season of poultry consumption. This was due to a number of factors. Relatively cheap feed prices was causing the beef sector to hold cattle on feed longer than usual, many hoping for improved market prices. This resulted in increased carcass weights that resulted in more beef on the market. This situation stood through most of the spring and early summer months during 1998. Losses facing midwest feedlots were in the \$100-200/head range during this atypical market variation.

The A to Z program faced the same market conditions and had nearly the same reaction as the rest of the industry during the 1998 feeding program. Feed costs were down substantially from 1997 levels. Cattle were held on feed approximately one month longer than has traditionally been done. Steers were on feed for an average of 206 days and heifers were fed for an average of 198 days. Marketings took place on May 23, June 6 and June 20, 1998. Due to this increased time on feed, more animals graded choice or better (81.3% of steers graded and 85.2% of heifers graded). Interestingly enough, there was not a substantial increase in the amount of yield grade 4's or higher (5.25% of steer carcasses and 1.1% of heifers).

Feed costs averaged \$263/steer and \$233/heifer, comparable to prior years in the program, even with the longer feeding period. Average carcass weights were 60-70 pounds heavier than previous years (797 lbs steers and 712 lbs heifers). Carcass prices averaged \$100/cwt for steers and \$103.50/cwt for heifers. Steers lost an average of \$48/head and heifers showed a profit of \$17.18/head.

Salvage, death loss and medicine costs were not shared, but charged out to the owner of the calf that incurred these charges. Participating ranchers decided that the recommended preconditioning program was successful and they were willing to accept these charges individually.

The method and cost of collecting carcass data has been improved with the help of Iowa Beef Processors (IBP) and University of Idaho faculty. The A to Z program utilizes an account with the USDA Grading Service, which effectively eliminated the orange tag system and significantly reduced grading costs.

Calves entering the A to Z program were valued at \$81/cwt for steers and \$72/cwt for heifers. Reflective of market conditions in November 1997, no price slide was used. Using these market prices, initial values of the cattle going into the feeding program averaged \$485/steer and \$407/heifer. These initial values of the calves increased about 25 percent over 1996 levels. The opportunity cost of not selling the calves at weaning (an interest expense tied directly to the initial value of the steers) averaged \$16.65/head and \$12.54/head over the feeding period, for steers and heifers, respectively.

Animal performance was similar to prior years in the program, with steers gaining 3.18 pounds per day and heifers gaining 2.96 pounds per day. Feed efficiency (pounds of feed per pound of gain) improved significantly over levels from prior years. Steers consumed 5.73 pounds of feed to produce a pound of gain while heifers stood at 5.93 pounds. These figures are 1 to 1.5 pounds lower than they have been in the past.

## **OBJECTIVES**

In an effort to provide southwestern Idaho ranchers with information concerning retained ownership, marketing alternatives and individual animal performance, an educational program was started by University of Idaho Cooperative Extension System faculty during the fall of 1992.

Specific project objectives were to provide cattle producers with:

- ❖ A process for selecting a custom feedlot,
- ❖ A process for selecting a financial institution to finance feeding,
- ❖ Feedlot performance information for their cattle,
- ❖ Individual animal carcass information at slaughter,
- ❖ Marketing alternatives available during the feeding program,
- ❖ Economic evaluation of retained ownership for individual operators and the pen of cattle.

## **PROGRAM FORMATION**

### **Initiation**

The idea of a retained ownership program was broached with the District II Beef Advisory Committee and county agents in the spring of 1992. University of Idaho faculty conducted a review of other retained ownership programs (Sims et al., 1991; Wagner et al., 1992). A small group of producers was asked to form a steering committee to set up the basic ground rules for the program and to make initial decisions in devising the program.

## **Feedlot selection**

Preliminary work involved surveys of five feedlots on their management, feeding, and billing programs. University of Idaho faculty conducted this survey, based upon information requested by the steering committee. Survey information was summarized and presented to the committee. After review of the information, Bruneau Cattle Company in Bruneau, Idaho was selected by the steering committee as the custom feedlot for the retained ownership program.

## **Financing**

A similar approach was followed to secure financing for the feeding program. University of Idaho faculty surveyed four lending institutions regarding terms and conditions of a feeding program loan. Several banks required additional steps in order for the A to Z cooperative to secure financing, including the necessity of having a producer/lender-signed form specifying that the cattle were lien-free, the necessity of an additional lien to the prospective lender, creating a non-profit corporation, and others. After much discussion by the steering committee, members selected US Bank in Cambridge, Idaho to finance the program annually.

## **Program Design**

Once the feedlot was selected and financing secured, the feeding program was ready to begin. In October 1992, the steering committee met once to lay out the specific guidelines for the program and once with the feedlot operator to coordinate transfer of the cattle into the feedlot. At the second meeting, the feedlot's consulting veterinarian designed a preconditioning program. Allied industry representatives provided technical and financial support for the pre-weaning/receiving program.

The mid-year meeting was held January 29, 1998 at Bruneau and Mountain Home to provide producers with animal performance data and to review the marketing plan. Cattle were finished and sold by Bruneau Cattle Company to IBP of Boise. Carcass data were gathered for individual animals by University of Idaho faculty with assistance from the USDA grading service. Tours were conducted by IBP carcass sales personnel on May 26, June 6 and June 22, 1998. Feedlot performance information, carcass data, and costs and returns were gathered throughout the program and summarized for each owner and each pen of cattle, as a whole. These data formed the basis for the final educational programs, conducted on July 1, 1998 in Fruitland and July 2, 1998 in Mackay. Producers and numerous other guests attended the meetings. Producers received animal performance (feedlot and carcass) data, as well as the proceeds from the sale of their cattle. All of the information was explained and evaluated during the educational session. In addition, a questionnaire was distributed to the participants in order to evaluate the program and make suggestions for future programs.

The sixth year feeding phase included 309 steers and 187 heifers in the program. Data gathered during the project were tabulated in computerized format.

## PROCEDURES

Thirty ranches consigned 309 steers and 187 heifers to the A to Z Retained Ownership, Inc. program in October and November 1997. Steers selected were to weigh between 550 and 750 pounds upon arrival at the feedlot. The heifers were to be 50 pounds lighter (500 to 700 pounds). Calves were to be dehorned, castrated, weaned by October 27, 1997 (at least 21 days prior to feedlot delivery), and accustomed to feed bunks, waterers and trace mineral salt. Calves received their first set of vaccinations at the ranch 13 or 14 days (November 3 or 4, 1997) prior to receiving their booster shots at the feedlot. Initial vaccinations included Lepto-5 (bacterin), IBR, BVD (killed vaccine), PI<sub>3</sub> (heat sensitive) and BRSV (modified live vaccine) (Cattle Master 4+L5, Pfizer\*) and 7-way blackleg and *H. somnus* (Ultrabac 7/Somubac, bacterin-toxoid, Pfizer\*). Backup identification eartags were placed in calves at the ranch. Owners provided breed-of-sire, breed-of-dam, color and weaning and calving date information. Live animal shrunk weights were determined on an individual owner basis upon arrival at the feedlot.

Calves arrived and were weighed on a truckload basis at the feedlot on November 17 and 18, 1997. On November 21 1997, calves were individually weighed (assessed a 4.5% shrink), administered boosters to vaccines, treated for internal and external parasites, including liver flukes (Ivomec-F, Merial Ltd.\*), tagged with a duplicate eartag for individual identification if necessary, measured for hip height, and implanted with a growth promotant (Ralgro, Schering-Plough\*). A coccidiostat (Deccox, ALPHARMA\*) was used in the receiving, start-up, and finishing rations.

Initial calf values were determined using a price of \$81/cwt for steers and \$72/cwt for heifers. These values were taken from an electronic marketing service report for feeder cattle prices for November 21, 1997. All owners were responsible for salvage, medicine and death loss charges incurred by their calves. Feedlot costs encumbered by a calf that died or was salvaged were deducted from sale proceeds of the owner's remaining calves. Only for analytical purposes were death loss and medicine charges averaged across all calves in order to relate the current year to previous years' data.

Cattle were placed on the finishing ration and individually weighed (assessed a 5% shrink) on January 20, 1998. Dry matter intakes were determined on an individual calf basis for the receiving and start-up rations combined and for the finishing ration. Feed intakes were adjusted for average live weight and average daily gain during each period using the net energy for maintenance (NE<sub>m</sub>) and net energy for gain (NE<sub>g</sub>) equations of Owens et al. (1984).

The outdate for finished cattle was determined by Bruneau Cattle Company personnel using days on feed and visual observation as indicators of cattle reaching the Choice quality grade. Cattle were slaughtered at Iowa Beef Processors (IBP) of Boise on May 23, 1998 (132 heifers), June 6, 1998 (168 steers) and June 20, 1998 (137 steers and 50 heifers).

Base carcass value was determined according to the formula for average cash price for cattle in the Texas/Oklahoma Panhandle during the current week and adjusted for quality

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\* Reference to brand or trade names does not indicate or imply an endorsement of the product or representation that comparable products may not be available.

grade, yield grade and carcass non-conformity discounts. Prices received are reported in Table 1. Market prices received in perspective to seasonal live prices for fed cattle in 1993 through 1998 are reported in Figure 1.

Carcass data collection and grading were accomplished the first work day, following a weekend carcass chill, after each kill date. Calculations for final yield grade and percent cutability were taken from Beef Improvement Federation proceedings (BIF, 1990). The equation for calculating steer frame scores was an average of the frame score equations for bulls and heifers (BIF, 1990). Profitability of cattle feeding on an individual owner basis was determined by subtracting feedlot costs (feed, yardage, processing, medicine, and interest on feedlot costs), initial value of the steer, and opportunity costs on the initial value (6 percent interest on initial value for the duration of the feeding period) from the total carcass value of the steer (less transportation, brand inspection, and checkoff).

## **RESULTS AND DISCUSSION**

### **Animal Performance**

Initial information on the two pens of cattle is reported in Table 2. Average age of the steer calves entering the feedlot was 265 days (equaling a February 27, 1997 average calving date), with an initial weight of 607 pounds. Heifers had an average age of 262 days (March 2, 1997 average calving date) and weighed 554 pounds.

Animal performance for the start-up period, which lasted 64 days, is reported in Table 3. Steers averaged 783 pounds at the first weigh period (January 20, 1998). Performance averaged 2.76 pounds of gain per day, with feed efficiency of 6.16 pounds of feed (dry matter basis) per pound of gain. Average dry matter intake was 16.99 pounds per day. No steers died from delivery through the end of the start-up rations. Medical treatments during this period included 14 steers for respiratory complications.

Heifers averaged 721 pounds at the first weigh period and gained 2.61 pounds per day. Feed efficiency for the heifers was 6.21 pounds of feed per pound of gain, with average dry matter intake of 16.20 pounds per day. Three heifers died during the receiving, startup and grower phases. Ten heifers were treated for respiratory problems.

Performance for the finishing period is reported in Table 4. Average finish weight of the 305 steers was 1,265 pounds, with steers consuming 18.77 pounds dry matter per day and gaining 3.37 pounds per day. Feed efficiency was 5.57 pounds of dry matter per pound of gain over the 142-day finishing period. Death loss was 1.3 percent, as 3 steers died of pneumonia and 1 steer died of bloat. Medical treatments during this period were 2 respiratory and 1 footrot.

Heifers finished at an average weight of 1,130 pounds, consumed 18.11 pounds of dry matter per day and gained 3.13 pounds per day, during the finishing phase. Feed efficiency was 5.79 pounds of feed per pound of gain over the 134-day finishing period. One additional heifer died from feedlot bloat during the finishing phase, leaving final death loss at 2.1%. Three heifers were treated for respiratory ailments.

Performance for the combined start-up and finishing periods is reported in Table 5. Over the entire feeding period, steers gained 3.18 pounds per day, consuming 18.24 pounds of dry matter per day. Average feed efficiency was 5.73 pounds of dry matter per pound of gain and the average days on feed was 206 days. Heifers gained 2.96 pounds per day, consumed 17.50 pounds of dry matter and converted 5.93 pounds of feed to a pound of gain over an average of 198 days on feed.

Carcass data for the cattle is reported in Table 6. Overall, steer carcass quality grading produced 2.0 percent Prime, 79.3 percent Choice, 18.4 percent Select and .3 percent Standard. Heifer carcasses graded 8.7 percent Prime, 76.5 percent Choice, 14.8 percent Select and 0.0 percent Standard. During this marketing year, cattle were sold on the traditional formula basis and adjusted for quality differences. Price discounts were applied for heavy (> 950 pounds) and light weight (< 525 pounds). There were 5.26 and 1.1 percent yield grade 4 steer and heifer carcasses, respectively. Price spread between Choice and Select grades were \$1, \$1.20 and \$1.75 for the three marketing dates. Prime carcasses brought an additional \$10/cwt the first marketing date and \$0.00/cwt after that. Yield grades 1 and 2 were priced \$1/cwt over yield grade 3 with yield grade 4 discounted \$20/cwt behind yield grade 3. Heavy and light carcasses were discounted \$20/cwt.

## **Costs and Returns**

Costs associated with the custom feeding operation on a per animal and per pound of gain basis are reported in Tables 7 and 8. For analysis only, processing, medicine, death loss and interest were assessed on a fixed basis and were the same for each animal. On a cost per pound of gain basis, these costs are lower for animals with higher average daily gains. Total feedlot costs per steer averaged \$343.51 and heifers averaged \$306.80 per head. Feed costs per pound of gain averaged 40.2 cents for steers and 41.2 cents per pound of gain for heifers. Total feeding costs/pound of gain were \$.50 and \$.52 for steers and heifers, respectively.

The overall break-even prices and profitability of the feeding program are shown in Table 9. Keep in mind that profitability as represented here, is for the feeding period only, it is not a net income value for that calf since the total annual cow costs are approximated with the initial value. Overall break-even live price was \$66.02 per cwt for steers and \$62.80 per cwt for heifers. Break-even feeder price (possible price paid for calves going into the feedlot which would produce \$0.00 profit/loss for the retained ownership program) was \$73.99 for steer calves and \$75.71 for the heifer calves, including death loss. The average profit/loss was -\$48.44 per steer and \$17.18 per heifer, which also includes death loss.

Critical factors that affected profitability (loss) were feedlot average daily gain, marketing date and initial calf value. Profitability of steers and heifers as affected by marketing date and quality grade are shown in Figure 2.

## SUMMARY

For the 1997-98 feeding program, steers had an average daily gain of 3.18 pounds per day and heifers gained an average of 2.96 pounds per day during the feeding period. Dry matter intake was 18.24 pounds per head daily and 17.50 pounds per head daily for steers and heifers, respectively. Feed efficiency was 5.73 pounds for the steers and 5.93 pounds for the heifers (pounds of feed per pound of gain). Hot carcass weights were 797 pounds (steers) and 712 pounds (heifers). Steers graded 81.3 percent and heifers graded 85.2 percent Choice or higher. Profits/losses averaged -\$48.44 per steer and \$17.18 per heifer. The range in profits and losses were very large for both steers (+\$112.09 to -\$343.33 per head) and heifers (+\$142.30 to -\$296.97 per head), not including those cattle that died. Prime carcasses were responsible for the high-end on the heifers, and carcasses discounted for being heavy weight or yield grade 4 were on the low-end. Live weight prices of over \$66.02 per cwt were required to break even on the steers and \$62.80 per cwt on the heifers. Marketing date, feedlot average daily gain and initial calf value accounted for most of the variation in profitability.

Overall, the 1997-98 A to Z Retained Ownership, Inc. program was a success. Evaluations were conducted at the year-end meetings in Fruitland and Mackay. A review of the questionnaires filled out by 19 of the participating ranchers at the year-end meetings indicated satisfaction in the way the program was run during the year. All of the respondents felt the program was run to their satisfaction during 1997-98. Nearly all of the ranchers would participate in this retained ownership program again (90 percent, or 17 ranches) and committed to an interest in feeding 395 head of cattle for 1998-99. Ranches involved in the program also reported retaining ownership on another 150 head of cattle at other feedlots during this past year. Producers offered several suggestions including starting a program for yearling cattle, using risk management tools (hedging and options) in the marketing of cattle, more frequent communication and continuation of the tours of the packing plant to view carcasses. They also desired continuation of the mid-year review and feedlot tour. The six objectives of the program were validated as still being of utmost importance to Idaho cattle producers. All suggestions, interests and comments will be considered in designing future retained ownership educational programs.

## LITERATURE CITED

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Table 1. Carcass prices (\$ per cwt) received by quality grade and marketing date.\*

	Yield Grade	Prime	Choice	Select	Standard
<u>Steers</u>					
June 6, 1998	1 & 2	101.13	101.13	99.93	--
	3	100.13	100.13	98.93	--
	4	80.13	80.13	78.93	--
June 20, 1998	1 & 2	104.45	104.45	101.70	--
	3	103.45	103.45	100.70	--
	4	83.45	83.45	80.70	--
<u>Heifers</u>					
May 23, 1998	1 & 2	114.04	104.04	103.04	--
	3	113.04	103.04	102.04	--
	4	--	83.04	--	--
June 20, 1998	1 & 2	103.89	103.89	101.14	91.85
	3	102.89	102.89	100.14	--
	4	--	--	--	--

\* Discounted steer carcasses: heavy weight \$81.13/cwt Ch 2 6-6-98  
 Discounted heifer carcasses: light weight \$78.89/cwt Ch 2 6-20-98  
 light weight \$87.85/cwt Sel 1 6-20-98

Table 2. Initial animal performance, receiving 11-17-97.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Weight, lb	309	607.00	404.00	882.00	84.86
Hip height, in	309	46.38	41.00	52.00	1.82
Frame score	309	5.52	2.80	8.40	.93
Age, days	309	265.00	202.00	325.00	15.81
Initial value, \$/head <sup>a</sup>	309	485.70	367.03	589.97	68.73
<u>Heifers</u>					
Weight, lb	187	554.00	370.00	740.00	75.90
Hip height, in	187	45.64	41.00	52.00	1.85
Frame score	187	5.52	3.30	8.20	.90
Age, days	187	262.00	196.00	317.00	19.20
Initial value, \$/head <sup>a</sup>	187	406.86	300.29	491.20	54.65

<sup>a</sup> Initial value of the steers was \$81/cwt. Heifer initial value was \$72/cwt, no slide for weight.

Table 3. Animal performance, receiving through start-up period (11-17-97 to 1-20-98).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Weight, lb 1-20-98	309	783.00	523.00	1074.00	87.69
Average daily gain, lb/day	309	2.76	.74	4.23	.56
Dry matter intake, lb <sup>a</sup>	309	16.99	8.27	26.12	2.91
Feed efficiency, lb feed DM/lb gain	309	6.16	--	--	--
<u>Heifers</u>					
Weight, lb 1-20-98	157	721.00	513.00	893.00	77.53
Average daily gain, lb/day	157	2.61	.60	4.05	.56
Dry matter intake, lb <sup>a</sup>	157	16.20	7.79	25.83	2.97
Feed efficiency, lb feed DM/lb gain	157	6.21	--	--	--

<sup>a</sup> Individual animal dry matter intake was calculated by adjusting for live weight and average daily gain (Owens et al., 1984).

Table 4. Animal performance, finishing period (1-20-98 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Finished weight, lb <sup>a</sup>	305	1265.00	849.00	1576.00	117.01
Days on feed	305	142.00	137.00	151.00	10.27
Average daily gain, lb/day	305	3.37	1.60	4.88	.50
Dry matter intake, lb <sup>b</sup>	305	18.77	8.92	28.19	2.98
Feed efficiency, lb feed DM/lb gain	305	5.57	--	--	--
<u>Heifers</u>					
Finished weight, lb <sup>a</sup>	183	1130.00	722.00	1381.00	110.95
Days on feed	183	134.00	123.00	151.00	24.58
Average daily gain, lb/day	183	3.13	.24	4.09	.54
Dry matter intake, lb <sup>b</sup>	183	18.11	5.03	25.70	3.31
Feed efficiency, lb feed DM/lb gain	183	5.79	--	--	--

<sup>a</sup> Calculated from hot carcass weight using a standard 63% dressing percentage.

<sup>b</sup> Individual animal dry matter intake was calculated by adjusting for live weight and average daily gain (Owens et al., 1984).

Table 5. Animal performance, total feeding period (11-17-97 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Average daily gain, lb/day	305	3.18	2.01	4.19	.38
Days on feed	305	206.00	201.00	215.00	10.27
Dry matter intake, lb <sup>a</sup>	305	18.24	10.69	26.12	2.53
Feed efficiency, lb feed DM/lb gain	305	5.73	7.34	4.68	.40
<u>Heifers</u>					
Average daily gain, lb/day	183	2.96	.86	3.83	.40
Days on feed	183	198.00	187.00	215.00	24.58
Dry matter intake, lb <sup>a</sup>	183	17.50	7.92	23.99	2.66
Feed efficiency, lb feed DM/lb gain	183	5.93	9.23	4.77	.49

<sup>a</sup> Individual animal dry matter intake was calculated by adjusting for live weight and average daily gain (Owens et al., 1984).

Table 6. Animal performance, carcass data.

	No. of Animals <sup>a</sup>	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Hot carcass weight, lb	305	797.00	535.00	993.00	73.72
Final yield grade	305	3.08	1.22	5.42	.77
Ribeye area, sq in	305	12.88	9.90	16.90	1.42
Kidney, pelvic & heart fat, %	305	2.20	1.00	3.50	.40
Backfat, in	305	.49	.15	1.25	.19
Marbling score <sup>b</sup>	305	7.46	2.00	19.00	2.72
Quality grade <sup>c</sup>	305	12.08	8.00	16.00	1.21
Carcass price, \$/cwt	305	100.13	68.45	104.45	5.88
<u>Heifers</u>					
Hot carcass weight, lb	183	712.00	455.00	870.00	69.90
Final yield grade	183	3.10	1.02	5.27	.75
Ribeye area, sq in	183	12.18	8.10	16.20	1.41
Kidney, pelvic & heart fat, %	183	2.13	1.00	3.00	0.42
Backfat, in	183	.54	.20	1.20	.18
Marbling score <sup>b</sup>	183	8.46	3.00	19.00	3.11
Quality grade <sup>c</sup>	183	12.54	9.00	16.00	1.20
Carcass price, \$/cwt	183	103.56	78.89	114.04	3.95

<sup>a</sup> Four heifers died and 4 steers died.

<sup>b</sup> Marbling score, 2=Standard<sup>+</sup>, 3=Select<sup>-</sup>, 4=Select<sup>0</sup>, 5=Select<sup>+</sup>, 6=Choice<sup>-</sup>, 7=Choice<sup>0</sup>, 8=Choice<sup>+</sup>, 9=Modest<sup>-</sup>, 10=Modest<sup>0</sup>, 11=Modest<sup>+</sup>, 12=Moderate<sup>-</sup>, 13=Moderate<sup>0</sup>, 14=Moderate<sup>+</sup>.

<sup>c</sup> Quality grade, 9=Select<sup>-</sup>, 10=Select<sup>0</sup>, 11=Select<sup>+</sup>, 12=Choice<sup>-</sup>, 13=Choice<sup>0</sup>, 14=Choice<sup>+</sup>.

Table 7. Costs associated with custom feeding on a \$ per animal basis.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steer</u>					
Total feed <sup>a</sup>	309	263.37	106.10	372.81	38.36
Yardage <sup>b</sup>	309	41.28	22.60	43.00	2.05
Processing <sup>c</sup>	309	6.09	--	--	--
Medicine	309	.62	--	--	--
Death loss	309	9.29	--	--	--
Interest <sup>cd</sup>	309	6.21	--	--	--
Opportunity <sup>e</sup>	309	16.65	10.39	23.98	2.34
Total Cost	309	343.51	134.79	439.86	40.15
<u>Heifer</u>					
Total feed <sup>a</sup>	187	232.70	7.20	336.27	47.62
Yardage <sup>b</sup>	187	38.26	1.60	43.00	4.92
Processing <sup>c</sup>	187	5.82	--	--	--
Medicine	187	1.44	--	--	--
Death loss	187	9.83	--	--	--
Interest <sup>cd</sup>	187	6.21	--	--	--
Opportunity <sup>e</sup>	187	12.54	.45	17.72	2.25
Total Cost	187	306.80	21.41	419.46	52.33

<sup>a</sup> Individual animal dry matter intake was calculated by adjusting for live weight and average daily gain (Owens et al., 1984).

<sup>b</sup> Yardage costs were \$.20 per animal each day.

<sup>c</sup> Fixed cost shared by owners on a per animal basis.

<sup>d</sup> Feeding period financing costs, including interest at 9.00 percent and a loan origination fee.

<sup>e</sup> Opportunity cost was calculated at 6 percent interest on the initial value of each animal for the duration of the feeding period.

Table 8. Costs associated with custom feeding on a \$ per lb of gain basis.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Total feed <sup>a</sup>	305	.402	.328	.512	.028
Feed and yardage <sup>b</sup>	305	.466	.393	.612	.029
Total cost of gain	305	.500	.422	.665	.032
<u>Heifers</u>					
Total feed <sup>a</sup>	183	.412	.330	.627	.034
Feed and yardage <sup>b</sup>	183	.482	.406	.860	.043
Total cost of gain	183	.521	.437	1.067	.059

<sup>a</sup> Individual animal dry matter intake was calculated by adjusting for live weight and average daily gain (Owens et al., 1984).

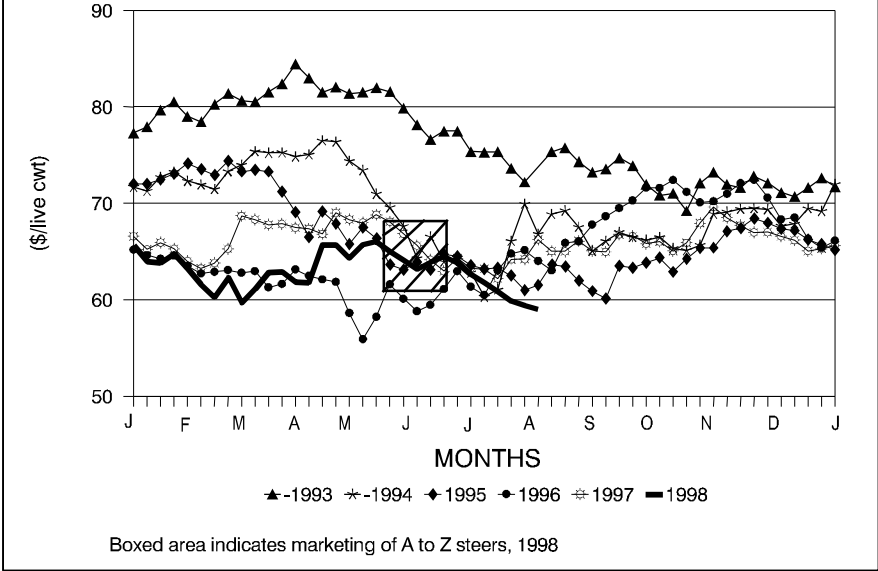
<sup>b</sup> Yardage costs were \$.20 per animal each day.

Table 9. Break-even price and profitability associated with custom feeding.

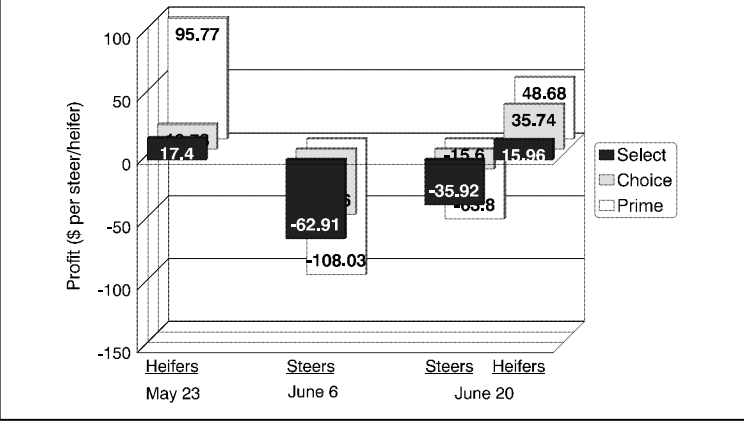
	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Break-even price, \$/cwt	305	66.02	57.17	77.97	3.07
Profit/Loss, \$/steer	305	-48.44	-343.33	112.09	69.23
<u>Heifers</u>					
Break-even price, \$/cwt	183	62.80	54.65	85.61	3.29
Profit/Loss, \$/heifer	183	17.18	-296.97	142.30	46.30

# Figure 1. Fed Steer Prices

January 1993 - Current



# Figure 2. Effect of quality grade and market date on profitability.



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