

# **A TO Z RETAINED OWNERSHIP COMPANY**

## **1996 Year-End Summary**

### **Introduction**

The A to Z Retained Ownership Company 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 was to give cow-calf producers information on how their cattle performed through the feeding and carcass phases. This report presents the results of the fourth year of the retained ownership program.

The 1995-96 A to Z program consisted of several important changes and additions. Death loss and medicine costs were not shared as in previous years, but charged out to the owner of the calf. Participating ranchers decided that the ongoing preconditioning program was successful and they were now willing to accept these charges individually. The method and cost of collecting carcass data was improved with the help of Iowa Beef Processors (IBP) and University of Idaho faculty. The A to Z program opened an account with the USDA Grading Service which effectively eliminated the orange tag system. In addition, risk management has become an increasingly important segment of the A to Z program and has led to the formation of a marketing advisory committee. Economic conditions surrounding the feed grain and beef commodities have complicated the marketing decisions which are now determined by this committee.

Record supplies in the meat complex combined with feed grain shortages produced unfavorable conditions for cow-calf producers in 1995-96. The value of weaned calves was significantly reduced during the fall of 1995. The initial value of steer calves entering the feeding program declined \$173.29 per head (31%) between 1992 and 1995. Feed costs increased just as significantly, with finish rations rising \$1.39/cwt (as fed) or 38% higher since program inception. Carcass values were also reduced \$32.61/cwt or 25% from record high prices in 1993. These factors contributed to \$50/steer and \$25/heifer average losses for the 1995-96 A to Z program.

The price of steers going into the program was \$61/cwt and \$56/cwt for heifers. Reflective of market conditions in November 1995, no price slide was used. Using these market prices, initial values of the cattle going into the feeding program averaged \$390/steer and \$328/heifer. The opportunity cost of not selling the calves at weaning (an interest expense tied directly to the initial value of the steers) averaged \$10.30/head and \$8.71/head over the feeding period, for steers and heifers, respectively. Animal performance was similar to prior years in the program, with steers gaining 3.06 pounds per day and consuming 6.9 pounds of feed per pound of gain. Heifers gained 2.89 pounds per day and consumed 6.7 pounds of feed per pound of gain.

### **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,
  - ② A process for selecting a financial institution to finance feeding,
  - ③ Feedlot performance information for their cattle,
  - ④ Individual animal carcass information at slaughter,
  - ⑤ 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 West One Bank, formerly Idaho State Bank, in Cambridge, Idaho.

### 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.

During the current year, several marketing strategy meetings were conducted. A marketing workshop was held in Cambridge on July 9, 1995 and again in Council on November 1, 1995 for interested and potential participants. A risk management program was conducted by Snake River Trading Co. in Caldwell on January 4, 1996 for the marketing advisory committee. The mid-year meeting was held January 23, 1996 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 April 15, and May 6, 1996. 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 program, conducted on May 15, 1996 in Fruitland. The meeting was attended by 22 producers and numerous other guests. 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 fourth year feeding phase included 208 steers and 52 heifers in the program. Data gathered during the project were tabulated in computerized format and analyzed using the SAS statistical package. Objectives of the analysis were to determine factors, such as carcass performance, market prices, and others, which influence retained ownership profitability.

### Procedures

Twenty-eight ranchers consigned 208 steers and 52 heifers to the A to Z Retained Ownership Company program in October and November 1995. 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 23, 1995 (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 (October 30 or 31, 1995) 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, Smith Kline Beecham\*) and 7-way blackleg and *H. somnus* (Ultrabac 7/Somubac, bacterin-toxoid, Smith Kline Beecham\*). USDA eartags were placed in calves at the ranch. Owners provided breed-of-sire, breed-of-dam, weaning and calving date information. Live animal shrunk weights were determined on an individual owner basis at central collection points prior to being delivered to the feedlot, or upon arrival at the feedlot.

Calves arrived and were weighed on a truckload basis at the feedlot on November 13 and 14, 1995. On November 18, 1995, calves were individually weighed (assessed a 4.5% shrink), administered boosters to vaccines, treated for internal and external parasites, including liver flukes (Ivomec-F, Merck Ag Vet\*), tagged with a duplicate eartag for individual identification, measured for hip height, and implanted with a growth promotant (Ralgro, Pitman-Moore\*). A coccidiostat (Deccox, RHÔNE-POULENC\*) was used in the receiving, start-up, and finishing rations.

Initial calf values were determined using a price of \$61/cwt for steers and \$56/cwt for heifers. These values were taken from an electronic marketing service report for feeder cattle prices for November 18, 1995. All owners were responsible for 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 January 8, 1996 and individually weighed January 11, 1996 (assessed a 5% shrink). 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 April 12, 1996 (105 steers and 24 heifers) and May 3, 1996 (101 steers and 27 heifers).

Base carcass value was determined according to the formula for average cash price for cattle in the Panhandle during the current week and adjusted for quality 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 1996 are reported in Figure 1.

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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 261 days (equaling a February 23, 1995 average calving date), with an initial weight of 639 pounds. Heifers had an average age of 257 days (February 28, 1995 average calving date) and weighed 587 pounds.

Animal performance for the start-up period, which lasted 60 days, is reported in Table 3. Steers averaged 793 pounds at the first weigh period (January 11, 1996). Performance averaged 2.61 pounds of gain per day, with feed efficiency of 6.96 pounds of feed (dry matter basis) per pound of gain. Average dry matter intake was 19.15 pounds per day. No steers died from delivery through the end of the start-up rations. Medical treatments during this period included 16 steers for respiratory complications and one for an injury. Average energy values for the receiving and start-up rations were 74.94 Mcal per cwt for  $NE_m$  and 48.81 Mcal per cwt for  $NE_g$ . With an average weight of 716 pounds during the start-up period, steers were consuming 2.7 percent of their body weight in dry matter.

Heifers averaged 723 pounds at the first weigh period and gained 2.32 pounds per day. Feed efficiency for the heifers was 8.2 pounds of feed per pound of gain, with average dry matter intake of 18.13 pounds per day. One heifer died due to respiratory complications on December 24, thus making death loss 1.9 percent. Eleven heifers were treated for respiratory problems. Energy values for the heifer receiving and startup rations were 74.93 Mcal for  $NE_m$  and 48.80 Mcal for  $NE_g$ . Average weight during the feeding period was 654 pounds, meaning that the heifers were consuming 2.8 percent of their body weight in dry matter.

Performance for the finishing period is reported in Table 4. Average finish weight of the 206 steers was 1,130 pounds, with steers consuming 22.07 pounds dry matter per day and gaining 3.32 pounds per day. Feed efficiency was 6.67 pounds of dry matter per pound of gain over the 92-day finishing period. Death loss was .5 percent, as 1 steer died of pneumonia complications on April 1, 1996. In addition one steer was salvaged on February 6, 1996. Medical treatments during this period did not occur. Average energy values for the finishing ration were 89.88 Mcal per cwt for  $NE_m$  and 59.86 Mcal per cwt for  $NE_g$ . With an average weight of 961 pounds during the finishing period, steers were consuming 2.3 percent of their body weight in dry matter.

Heifers finished at an average weight of 1,052 pounds, consumed 20.08 pounds of dry matter per day and gained 3.21 pounds per day, during the finishing phase. Feed efficiency was 6.23 pounds of feed per pound of gain over the 92-day finishing period. Energy values for the heifer finish ration were 100.49 Mcal for  $NE_m$  and 65.71 Mcal for  $NE_g$ . The average weight of the heifers during the finishing phase was 887 pounds, meaning that the heifers were consuming 2.3 percent of their body weight in dry matter. There was no heifer death loss or medicine charges during the finishing phase, leaving final death loss at 1.9%.

Performance for the combined start-up and finishing periods is reported in Table 5. Over the entire feeding period, steers gained 3.06 pounds per day, consuming 21 pounds of dry matter per day. Average feed efficiency was 6.88 pounds of dry matter per pound of gain and the average days on feed was 161 days. Heifers gained 2.89 pounds per day, consumed 19.39 pounds of dry matter and converted 6.69 pounds of feed to a pound of gain.

Carcass data for the cattle is reported in Table 6. Overall, steer carcass quality grading produced .5 percent *Prime*, 59.2 percent *Choice*, 37.4 percent *Select* and 2.9 percent *Standard*. Heifer carcasses graded 54.9 percent *Choice* and 45.1 percent *Select*. During this marketing year, cattle were sold on the traditional formula basis and adjusted for quality differences. Price discounts were not applied for heavy (> 935 pounds) or light (< 550 pounds) carcasses, or yield grade 4 or greater carcasses during 1996. There were 2.9 and 9.8 percent yield grade 4 steer and heifer carcasses, respectively. Price spread between *Choice* and *Select* grades were \$3 and \$5 for the first and second kill dates, respectively. In terms of light and heavy carcasses, only one steer and one heifer carcass weighed below the 500 pound lower limit and there were no carcasses heavier than 950 pounds. There was only one steer which yielded carcass between 850 and 900 pounds and eight steers and seven heifers with carcasses lighter than 600 pounds. Seventeen steer carcasses and two heifers were between 3.5 and 4 yield grades. Seven steers and two heifers had ribeye areas of less than 10 square inches. Fifteen steers and four heifers had ribeyes that were greater than 14.5 square inches, with the maximum of 16.1 square inches on the steers and 17.7 square inches on the heifers. Calculations for cutability indicate the lean meat yield of the carcass. Carcass lean gain calculations indicate growth composition, or, how much of the average daily gain was purely muscle gain and not fat deposition.

The analyses concerning the effects of breed-of-sire on carcass performance were once again inconclusive. The variation within breed was as great (or greater) as between breeds. As a result, these data are not reported this year.

### Costs and Returns

Costs associated with the custom feeding operation on a per steer 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 \$354.67 and heifers averaged \$336.52 per head. Feed costs per pound of gain averaged \$.59 for steers and \$.57 per pound for heifers. Total feeding costs were \$.73 for both steers and heifers.

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 \$65.53 per cwt for steers and \$62.41 per cwt for heifers. The average loss was \$51.12 per steer and \$23.67 per heifer.

Critical factors that affected profitability (loss) were feedlot average daily gain, quality grade (*Choice* vs. *Select*) and marketing date. These three factors alone accounted for over 70 percent of the variation in profitability for the feeding phase. Quality grade and marketing date, when considered together, are the *Choice/Select* spread for carcass price over time. *Select* cattle lost an average of over \$60 per head more than *Choice* cattle. Profitability of steers and heifers as affected by marketing date and quality grade are shown in Figure 2. With the declining prices that occurred during the marketing period of the A to Z animals, the outdate of an individual owner's animals greatly affected profitability (loss). Final yield grade, kidney pelvic and heart fat, hot carcass weight, ribeye area and owner did not affect profitability. In fact, all of these variables

combined would account for less than 9 percent of the variation in profitability observed in this feeding demonstration.

### Summary

For the 1995-96 feeding program, steers had an average daily gain of 3.06 pounds per day and heifers gained an average of 2.89 pounds per day during the feeding period. Dry matter intake was 21 pounds per head daily and 19.39 pounds per head daily for steers and heifers, respectively. Feed efficiency was 6.88 pounds for the steers and 6.69 pounds for the heifers (pounds of feed per pound of gain). Hot carcass weights were 712 pounds (steers) and 663 pounds (heifers). Steers graded approximately 60 percent and heifers graded 55 percent *Choice* or higher. Sire breed differences were not apparent this year during the feeding trial (variation within breed was still very high). Losses averaged \$51.12 per steer and \$23.67 per heifer. The range in profits and losses were very large for both steers (+\$22.10 to -\$136.76 per head) and heifers (+\$23.19 to -\$100.60 per head). Live weight prices of slightly over \$65.50 per cwt were required to break even on the steers and \$62.41 per cwt on the heifers. Marketing date, feedlot average daily gain and the *Choice/Select* spread accounted for most of the variation in profitability.

One word of caution is warranted in interpreting the data from the 1995-96 feeding program. Heifer numbers included in the program were limited to 52 head. This small sample limits the application of these results to other situations. For example, the fact that heifers were more profitable than steers may be tied to the small number of observations rather than support a blanket statement that heifers were more profitable in 1995-96.

Overall, the A to Z Retained Ownership Company program was a success as determined by a review of the summary questionnaires filled out by 22 of the participating ranchers at the year-end meeting. All of the respondents indicated satisfaction with the project and over one-third were considering (or were already) retaining ownership of cattle. Nearly all of the ranchers would participate in another demonstration project (91 percent). Producers offered several suggestions involving tighter restrictions on the initial weight of cattle entering the program, emphasis on preconditioning calves, and marketing, which will be used in future retained ownership educational programs.

### Literature Cited

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

	<b>Steers</b>		<b>Heifers</b>	
	Choice	Select	Choice	Select
April 12, 1996	101.00	98.00	101.00	98.00
May 3, 1996	97.00	92.00	97.00	92.00

Table 2. Initial animal performance, receiving 11/18/95.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<b>Steers</b>					
Weight, lb	206	639	420	826	64.11
Hip height, in.	206	47.15	43	52.50	1.83
Frame score	206	5.96	4.10	9.10	.92
Age, days	206	260.63	206	373	23.33
Initial value, \$/head <sup>a</sup>	206	390.05	256.32	503.91	74.38
<b>Heifers</b>					
Weight, lb	51	587	425	726	65.99
Hip height, in.	51	46.46	43.25	50.25	1.66
Frame score	51	5.63	4.10	7.50	.77
Age, days	51	257.16	215	307	17.71
Initial value, \$/head <sup>a</sup>	51	328.48	237.99	406.45	36.98

<sup>a</sup>Initial value of the steers was \$61/cwt. Heifer initial value was \$56/cwt.

Table 3. Animal performance, receiving through start-up period (11/18/95 to 1/11/96).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<b>Steers</b>					
Weight, lb 1/11/96	206	793	599	998	74.39
Average daily gain, lb/day	206	2.61	-.06	4.61	.76
Dry matter intake, lb <sup>a</sup>	206	19.15	7.30	32.70	4.27
Feed efficiency, lb feed DM/lb gain	206	6.96	---	---	---
<b>Heifers</b>					
Weight, lb 1/11/96	51	723	518	865	73.83
Average daily gain, lb/day	51	2.32	.48	3.71	.72
Dry matter intake, lb <sup>a</sup>	51	18.13	9.80	28.10	4.52
Feed efficiency, lb feed DM/lb gain	51	8.20	---	---	---

<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 (1/14/96 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<b>Steers</b>					
Finished weight, lb <sup>a</sup>	206	1130	744	1373	95
Days on feed	206	91.93	75	104	10.58
Average daily gain, lb/day	206	3.32	1.24	4.61	.58
Dry matter intake, lb <sup>b</sup>	206	22.07	8.90	31.60	3.84
Feed efficiency, lb feed DM/lb gain	206	6.67	---	---	---
<b>Heifers</b>					
Finished weight, lb <sup>a</sup>	51	1052	786	1319	97
Days on feed	51	92.65	81	103	10.55
Average daily gain, lb/day	51	3.21	1.81	4.24	5.60
Dry matter intake, lb <sup>b</sup>	51	20.08	11.40	30.60	4.24
Feed efficiency, lb feed DM/lb gain	51	6.23	---	---	---

<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 (11/18/95 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<b>Steers</b>					
Average daily gain, lb/day	206	3.06	1.33	4.01	.45
Days on feed	206	160.93	144	173	10.58
Dry matter intake, lb <sup>a</sup>	206	21	11.40	29.56	3.22
Feed efficiency, lb feed DM/lb gain	206	6.88	---	---	---
<b>Heifers</b>					
Average daily gain, lb/day	51	2.89	2.03	3.65	.43
Days on feed	51	161.65	150	172	10.55
Dry matter intake, lb <sup>a</sup>	51	19.39	11.42	27.54	3.52
Feed efficiency, lb feed DM/lb gain	51	6.69	---	---	---

<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
<b>Steers</b>					
Hot carcass weight, lb	205	712	469	865	60.11
Final yield grade	205	2.70	1	4.40	.64
Ribeye area, sq. in.	205	12.38	8.70	16.10	1.39
Kidney, pelvic & heart fat, %	205	2.11	.50	3.50	.55
Adjusted back fat, in.	205	.41	.10	.85	.15
Marbling score <sup>b</sup>	205	5.86	0	15	2.40
Quality grade <sup>c</sup>	205	11.11	4	15	1.58
Cutability, % <sup>d</sup>	205	50.51	46.60	54.58	1.47
Carcass lean gain, lb/day <sup>e</sup>	205	.99	.44	1.29	.14
<b>Heifers</b>					
Hot carcass weight, lb	51	662.50	495	831	61.31
Final yield grade	51	2.62	.80	4.80	.93
Ribeye area, sq. in.	51	12.33	9	17.70	1.80
Kidney, pelvic & heart fat, %	51	2.39	1.50	3.50	.49
Adjusted back fat, in.	51	.43	.15	1	.19
Marbling score <sup>b</sup>	51	5.45	3	9	1.86
Quality grade <sup>c</sup>	51	10.94	9	13	1.32
Cutability, % <sup>d</sup>	51	50.74	45.64	54.87	2.14
Carcass lean gain, lb/day <sup>e</sup>	51	.93	.68	1.26	.14

<sup>a</sup> One steer and heifer died and one steer was salvaged.

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

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

<sup>d</sup> Cutability = 51.34 - (5.784 x adjusted backfat, in.) - (.462 x kidney, pelvic & heart fat, %) - (.0093 x hot carcass weight, lb) + (.74 x ribeye area, sq. in.).

<sup>e</sup> Carcass lean gain = (hot carcass weight x (cutability/100) - (empty body fat x .70) x (cutability/100))/days on feed.

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

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<b>\$/Steer</b>					
Total feed <sup>a</sup>	206	---	---	285.54	---
Yardage <sup>b</sup>	206	32.19	28.80	34.60	2.12
Processing <sup>c</sup>	206	6.78	6.78	6.78	---
Medicine	206	.88	9.15	20.92	---
Death loss	206	3.93	---	---	---
Interest <sup>cd</sup>	206	4.38	4.38	4.38	---
Opportunity <sup>e</sup>	206	10.30	7.13	13.92	1.12
Total Cost	206	354.67	231.66	471.40	43.61
<b>\$/Heifers</b>					
Total feed <sup>a</sup>	51	---	---	264.55	---
Yardage <sup>b</sup>	51	32.33	30	34.40	2.11
Processing <sup>c</sup>	51	6.78	6.78	6.78	---
Medicine	51	2.35	9.15	18.26	---
Death loss	51	8.08	---	---	---
Interest <sup>cd</sup>	51	4.38	4.38	4.38	---
Opportunity <sup>e</sup>	51	8.71	6.73	10.88	.96
Total Cost	51	336.52	237.57	464.02	43.97

<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 8.5 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 \$ per lb of gain basis.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<b>Steers</b>					
Total feed <sup>a</sup>	206	.5851	.48	.73	.045
Yardage <sup>b</sup>	206	.068	.05	.15	.015
Processing <sup>c</sup>	206	.014	.010	.03	.003
Medicine	206	.002	---	.054	.007
Death loss	206	.008	---	---	---
Interest <sup>cd</sup>	206	.009	.007	.019	.002
Opportunity <sup>e</sup>	206	.022	.014	.051	.005
Total cost of gain	206	.7278	.615	1.04	.057
<b>Heifers</b>					
Total feed <sup>a</sup>	51	.5684	.47	.66	.037
Yardage <sup>b</sup>	51	.071	.05	.10	.012
Processing <sup>c</sup>	51	.015	.012	.022	.002
Medicine	51	.005	---	.041	.011
Death loss	51	.017	---	---	---
Interest <sup>cd</sup>	51	.01	.007	.014	.001
Opportunity <sup>e</sup>	51	.019	.015	.028	.003
Total cost of gain	51	.7255	.671	.8143	.039

<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 8.5 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 9. Break-even price and profitability associated with custom feeding.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<b>Steers</b>					
Break-even price, \$/cwt	206	65.53	60.82	71.33	1.61
Profit/(Loss), \$/steer	206	(51.12)	22.10	(136.76)	33.34
<b>Heifers</b>					
Break-even price, \$/cwt	51	62.41	60.32	64.97	1.21
Profit/(Loss), \$/heifer	51	(23.67)	23.19	(100.60)	28.19

Figure 1. Fed steer prices  
January 1, 1993 to July 10, 1996

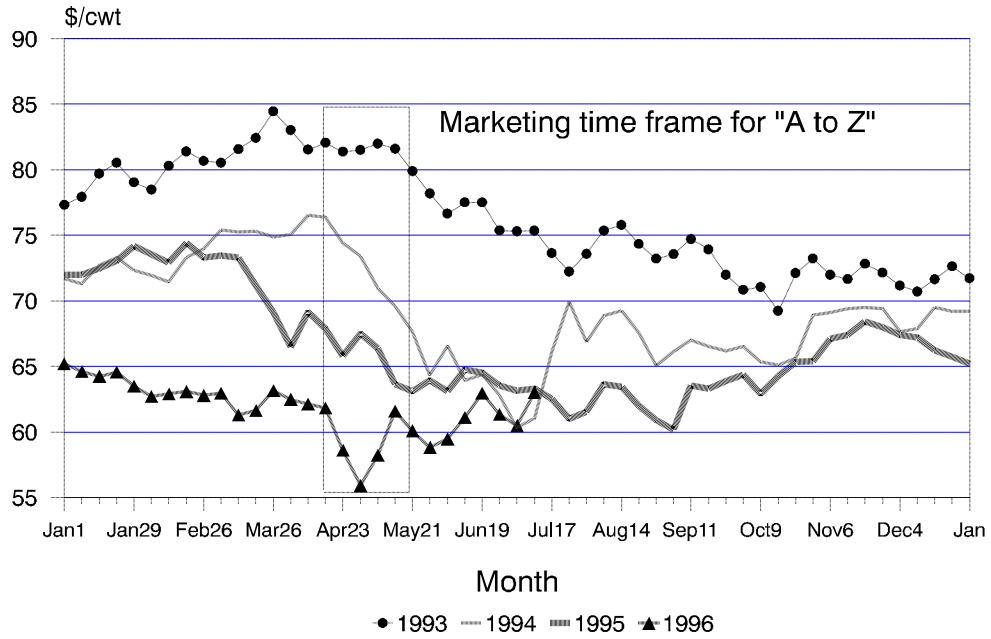


Figure 2. Effect of quality grade and market date on profitability



## Ranchers

Larry/Shari Adkins  
Seven A Ranch  
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Indian Valley, ID 83632  
208-256-4366

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Nampa, ID 83686  
208-467-1491

Bacon Valley Ranch  
1684 Goodrich Creek  
Council, ID 83612  
208-253-4770

John Balderson  
Box 345  
Council, ID 83612  
208-253-4230

Dan Barrett  
15361 Willis Road  
Caldwell, ID 83605  
208-454-3196

Doug Boggan  
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Riggins, ID 83549  
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Jim Chatburn  
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Albion, ID 83311

C.H.E. Enterprises  
3054 Goodrich Road  
Cambridge, ID 83610

Bill Copher  
2490 Cemetery Lane  
Council, ID 83612

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Helen Hillman DeMoss  
P.O. Box 61  
Bliss, ID 83314

Larry Derie  
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Council, ID 83612  
208-253-6068

Jack F. and Diane Ellis  
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Salmon, ID 83467

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Mackay, ID 83251  
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Harrop Ranch Inc.  
HC 60, Box 240  
Moore, ID 83255  
208-554-4641

Ron Hershey  
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Payette, ID 83661

Linda Jensen  
Lindale Muray Grey  
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Glenns Ferry, ID 83623  
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Jack Joyce  
Juntura, OR 97911

Mike McNabb  
WH Land & Livestock  
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Ray & Lucille Moore  
2296 Old Hornet Road

Council, ID 83612  
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Mike Paradis  
Box 348  
Council, ID 83612  
208-253-4458

Rodney Robertson  
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Drewsey, OR 97904  
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Jack Rubelt  
Harrington/Rubelt  
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Royce/Bob Schwenkfelder  
S&S Cattle Co.  
3381 Schwenkfelder  
Cambridge, ID 83610  
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Pete Skow  
2475 Cove Road  
Weiser, ID 83672

Dave Springer  
Springer/Fairchild  
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Midvale, ID 83645  
208-355-2352

Howard Sutton  
S Diamond Cattle  
Rt. 1 Box 27  
Midvale, ID 83645  
208-355-2450

Mark Yates  
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Council, ID 83612  
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Ferrell Crossley        Mike Paradis  
Dave Springer          Jack Rubelt  
Mark Yates

**Participating Feedlot**

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*Eric Davis, Manager*

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