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University of Idaho
Cooperative
Extension System

A to Z Retained Ownership, Inc.

1997 Year-End Summary

A. E. Extension Series No. 97-6

Idaho Total Beef Program

College of Agriculture

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11/97

A TO Z RETAINED OWNERSHIP, INC.
1997 Year-End Summary

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 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 fifth year of the retained ownership program.

The 1996-97 A to Z program consisted of several changes and additions. Risk management has become an increasingly important segment of the A to Z program with a marketing advisory committee studying and recommending strategies for the program. Economic conditions surrounding the feed grain and beef commodities have complicated the marketing decisions which are now determined by this committee. For the first time, a portion of the grain (300 tons of corn was contracted at $6.75/cwt and fed until 2/26/97) was locked in to protect against rising grain costs. In previous years, grain was purchased by the feedlot on an as needed basis and billed out accordingly. Grain prices generally increase as the feeding period progresses to reflect storage costs and decreasing supplies. In 1995-96, grain prices increased exorbitantly resulting in losses for feeders.

In an effort to increase marketing flexibility and reduce risk (i.e. consideration of the use of hedging and options markets for grain and cattle), the Board developed and filed charter papers for the A to Z Retained Ownership, Inc. This move would allow for the potential use of livestock and grain hedging and options contracts to minimize the risk of adverse price movements on cattle and grain.

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 opened an account with the USDA Grading Service which effectively eliminated the orange tag system.

Poor feeder calf prices in November, in combination with declining grain prices, provided a profitable market situation for retained ownership in 1996-97. The value of weaned calves continued to be weak during the fall of 1996. The initial value of steer calves entering the feeding program declined an average of $186.06 per head (33%) between 1992 and 1996. Feed costs decreased significantly (16.3%) from the previous year, with $1.84 feed costs/day in 1995 and $1.54/day in 1996 for steers. Carcass values also increased (11.4%) from last year with average steer carcass value of $97.39 in 1995 vs. $109.97 in 1996. These factors contributed to $83/steer and $103/heifer average profits for the 1996-97 A to Z program.

The price of steers going into the program was exactly the same as in 1995, $61/cwt and $56/cwt for heifers. Reflective of market conditions in November 1996, no price slide was used. Using these market prices, initial values of the cattle going into the feeding program averaged $378/steer and $329/heifer. The opportunity cost of not selling the calves at weaning (an interest expense tied directly to the initial value of the steers) averaged $10.69/head and $8.57/head over the feeding period, for steers and heifers, respectively. Animal performance was similar to prior years in the program, with steers gaining 3.12

pounds per day and consuming 6.7 pounds of feed per pound of gain. Heifers gained 2.85 pounds per day and consumed 7.0 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:

① 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,
⑥ 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.

During the current year, several marketing strategy meetings were conducted. A marketing/feedgrain session was held in Council on September 3, 1996 and again on February 18, 1997 for the board of directors and other interested parties. The mid-year meeting was held January 23, 1997 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 14, and May 19, 1997. 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 May 28, 1997 in Fruitland and June 3, 1997 in Challis. The meetings were attended by 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 fifth year feeding phase included 303 steers and 160 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-nine ranchers consigned 303 steers and 160 heifers to the A to Z Retained Ownership, Inc. program in October and November 1996. 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 28, 1996 (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 4 or 5, 1996) prior to receiving their booster shots at the feedlot. Initial vaccinations included Lepto-5 (bacterin), IBR, BVD (killed vaccine), PI_3 (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, 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 18 and 19, 1996. On November 23, 1996, 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 if necessary, measured for hip height, and implanted with a growth promotant (Ralgro, Mallinckrodt Veterinary*). 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 23, 1996. 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 13, 1997. Dry matter intakes were determined on an individual calf basis for the receiving and start-up rations

* 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.

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_m) and net energy for gain (NE_g) 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 11, 1997 (47 heifers), May 2, 1997 (140 steers and 112 heifers) and May 16, 1997 (161 steers).

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 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. 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).

Figure 1. Fed Steer Prices

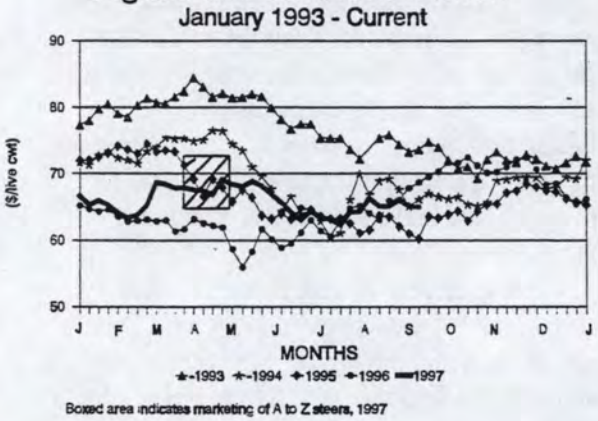

Table 1. Carcass prices ($ per cwt) received by quality grade and marketing date.*

	Yield Grade	*Prime*	*Choice*	*Select*	*Standard*
Steers					
May 2, 1997	1 & 2	122.74	112.74	107.74	--
	3	121.74	111.74	106.74	--
	4	--	--	--	--
May 16, 1997	1 & 2	121.98	111.98	106.98	--
	3	120.98	110.98	105.98	--
	4	--	99.98	94.98	--
Heifers					
April 11, 1997	1 & 2	--	114.18	109.18	--
	3	--	113.18	108.18	--
	4	--	--	--	--
May 2, 1997	1 & 2	--	112.85	107.85	91.85
	3	121.85	111.85	106.85	--
	4	--	99.85	--	--

* Discounted steer carcasses: light weight $90.98/cwt Std 1 5-16-97
Discounted heifer carcasses: light weight $92.85/cwt Ch 2 5-2-97
light weight $87.85/cwt Sel 1 5-2-97

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 259 days (equaling a March 4, 1996 average calving date), with an initial weight of 619 pounds. Heifers had an average age of 264 days (February 28, 1996 average calving date) and weighed 587 pounds.

Animal performance for the start-up period, which lasted 56 days, is reported in Table 3. Steers averaged 731 pounds at the first weigh period (January 13, 1997). Performance averaged 1.99 pounds of gain per day, with feed efficiency of 11.24 pounds of feed (dry matter basis) per pound of gain. Average dry matter intake was 19.04 pounds per day. No steers died from delivery through the end of the start-up rations. Medical treatments during this period included 4 steers for respiratory complications. Average calculated energy values for the receiving and start-up rations were 64.69 Mcal per cwt for NE_m and 38.27 Mcal per cwt for NE_g. With an average weight of 675 pounds during the start-up period, steers were consuming 2.8 percent of their body weight in dry matter.

Table 2. Initial animal performance, receiving 11-18-96.

	No. of Animals	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
Steers					
Weight, lb.	299	619.00	404.00	828.00	80.20
Hip height, in.	299	47.26	43.00	54.50	1.95
Frame score	294	6.02	3.90	9.40	0.96
Age, days	294	259.19	202.00	370.00	17.43
Initial value, $/head[a]	299	377.64	246.42	505.00	48.95
Heifers					
Weight, lb.	159	587.00	430.00	794.00	67.15
Hip height, in.	159	46.81	42.50	50.50	1.54
Frame score	159	6.05	3.90	7.90	0.76
Age, days	159	264.14	223.00	372.00	20.23
Initial value, $/head[a]	159	328.56	241.05	444.60	37.58

[a] Initial value of the steers was $61/cwt. Heifer initial value was $56/cwt, no slide for weight.

Table 3. Animal performance, receiving through start-up period (11-18-96 to 1-13-97).

	No. of Animals	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
Steers					
Weight, lb 1-13-97	299	731.00	513.00	960.00	78.50
Average daily gain, lb/day	299	1.99	-0.81	4.13	0.74
Dry matter intake, lb[a]	299	19.04	8.20	35.30	4.13
Feed efficiency, lb feed DM/lb gain	299	11.24	--	--	--
Heifers					
Weight, lb 1-13-97	159	714.00	513.00	950.00	75.11
Average daily gain, lb/day	159	2.27	0.85	3.58	0.63
Dry matter intake, lb[a]	159	19.16	10.50	30.40	4.33
Feed efficiency, lb feed DM/lb gain	159	8.65	--	--	--

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

Heifers averaged 714 pounds at the first weigh period and gained 2.27 pounds per day. Feed efficiency for the heifers was 8.65 pounds of feed per pound of gain, with average dry matter intake of 19.16 pounds per day. No heifers died during the receiving, startup and grower phases. Five heifers were treated for respiratory problems. Calculated energy values for the heifer receiving and startup rations were 71.12 Mcal for NE_m and 45.23 Mcal for NE_g. Average weight during the feeding period was 650 pounds, meaning that the heifers were consuming 2.95 percent of their body weight in dry matter.

Performance for the finishing period is reported in Table 4. Average finish weight of the 299 steers was 1,157 pounds, with steers consuming 21.64 pounds dry matter per day and gaining 3.67 pounds per day. Feed efficiency was 5.91 pounds of dry matter per pound of gain over the 116-day finishing period. Death loss was .67 percent, as 1 steer died of pneumonia complications on April 25, 1997, and 1 steer died of bloat on May 2, 1997. In addition, two steer carcasses were condemned at IBP on May 16, 1997. Medical treatments during this period were 6 respiratory, and 1 injury. Average calculated energy values for the finishing ration were 106.11 Mcal per cwt for NE_m and 68.34 Mcal per cwt for NE_g. With an average weight of 944 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 1,039 pounds, consumed 20.39 pounds of dry matter per day and gained 3.17 pounds per day, during the finishing phase. Feed efficiency was 6.42 pounds of feed per pound of gain over the 103-day finishing period. Calculated energy values for the heifer finish ration were 107.02 Mcal for NE_m and 68.74 Mcal for NE_g. The average weight of the heifers during the finishing phase was 877 pounds, meaning that the heifers were consuming 2.3 percent of their body weight in dry matter. One heifer died on March 27, 1997 from respiratory problems during the finishing phase, leaving final death loss at .625%. Two heifers were treated for respiratory problems and 2 for coccidiosis.

Table 4. Animal performance, finishing period (1-13-97 to out-date).

	No. of Animals	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
Steers					
Finished weight, lb[a]	299	1157.00	775.00	1417.00	103.26
Days on feed	299	116.41	108.00	123.00	7.02
Average daily gain, lb/day	299	3.67	1.14	4.94	0.56
Dry matter intake, lb[b]	299	21.64	9.80	31.10	3.49
Feed efficiency, lb feed DM/lb gain	299	5.91	--	--	--
Heifers					
Finished weight, lb[a]	159	1039.00	754.00	1344.00	99.86
Days on feed	159	102.87	88.00	123.00	9.73
Average daily gain, lb/day	159	3.17	1.34	4.49	0.55
Dry matter intake, lb[b]	159	20.39	9.60	33.20	3.93
Feed efficiency, lb feed DM/lb gain	159	6.42	--	--	--

[a] Calculated from hot carcass weight using a standard 63% dressing percentage.

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

Performance for the combined start-up and finishing periods is reported in Table 5. Over the entire feeding period, steers gained 3.12 pounds per day, consuming 20.79 pounds of dry matter per day. Average feed efficiency was 6.68 pounds of dry matter per pound of gain and the average days on feed was 172 days. Heifers gained 2.85 pounds per day, consumed 19.97 pounds of dry matter and converted 7.00 pounds of feed to a pound of gain over an average of 159 days on feed.

Carcass data for the cattle is reported in Table 6. Overall, steer carcass quality grading produced 2.3 percent Prime, 54.2 percent Choice , 43.1 percent Select and .3 percent Other. Heifer carcasses graded 3.1 percent Prime, 67.3 percent Choice, 28.9 percent Select and .6 percent Standard. 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) carcasses, however there were 3 light weight (< 550 pounds) heifer carcasses and 1 steer carcass during 1997. There were 1.0 and 1.3 percent yield grade 4 steer and heifer carcasses, respectively. Price spread between Choice and Select grades were $5 for all three marketing times. Prime carcasses brought and additional $10/cwt with Standards generally accepted into the No Roll category (same price as Select). Yield grades 1 and 2 were priced $1/cwt over yield grade 3 with yield grade 4 discounted $12/cwt behind yield grade 3. Light carcasses were discounted $14/cwt. There were eight steers which yielded carcasses between 850 and 900 pounds and four steers and 27 heifers with carcasses lighter than 600 pounds. Nineteen (12%) heifer and 49 (16%) steer carcasses were over 3.5 yield grade. Eleven steers and seven heifers had ribeye areas of less than 10 square inches. Eleven steers and five heifers had ribeyes that were greater than 15 square inches, with the maximum of 17.4 square inches on the steers and 16.6 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.

Table 5. Animal performance, total feeding period (11-18-96 to out-date).

	No. of Animals	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
Steers					
Average daily gain, lb/day	299	3.12	0.96	4.19	0.44
Days on feed	299	172.41	164.00	179.00	7.02
Dry matter intake, lb[a]	299	20.79	10.22	29.23	2.97
Feed efficiency, lb feed DM/lb gain	299	6.68	--	--	--
Heifers					
Average daily gain, lb/day	159	2.85	1.32	4.00	0.44
Days on feed	159	158.87	144.00	179.00	9.73
Dry matter intake, lb[a]	159	19.97	10.62	31.10	3.45
Feed efficiency, lb feed DM/lb gain	159	7.00	--	--	--

[a] 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[a]	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
Steers					
Hot carcass weight, lb	299	729.16	488.00	893.00	65.04
Final yield grade	299	2.69	0.80	4.60	0.72
Ribeye area, sq. in.	299	12.48	8.70	17.40	1.47
Kidney, pelvic & heart fat, %	299	2.15	1.00	3.50	0.48
Adjusted back fat, in.	299	0.39	0.10	0.90	0.16
Marbling score[b]	299	6.30	1.00	20.00	2.92
Quality grade[c]	299	11.39	7.00	16.00	1.52
Cutability, %[d]	299	50.52	46.02	54.79	1.67
Carcass lean gain, lb/day[e]	299	1.00	0.33	1.31	0.14
Carcass price, $/cwt	299	109.97	90.98	122.74	3.49
Heifers					
Hot carcass weight, lb	159	654.82	475.00	847.00	62.93
Final yield grade	158	2.54	1.00	4.10	0.70
Ribeye area, sq. in.	158	12.35	8.50	16.60	1.52
Kidney, pelvic & heart fat, %	159	2.16	1.00	3.50	0.42
Adjusted back fat, in.	159	0.43	0.15	0.80	0.14
Marbling score[b]	159	6.60	2.00	20.00	2.71
Quality grade[c]	159	11.74	8.00	16.00	1.29
Cutability, %[d]	158	50.90	47.34	54.43	1.61
Carcass lean gain, lb/day[e]	158	0.93	0.45	1.30	0.14
Carcass price, $/cwt	159	111.14	87.85	121.85	4.62

[a] One heifer died, 2 steers died, and 2 steers were condemned.

[b] Marbling score, 2=Standard^{+}, 3=Select^{-}, 4=Select^{0}, 5=Select^{+}, 6=Choice^{-}, 7=Choice^{0}, 8=Choice^{+}, 9=Modest^{-}, 10=Modest^{0}, 11=Modest^{+}, 12=Moderate^{-}, 13=Moderate^{0}, 14=Moderate^{+}.

[c] Quality grade, 9=Select^{-}, 10=Select^{0}, 11=Select^{+}, 12=Choice^{-}, 13=Choice^{0}, 14=Choice^{+}.

[d] 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.).

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

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 $329.67 and heifers averaged $288.48 per head. Feed costs per pound of gain averaged 49.5 cents for steers and 51.5 cents per pound of gain for heifers. Total feeding costs/lb of gain were $.64 and $.66 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 $61.90 per cwt for steers and $60.03 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 $75.02 for steer calves and $73.68 for the heifer calves, including death loss and condemned carcasses. The average profit was $84.16 per steer and $103.02 per heifer, which does not include death loss or condemned carcasses.

Critical factors that affected profitability (loss) were feedlot average daily gain and quality grade (Choice vs. Select and Prime). Due to fairly stable carcasses throughout April and May, market date was not significant by itself. These three factors alone accounted for over 80 percent of the variation in profitability of steers and 68% in heifers for the feeding phase. Quality grade and marketing date, when considered together, are primarily described by the Choice/Select spread for carcass price over time. Choice steers and heifers averaged over $30 per head more than their Select counterparts. Profitability of steers and heifers as affected by marketing date and quality grade are shown in Figure 2. Final yield grade, kidney pelvic and heart fat, hot carcass weight, ribeye area and owner did not affect profitability.

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

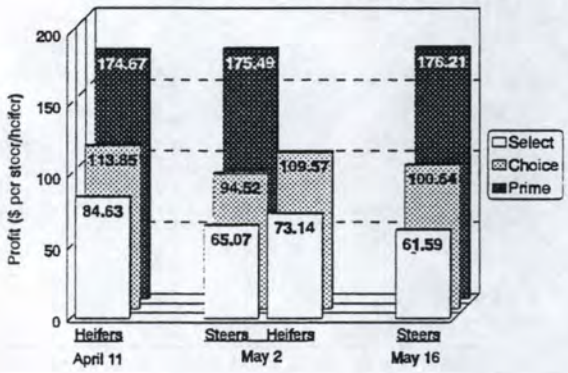

Table 7. Costs associated with custom feeding on a $ per animal basis.

	No. of Animals	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
$/Steer					
Total feed[a]	299	265.32	136.21	375.24	37.63
Yardage[b]	299	34.48	32.80	35.80	1.40
Processing[c]	299	6.55	--	--	--
Medicine	299	0.77	--	--	--
Death loss	299	9.11	--	--	--
Interest[cd]	299	4.86	--	--	--
Opportunity[e]	299	10.69	6.68	13.86	1.36
Total Cost	299	329.67	200.11	442.07	38.24
$/Heifer					
Total feed[a]	159	232.91	127.19	380.00	39.76
Yardage[b]	159	31.77	28.80	35.80	1.95
Processing[c]	159	6.55	--	--	--
Medicine	159	0.85	--	--	--
Death loss	159	3.50	--	--	--
Interest[cd]	159	4.86	--	--	--
Opportunity[e]	159	8.57	6.47	1.70	1.01
Total Cost	159	288.48	182.75	438.19	40.47

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

[b] Yardage costs were $.20 per animal each day.

[c] Fixed cost shared by owners on a per animal basis.

[d] Feeding period financing costs, including interest at 9.00 percent and a loan origination fee.

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

	No. of Animals	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
Steers					
Total Feed[a]	299	.495	.391	.808	.040
Yardage[b]	299	.066	.048	.209	.014
Processing[c]	299	.013	.009	.038	.003
Medicine	299	.001	.001	.004	.0003
Death loss	299	.017	.012	.053	.004
Interest[cd]	299	.009	.007	.028	.002
Opportunity[e]	299	.020	.012	.076	.006
Total cost of gain	299	.638	.515	1.261	.063
Heifers					
Total Feed[a]	159	.515	.434	.616	.034
Yardage[b]	159	.072	.050	.152	.014
Processing[c]	159	.015	.010	.031	.003
Medicine	159	.002	.001	.004	.0004
Death loss	159	.008	.005	.016	.002
Interest[cd]	159	.011	.007	.023	.002
Opportunity[e]	159	.019	.013	.041	.004
Total cost of gain	159	.660	.576	.901	.047

[a] Individual animal dry matter intake was calculated by adjusting for live weight and average daily gain (Owens et al., 1984).
[b] Yardage costs were $.20 per animal each day.
[c] Fixed cost shared by owners on a per animal basis.
[d] Feeding period financing costs, including interest at 9.00 percent and a loan origination fee.
[e] 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*
Steers					
Break-even price, $/cwt	299	61.90	55.36	73.31	2.17
Profit/Loss, $/steer	299	84.16	-90.24	219.26	35.55
Heifers					
Break-even price, $/cwt	159	60.03	56.75	64.83	1.43
Profit/Loss, $/heifer	159	103.02	-50.20	193.64	33.33

Summary

For the 1996-97 feeding program, steers had an average daily gain of 3.12 pounds per day and heifers gained an average of 2.85 pounds per day during the feeding period. Dry matter intake was 20.79 pounds per head daily and 19.97 pounds per head daily for steers and heifers, respectively. Feed efficiency was 6.68 pounds for the steers and 7.00 pounds for the heifers (pounds of feed per pound of gain). Hot carcass weights were 729 pounds (steers) and 655 pounds (heifers). Steers graded 56.5 percent and heifers graded 70.4 percent Choice or higher. Profits averaged $84.16 per steer and $103.02 per heifer. The range in profits and losses were very large for both steers (+$219.26 to -$90.24 per head) and heifers (+$193.64 to -$50.20 per head). Prime carcasses were responsible for the high-end,

and carcasses discounted for being light weight or yield grade 4 were on the low-end. Live weight prices of slightly over $61.90 per cwt were required to break even on the steers and $60.03 per cwt on the heifers. Marketing date, feedlot average daily gain and the Choice/Select spread accounted for most of the variation in profitability.

Overall, the A to Z Retained Ownership, Inc. program was a success as determined by a review of the summary questionnaires filled out by 24 of the participating ranchers at the year-end meetings. All of the respondents indicated satisfaction with the project and nearly all of the ranchers would participate in another retained ownership program (96 percent). Producers offered several suggestions including more emphasis on marketing, more risk management, better price, and tighter initial weight limits. They also desired continuation of the mid-year review and tour. All suggestions, interests and comments will be considered in future retained ownership educational programs.

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