A TO Z RETAINED OWNERSHIP, INC.
2000 Year-End Summary

INTRODUCTION

The A to Z Retained Ownership Inc. 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 the University of Idaho Cooperative Extension System. The primary goal of this educational program is to provide information to cow-calf producers on how their cattle perform through the feeding and carcass grading phases. This report presents the results of the eighth year of the retained ownership program.

For the first time, the 1999-2000 A to Z Retained Ownership Inc. was expanded to include a yearling feeding program. Yearling grass cattle, fall calves and open replacement heifers were consigned. Cattle entered the feedlot in late August and were quickly brought up to the "hot" or finishing ration. Marketing was from early December through early January.

Both the yearling and calf feeding programs experienced considerable profitability along with educational merit. While yearling cattle were profitable due to moderate initial value and economical feed costs, calf fed profits were caused by economical feed costs and elevated carcass prices.

The most interesting change for the 1999-2000 calf program was the introduction of Iowa Beef Processors' (IBP) Real-Time Market Value (RTMV) grid pricing system. Additional bonuses were paid for carcasses meeting Certified Angus Beef (CAB) standards and increased incentives were paid for carcasses grading USDA yield grade 1 and 2. Minimum carcass target weight was increased by 25 pounds with discounts applied to those carcasses weighing less than 550 pounds. This new pricing system appears to increase the value of carcasses that reflect higher sale value for IBP's market channels, while discounting those carcasses that do not "fit" these market specifications.

Another change for the A to Z calf program was that, as a result of a substantial increase in consignments, both steers and heifers were divided into light and heavy pens based on their initial weights. This allowed the feedlot to more closely manage each pen of cattle from a feeding and marketing standpoint, as the animal variation within each pen was greatly reduced. Heavy weight steer and heifer pens were fed grower rations for a shorter period and were marketed earlier.

The greatest challenge for both the yearling and calf programs was the feeding and marketing of cattle that entered the feedlot below the minimum weight requirements. While these are quality cattle, they do not excel with the current program design. If they gain at least 3 pounds/day, they can possibly avoid light weight carcass discounts. If not, they may incur price docks from $20 to $25 per carcass cwt, and any likelihood of profitability for these cattle is lost.

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. Over the last eight years the A to Z program has expanded to provide this opportunity for ranchers throughout the Pacific Northwest.

Specific project objectives are 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 and experience with value based carcass pricing,
- Marketing alternatives available during the feed program, and
- 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 McCall, 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.

A mid-year meeting held in January at Bruneau provides producers with the opportunity to view their cattle in the feedlot, along with animal performance data and a review of the marketing plan. Cattle are finished and sold by Bruneau Cattle Company to IBP of Boise. Carcass data is gathered for individual animals by University of Idaho faculty with assistance from the USDA Grading Service. IBP carcass sales personnel have conducted tours during the marketing period. Feedlot performance information, carcass data, and costs and returns are gathered throughout the program and summarized for each owner's individual steer or heifer and each pen of cattle, as a whole. These data form the basis for the final educational programs held in Fruitland and Mackay, Idaho, conducted after all cattle are marketed. Producers and numerous other guests attending the meetings receive animal performance (feedlot and carcass) data, as well as the proceeds from the sale of their cattle. All of the information is explained and evaluated during the educational session. In addition, a questionnaire is distributed to the participants in order to evaluate the program and make suggestions for future programs.

The eighth year feeding phase had 1,186 cattle consigned to the program including 129 yearling steers, 125 yearling heifers, 504 steer calves and 428 heifer calves. Data gathered during the project are tabulated and analyzed in computerized format.

PROCEDURES

Program Design: Yearlings

Eight ranches consigned 129 yearling steers (6 owners) and 125 yearling heifers (5 owners) to the A to Z Retained Ownership, Inc. program in July and August 1999. Steers selected were to weigh between 700 and 1,100 pounds upon arrival at the feedlot. The heifers were to be 50 pounds lighter (650 to 1,050 pounds). Yearlings were to be dehorned and castrated. Owners provided birth date, sex, breed-of-sire, breed-of-dam, color, and tag information.

Yearlings arrived and were weighed on a truckload basis at the feedlot on August 23 and 24, 1999. On September 1, 1999 cattle were individually weighed (assessed a percentage shrink back to truck weight), administered vaccines which 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*), treated for internal and external parasites (Dectomax, Pfizer.*), tagged with a duplicate eartag for individual identification if necessary, and implanted with a growth promotant (Ralgro, Schering-Plough*). A coccidiostat (Deccox, ALPHARMA*) was used in the receiving ration.

Initial yearling values were determined using a price of $77.75/cwt for a 700 lb steer with a $5.00 slide and $72/cwt for a 700 lb heifer with a $3.25 slide. These values were taken from an electronic marketing service report for feeder cattle prices for the week of August 23, 1999.

Cattle were placed on the finishing ration on September 20, 1999. From this point in the feeding trial, yearling cattle were fed and marketed in the same manner as previous years' A to Z calf programs,

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unless otherwise noted. Cattle were processed at IBP of Boise on December 4, 1999 (44 steers and 80 heifers) and January 8, 2000 (83 steers and 44 heifers).

Program Design: Calves

Thirty-six ranches consigned 504 steer calves (26 owners) and 428 heifer calves (24 owners) to the A to Z Retained Ownership, Inc. program in October and November 1999. 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 25, 1999 (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 1 or 2, 1999) 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 A to Z identification eartags were placed in calves at the ranch. Owners provided breed-of-sire, breed-of-dam, color, weaning and calving date, and tag 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 15 and 16, 1999. On November 19 and 20, 1999 calves were individually weighed (assessed a percentage shrink back to truck weight), 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 ration.

Initial calf values were determined using a price of $88.50/cwt for a 600 lb steer with an $8.00 slide and $82.50/cwt for a 550 lb heifer with a $3.00 slide. These values were taken from an electronic marketing service report for feeder cattle prices for the week of November 15, 1999. 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.

Heavy weight steer and heifer pens were placed on the finishing ration on January 3, 2000. Light weight steer and heifer pens were placed on the finishing ration on January 17, 2000. Steers were individually weighed (assessed a 5% shrink) on January 21, 2000 and heifers were individually weighed (assessed a 5% shrink) on January 22, 2000. 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_m) and net energy for gain (NE_g) equations of Owens et al. (1984).

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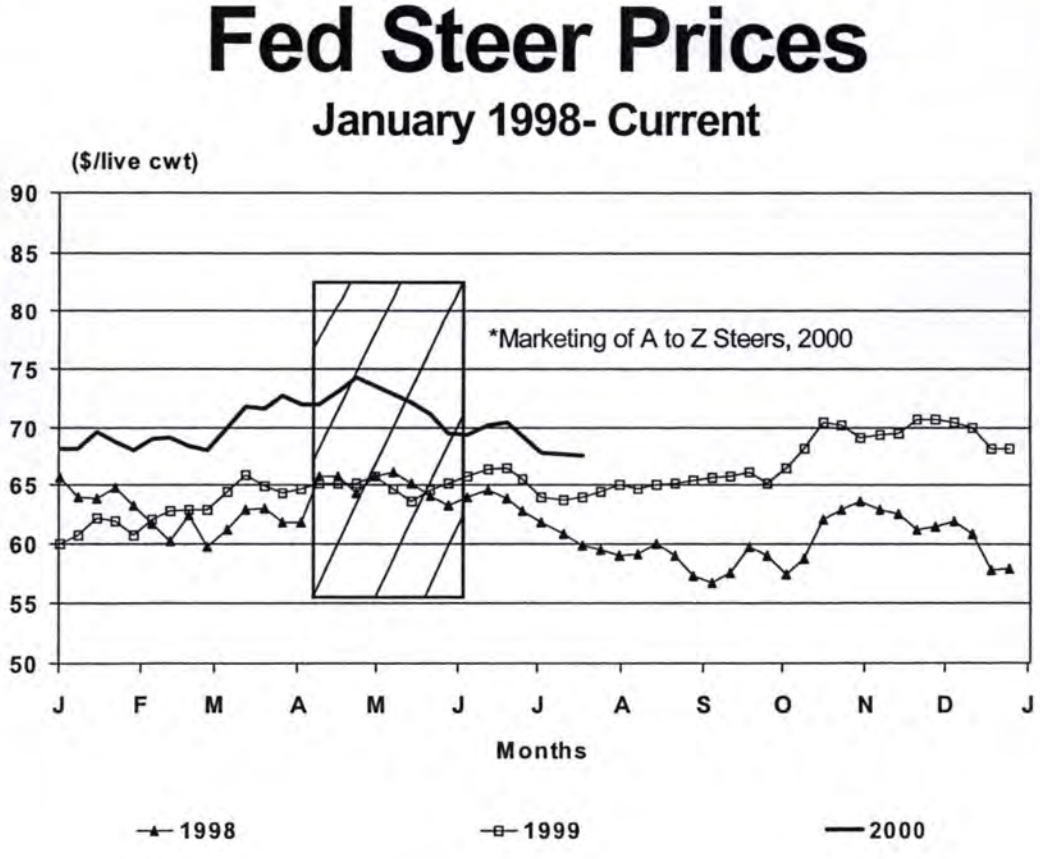
The outdate for finished cattle was determined by Bruneau Cattle Company personnel using days on feed and visual observation as indicators of cattle reaching the Choice quality grade, as well as market conditions. Cattle were processed at IBP of Boise from April 7, 2000 through May 27, 2000 (Table 13).

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 according to the IBP RTMV (Real-Time Market Value) pricing grid. Prices received are reported in Table 13. Market prices received in perspective to seasonal live prices for fed cattle for the last three years 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, death loss and interest on feedlot costs), initial value of the steer, and opportunity costs on the initial value (6 percent interest for the duration of the feeding period) from the total carcass value of the steer (less transportation, brand inspection, and checkoff).

Figure 1.



RESULTS AND DISCUSSION

Animal Performance: Yearlings

Initial information on the two pens of yearling cattle is reported in Table 1. Average age of the steers entering the feedlot was 346 days with an initial weight of 679 pounds. Heifers averaged 437 days of age and weighed 717 pounds.

Animal performance for the feeding period, which lasted 138 days, is reported in Table 2. Steer finished weight was 1,105 pounds with an average feeding period of 125 days. Performance averaged 3.44 pounds of gain per day, with feed efficiency of 5.34 pounds of feed (dry matter basis) per pound of gain. Average dry matter intake was 18.46 pounds per day. During the feeding period one steer was disposed of due to chronic joint problems (death loss .8%) and one additional steer was condemned at the processing plant. Medical treatments consisted of 6 steers being treated for respiratory complications.

Heifer finished weight for the feeding period was 1,108 pounds (Table 2), averaged 114 days on feed and gained 3.48 pounds per day. Dry matter intake was 19.37 pounds per day and feed efficiency was 5.51 pounds of dry matter per pound of gain. One heifer died during the feeding period of possible clostridial problems (death loss .8%) and one heifer was treated for respiratory problems.

Carcass data for the yearling cattle is reported in Table 3. Overall, steer carcass quality grading produced 7.1 percent Prime, 66.1 percent Choice, and 26.8 percent Select. Heifer carcasses graded 11.3 percent Prime, 74.2 percent Choice, 13.7 percent Select and 0.8 percent Standard. Steer carcass yield grading produced 16.5 percent yield grade 1, 52.8 percent yield grade 2, 29.1 percent yield grade 3 and 1.6 percent yield grade 4. Heifer carcasses graded 6.5 percent yield grade 1, 58.8 percent yield grade 2, 33.1 percent yield grade 3 and 1.6 percent yield grade 4. 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 4 light weight carcasses and 1 heavy weight in the steers and 7 light weight carcasses in the heifers. These light weight carcasses for the most part were a function of inadequate initial weight upon entering the feedlot. The Choice/Select spreads were $12.30 and $9.10 (Table 4) for the two marketing dates. Prime carcasses brought only an additional $3/cwt for the December market date, and $8/cwt for the January market date. Typical of previous years, yield grades 1 and 2 were priced $1/cwt over yield grade 3 with yield grade 4 discounted $18/cwt behind yield grade 3. The one heavy weight carcass was discounted $18/cwt and light carcasses were discounted $22/cwt.

Table 1. Initial yearling performance, receiving (8/23/99).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Weight, lb	127	678.60	449.02	970.77	112.19
Age, days	122	346.16	303.00	564.00	55.30
Initial value, $/head[a]	127	528.63	405.46	623.35	49.36
Heifers					
Weight, lb	124	716.69	424.30	994.96	144.12
Age, days	114	437.33	304.00	605.00	112.30
Initial value, $/head[a]	124	505.43	343.52	620.99	72.09

[a] Initial value of the steers was $77.75/cwt for 600 lb base weight with a $5.00 slide. Heifer initial value was $72/cwt for a 550 lb base weight with a $3.25 slide.

Table 2. Yearling performance, total feeding period (8/23/99 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Weight, lb	127	1104.85	762.90	1627.42	147.96
Average daily gain, lb/day	127	3.44	1.94	4.79	.58
Days on feed	127	124.91	102.00	138.00	16.70
Dry matter intake, lb[a]	127	18.46	9.55	32.16	4.01
Feed efficiency, lb feed DM/lb gain	127	5.34	4.41	6.71	.45
Heifers					
Weight, lb	124	1108.16	735.48	1451.61	159.24
Average daily gain, lb/day	124	3.48	1.20	5.49	.69
Days on feed	124	114.00	98.00	137.00	17.13
Dry matter intake, lb[a]	124	19.37	7.07	36.78	5.40
Feed efficiency, lb feed DM/lb gain	124	5.51	4.17	6.74	.63

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

Table 3. Yearling performance, carcass data.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Hot carcass weight, lb	127	685.01	473.00	1009.00	91.73
Final yield grade	126	2.90	1.27	4.91	.67
Ribeye area, sq in	126	11.83	8.70	16.00	1.52
Kidney, pelvic & heart fat, %	126	1.91	1.00	3.00	.40
Backfat, in	126	.48	.10	1.00	.17
Marbling score[a]	127	7.53	3.00	18.00	3.26
Quality grade[b]	127	12.06	9.00	16.00	1.45
Carcass price, $/cwt	127	112.51	82.77	123.35	7.84
Heifers					
Hot carcass weight, lb	124	687.06	456.00	900.00	98.73
Final yield grade	124	2.89	1.52	4.44	.60
Ribeye area, sq in	124	12.15	8.10	15.60	1.54
Kidney, pelvic & heart fat, %	124	2.06	1.00	3.00	.43
Backfat, in	124	.50	.20	.90	.15
Marbling score[a]	124	8.63	.00	19.00	3.50
Quality grade[b]	124	12.51	6.00	16.00	1.53
Carcass price, $/cwt	124	113.09	81.58	120.78	8.25

[a] Marbling score: Standard $\leq$ 2; Slight = 3, 4, 5; Small = 6, 7, 8; Modest = 9, 10, 11; Moderate = 12, 13, 14; Abundant $\geq$ 15.

[b] Quality grade: $\leq$ 8 = Standard, 9 = Select$^-$, 10 = Select^0, 11 = Select$^+$, 12 = Choice$^-$, 13 = Choice^0, 14 = Choice$^+$, $\geq$ 15 = Prime.

Table 4. Carcass prices ($ per cwt) received by quality grade and marketing date.*

	Yield Grade	Prime	Choice	Select	Standard
Steers					
December 4, 1999	1 & 2	123.35	120.35	108.05	
	3	--	119.35	107.05	
	4				
January 8, 2000	1 & 2	121.87	113.87	104.77	
	3	120.87	112.87	103.77	
	4		94.87		
Heifers					
December 4, 1999	1 & 2	120.78	117.78	105.48	81.58
	3	119.78	116.78	104.48	
	4				
January 8, 2000	1 & 2	120.58	112.58	103.48	
	3	119.58	111.58	102.48	
	4		93.58		

* Discounted steer carcasses:
2 lightweight $91.87 Ch1 1/8/00
2 lightweight $82.77 Sel2 1/8/00
1 heavyweight $95.87 Ch2 1/8/00

Discounted heifer carcasses:
lightweight $83.48 Se2 12/4/99
lightweight $82.48 Se3 12/4/99
lightweight $89.58 Ch3 1/8/00
2 lightweight $90.58 Ch2 1/8/00
lightweight $93.58 P2 1/8/00

Costs and Returns: Yearlings

Costs associated with the custom feeding operation on a per animal and per pound of gain basis are reported in Tables 5 and 6. For analysis only, processing, medicine, death loss and interest were assessed on a fixed basis and were the same for each animal. Death loss was calculated as the initial value of the animal less any feedlot cost incurred to the time of mortality. These values were summed and divided by the number of finished animals to derive a death loss cost per head. 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 $200.28 and heifers averaged $184.85 per head. Feed and yardage costs per pound of gain averaged 39 cents for steers and 40 cents per pound of gain for heifers. Total feeding costs/pound of gain were 47 cents and 48 cents for steers and heifers, respectively.

The overall break-even prices and profitability of the feeding program are shown in Table 7. Profitability, as represented here, is for the feeding period only. Overall break-even live price was $66.31 per cwt for steers and $62.46 per cwt for heifers. The average profit was $43.69 per steer and $90.18 per heifer, with death loss.

Critical factors that affected profitability were feedlot average daily gain, initial value and quality grades and the price changes for those quality grades across the different market dates.

Table 5. Costs associated with custom feeding on a $ per animal basis.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Total feed[a]	127	$135.57	$77.14	$260.77	$30.74
Yardage[b]	127	31.23	25.50	34.50	4.18
Processing[c]	127	5.11	5.11	5.11	--
Medicine	127	1.10	1.10	1.10	--
Death loss	127	7.28	7.28	7.28	--
Interest[cd]	127	1.88	1.88	1.88	--
Opportunity[e]	127	10.80	8.14	14.04	1.44
Total Cost	127	200.28	132.39	334.26	34.09
Heifers					
Total feed[a]	124	$128.17	$57.89	$217.96	$29.48
Yardage[b]	124	28.50	24.50	34.25	4.28
Processing[c]	124	5.11	5.11	5.11	--
Medicine	124	1.34	1.34	1.34	--
Death loss	124	3.19	3.19	3.19	--
Interest[cd]	124	1.88	1.88	1.88	--
Opportunity[e]	124	9.33	6.58	13.03	1.09
Total Cost	124	184.85	117.79	276.58	30.78

[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 $.25 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 6. Costs associated with custom feeding on a $ per lb of gain basis.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Total feed[a]	127	.32	.26	.40	.03
Feed and yardage[b]	127	.39	.34	.46	.03
Total cost of gain	127	.47	.40	.58	.03
Heifers					
Total feed[a]	124	.33	.25	.40	.04
Feed and yardage[b]	124	.40	.34	.56	.04
Total cost of gain	124	.48	.39	.72	.05

[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 $.25 per animal each day.

Table 7. Break-even price and profitability associated with custom feeding.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Break-even price, $/cwt	127	66.31	58.84	76.03	2.85
Profit/Loss, $/steer	127	43.69	-186.49	204.98	68.30
Heifers					
Break-even price, $/cwt	124	62.46	57.13	75.29	2.19
Profit/Loss, $/heifer	124	90.18	-181.73	190.46	66.49

Animal Performance: Calves

Initial information on the two pens of cattle is reported in Table 8. Average age of the steer calves entering the feedlot was 270 days (equaling a February 22, 1999 average calving date), with an initial weight of 598 pounds. Heifers had an average age of 257 days (March 7, 1999 average calving date) and weighed 539 pounds.

Animal performance for the start-up period, which lasted 71 days, is reported in Table 9. Steers averaged 766 pounds at the first weigh period (January 21, 2000). Performance averaged 2.51 pounds of gain per day, with feed efficiency of 6.37 pounds of feed (dry matter basis) per pound of gain. Average dry matter intake was 16.06 pounds per day. From delivery through the end of the start-up rations, three steers died (two bloats and one respiratory). Medical treatments during this period included 47 steers for respiratory complications, one prolapse, one lump, three coccidiosis, one castration and six repeat respiratory treatments.

Heifers averaged 694 pounds at the first weigh period (January 22, 2000) and gained 2.29 pounds per day. Feed efficiency for the heifers was 6.88 pounds of feed per pound of gain, with average dry matter intake of 15.43 pounds per day. Five heifers died during the receiving, startup and grower phases (four respiratory and one injury). Thirty-five heifers were

treated for respiratory problems, 5 repeat respiratory treatments, 2 lumps, 2 prolapses, and 2 footrot.

Performance for the finishing period is reported in Table 10. Average finish weight of the steers was 1,154 pounds, with steers consuming 20.74 pounds dry matter per day and gaining 3.53 pounds per day. Feed efficiency was 5.89 pounds of dry matter per pound of gain over the 128-day finishing period. Final death loss was 2.0 percent, as 10 steers died, 6 from bloat/clostridia, 3 respiratory and one of undetermined causes. In addition, 1 steer was condemned as a water belly at IBP and two steers were salvaged at a local meat locker.

Heifers finished at an average weight of 1,018 pounds, consumed 19.55 pounds of dry matter per day and gained 3.40 pounds per day, during the finishing phase. Feed efficiency was 5.75 pounds of feed per pound of gain over the 127-day finishing period. Final death loss was at 2.1%, as 9 heifers died, 1 from bloat, 6 from pneumonia, one prolapse and one from injury. In addition, 3 heifers were salvaged at a local meat locker with one of the three being condemned.

Performance for the combined start-up and finishing periods is reported in Table 11. Over the entire feeding period, steers gained 3.14 pounds per day, consuming 18.97 pounds of dry matter per day. Average feed efficiency was 6.04 pounds of dry matter per pound of gain and the average days on feed was 177 days (total of 199 days). Heifers gained 2.93 pounds per day, consumed 17.87 pounds of dry matter and converted 6.09 pounds of feed to a pound of gain over an average of 164 days on feed.

Table 8. Initial animal performance, receiving 11/15/99.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Weight, lb	491	598.26	409.39	948.69	77.54
Hip height, in	489	45.98	41.00	52.00	1.87
Frame score	330	5.23	3.13	9.20	.96
Age, days	330	270.00	194.00	415.00	33.99
Initial value, $/head[a]	491	525.49	424.74	582.17	30.11
Heifers					
Weight, lb	416	538.90	319.34	735.57	73.01
Hip height, in	416	45.05	40.00	50.00	1.80
Frame score	324	5.23	3.28	8.20	.87
Age, days	324	256.95	193.00	354.00	23.89
Initial value, $/head[a]	416	444.79	285.55	565.90	48.76

[a] Initial value of the steers was $88.50/cwt for 600 lb base weight with an $8.00 slide. Heifer initial value was $82.50/cwt for a 550 lb base weight with a $3.00 slide.

Table 9. Animal performance, receiving through start-up period (11/15/99 to 1/21-22/00).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Weight, lb (1/21/00)	491	766.09	551.00	1040.25	85.51
Average daily gain, lb/day	491	2.51	-.31	4.43	.74
Dry matter intake, lb[a]	491	16.06	5.87	27.64	3.48
Feed efficiency, lb feed DM/lb gain	491	6.37	-56.78	23.03	4.17
Heifers					
Weight, lb (1/22/00)	416	693.77	475.00	950.00	81.02
Average daily gain, lb/day	416	2.29	.49	4.02	.55
Dry matter intake, lb[a]	416	15.43	7.10	29.85	3.19
Feed efficiency, lb feed DM/lb gain	416	6.88	4.84	14.45	.92

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

Table 10. Animal performance, finishing period (1/21/00 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Finished weight, lb[a]	491	1154.23	774.60	1573.02	102.84
Days on feed	491	177.33	164.00	194.00	10.45
Average daily gain, lb/day	491	3.53	1.12	5.77	.62
Dry matter intake, lb[b]	491	20.74	8.66	38.18	3.63
Feed efficiency, lb feed DM/lb gain	491	5.89	4.91	8.41	.33
Heifers					
Finished weight, lb[a]	416	1017.99	679.37	1298.41	80.29
Days on feed	416	164.13	143.00	196.00	17.25
Average daily gain, lb/day	416	3.40	1.24	5.04	.57
Dry matter intake, lb[b]	416	19.55	7.85	31.76	3.48
Feed efficiency, lb feed DM/lb gain	416	5.75	4.96	7.25	.28

[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).

Table 11. Animal performance, total feeding period (11/15/99 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Average daily gain, lb/day	491	3.14	1.34	4.62	.48
Days on feed	491	177.33	164.00	194.00	10.45
Dry matter intake, lb[a]	491	18.97	9.61	31.14	2.91
Feed efficiency, lb feed DM/lb gain	491	6.04	5.18	7.96	.34
Heifers					
Average daily gain, lb/day	416	2.93	1.30	4.32	.39
Days on feed	416	164.13	143.00	196.00	17.25
Dry matter intake, lb[a]	416	17.87	8.99	30.26	2.67
Feed efficiency, lb feed DM/lb gain	416	6.09	4.93	7.00	.32

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

Carcass data for the cattle is reported in Table 12. Overall, steer carcass quality grading produced 4.9 percent Prime, 64.8 percent Choice, 29.7 percent Select and 0.6 percent Standard. In addition, 18.7 percent of all the 491 steers sent to IBP met the CAB standards. Black cattle made up 70 percent of the steer pens. Heifer carcasses graded 2.6 percent Prime, 73.1 percent Choice, 24.3 percent Select and 0.0 percent Standard. An additional 13.9 percent of the 416 heifers sent to IBP met the CAB standards. Black cattle accounted for 48 percent of the heifer calves.

A change for this year was that all A to Z calves were sold through IBP's Real-Time Market Value (RTMV) pricing grid system. Base price (USDA Choice yield grade 3) is established as in previous years (weekly average price for fed cattle in the Panhandle feeding region). Individual carcass incentives and discounts were then applied using the RTMV pricing grid. Market dates, number of steers and heifers marketed on those dates and incentives and discounts for specific traits are outlined in Table 13. Base price remained relatively constant over the seven week marketing period, ranging from a high of $115.98/cwt to a low of $113.09. The USDA Choice/Select spread ranged from $3.95/cwt to $8.75, generally widening as the marketing period progressed. USDA yield grade 2's received an additional $2.50/cwt, while yield grade 1's received a $6.50/cwt premium over 3's. The yield grade premiums were constant over the marketing period. Yield grade 4 discounts were variable, ranging from $9.48/cwt to $15.38/cwt. Light weight carcasses were discounted to a greater extent ($15 to $20/cwt) than heavy weight carcasses ($3 to $14/cwt). Carcasses qualifying for Certified Angus Beef (CAB) received premiums ranging from $7.24/cwt to $11.81/cwt, while USDA Prime premiums ranged from $12.15/cwt to $15.20/cwt.

Table 12. Animal performance, carcass data.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Hot carcass weight, lb	491	727.16	488.00	991.00	64.79
Final yield grade	489	2.73	.84	5.36	.70
Ribeye area, sq in	489	12.64	9.60	16.60	1.40
Kidney, pelvic & heart fat, %	491	2.01	1.00	3.50	.46
Backfat, in	489	.45	.10	1.10	.16
Marbling score[b]	491	7.23	1.00	17.00	3.16
Quality grade[c]	491	11.86	7.00	15.00	1.47
Carcass price, $/cwt	491	118.84	91.74	134.89	6.31
Heifers					
Hot carcass weight, lb	416	641.33	428.00	818.00	50.59
Final yield grade	411	2.69	.92	5.48	.65
Ribeye area, sq in	411	11.94	8.30	16.90	1.32
Kidney, pelvic & heart fat, %	414	2.14	1.00	3.00	.37
Backfat, in	411	.46	.15	1.20	.16
Marbling score[a]	416	7.34	3.00	17.00	2.75
Quality grade[b]	416	11.98	9.00	15.00	1.25
Carcass price, $/cwt	416	116.78	89.74	132.45	6.26

[a] Marbling score: Standard ≤ 2; Slight = 3, 4, 5; Small = 6, 7, 8; Modest = 9, 10, 11; Moderate = 12, 13, 14; Abundant ≥ 15.

[b] Quality grade: ≤ 8 = Standard, 9 = Select$^-$, 10 = Select^0, 11 = Select$^+$, 12 = Choice$^-$, 13 = Choice^0, 14 = Choice$^+$, ≥ 15 = Prime.

Table 13. IBP Prices (RTMV – Real-Time Market Value).

	4/7 91 Hvy Heifers	4/21 34 Lt Heifers 104 Hvy Heifers	4/28 122 Hvy Steers 97 Lt Heifers	5/5 117 Lt Steers	5/13 143 Hvy Steers	5/27 90 Lt Heifers 110 Lt Steers
Pr	+15.20	+14.70	+14.20	+13.70	+12.90	+12.15
CAB	+8.07	+7.24	+9.29	+11.52	+11.50	+11.81
YG1	+6.50	+6.50	+6.50	+6.50	+6.50	+6.50
YG2	+2.50	+2.50	+2.50	+2.50	+2.50	+2.50
Ch 3 Base	114.24	115.88	115.75	115.98	114.71	113.09
Se	-3.95	-4.80	-4.70	-4.80	-5.45	-8.75
YG4	-15.38	-11.72	-10.38	-10.02	-9.48	-10.20
< 550	-19.18	-18.32	-17.98	-17.02	-16.28	-14.60
> 950	-13.38	-9.32	-7.38	-7.02	-4.68	-3.60
Steers	+.49	+.09	-.30	+.89	+.85	+2.00

Most bonuses are additive. Discounts are not.

Costs and Returns: Calves

Costs associated with the custom feeding operation on a per animal and per pound of gain basis are reported in Tables 14 and 15. For analysis only, processing, medicine, death loss and interest were assessed on a fixed basis and were the same for each animal. Death loss was calculated as the initial value of the animal less any feedlot cost incurred to the time of mortality. These values were summed and divided by the number of finished animals to derive a death loss cost per head. 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 $284.49 and heifers averaged $250.52 per head. Feed and yardage costs per pound of gain averaged 44 cents for steers and heifers. Total feeding costs/pound of gain were 52 cents and 53 cents for steers and heifers, respectively.

The overall break-even prices and profitability of the feeding program are shown in Table 16. 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 $70.41 per cwt for steers and $68.37 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 $97.69 for steer calves and $93.37 for the heifer calves, including death loss. In other words, the average price for steer calves in the fall of 1999 would have been greater than $97.69 to generate as much profit as the retained ownership program. The average profit was $54.65 per steer and $54.39 per heifer.

Critical factors that affected profitability were feedlot average daily gain, and quality grade with relation to the changes in quality grade premiums and discounts across the 7 week marketing period.

Calves entering the A to Z program were valued at $88.50/cwt for a 600 lb steer with an $8.00 slide and $82.50/cwt for a 550 lb heifer with a $3.00 slide. Using these market prices, initial values of the cattle going into the feeding program averaged $525/steer and $445/heifer. Initial values of the calves increased about 25 percent from 1998 levels. The opportunity cost of not selling the calves at weaning (an interest expense tied directly to the initial value of the calves) averaged $15.29/head and $11.91/head over the feeding period, for steers and heifers, respectively.

Animal performance was below last year's program, with steers gaining 3.14 pounds per day and heifers gaining 2.93 pounds per day. Feed efficiency (pounds of feed per pound of gain), while still excellent, dropped compared to last year. Steers consumed 6.04 pounds of feed to produce a pound of gain while heifers converted at 6.09 pounds. The corn/wheat grain mix and mild weather conditions have continued to benefit cattle performance.

Table 14. Costs associated with custom feeding on a $ per animal basis.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Total feed[a]	491	60.78	22.39	103.91	13.30
Yardage[b]	491	44.33	41.00	48.50	2.61
Processing[c]	491	5.75	5.75	5.75	--
Medicine	491	1.46	1.46	1.46	--
Death loss	491	8.94	8.94	8.94	--
Interest[cd]	491	3.92	3.92	3.92	--
Opportunity[e]	491	15.29	12.57	17.48	.90
Total Cost	491	284.49	199.09	422.87	28.41
Heifers					
Total feed[a]	416	59.15	27.17	115.56	12.31
Yardage[b]	416	41.03	35.75	49.00	4.31
Processing[c]	416	5.53	5.53	5.53	--
Medicine	416	1.70	1.70	1.70	--
Death loss	416	8.64	8.64	8.64	--
Interest[cd]	416	3.92	3.92	3.92	--
Opportunity[e]	416	11.91	8.30	14.60	1.03
Total Cost	416	250.52	182.31	332.05	26.95

[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 15. Costs associated with custom feeding on a $ per lb of gain basis.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Total feed[a]	491	.36	.30	.47	.02
Feed and yardage[b]	491	.44	.38	.61	.03
Total cost of gain	491	.52	.44	.77	.04
Heifers					
Total feed[a]	416	.36	.29	.41	.02
Feed and yardage[b]	416	.44	.38	.60	.02
Total cost of gain	416	.53	.45	.75	.03

[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.

Table 16. Break-even price and profitability associated with custom feeding.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
Steers					
Break-even live price, $/cwt	491	70.41	61.84	88.97	2.93
Break-even feeder price, $/cwt	491	97.69	48.39	136.40	11.87
Profit/Loss, $/steer	491	54.65	-241.49	298.83	61.90
Heifers					
Break-even live price, $/cwt	416	68.37	62.00	81.02	2.49
Break-even feeder price, $/cwt	416	93.37	47.13	129.50	11.25
Profit/Loss, $/heifer	416	54.39	-186.12	170.85	50.09

SUMMARY

For the 1999-2000 feeding program, steers had an average daily gain of 3.14 pounds per day and heifers gained an average of 2.93 pounds per day during the feeding period. Dry matter intake was 18.97 and 17.87 pounds per head daily for steers and heifers, respectively. Feed efficiency was 6.04 pounds for the steers and 6.09 pounds for the heifers (pounds of feed per pound of gain). Hot carcass weights were 727 pounds (steers) and 641 pounds (heifers). Steers graded 70 percent and heifers graded 76 percent Choice or higher. In addition, 19 percent of the steers and 14 percent of the heifers met CAB specifications. Profits averaged $54.65 per steer and $54.39 per heifer. The range in profits and losses was very large for both steers (+$298.83 to -$-241.49 per head) and heifers (+$170.85 to -$186.12 per head). Prime and CAB carcasses were responsible for the high-end of prices received and carcasses discounted for being light weight or yield grade 4 were on the low-end. Feedlot average daily gain, and quality grade with relation to the changes in quality grade premiums and discounts across the 7-week marketing period accounted for most of the variation in profitability.

Overall, the 1999-2000 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 the participating ranchers at the year-end meetings indicated satisfaction in the way the program was run during the year. A majority of the ranchers would participate in this retained ownership program again and expressed an interest in feeding cattle for 2000-2001. Ranchers indicated that the highest value of the A to Z Retained Ownership program was as a mechanism to keep abreast with changes in the beef industry. Other high priorities of the program are selection of replacement heifers and bulls, enhancing marketing of calf crop through contract sales and retaining ownership of the calf crop. Plans for the A to Z yearling program are already in progress. Producers are using their individual data to market calves on satellite and internet marketing systems, with very positive results. All suggestions, interests and comments will be considered in designing future retained ownership educational programs.

Cattle performance, feed costs and profitability for 1999-2000 compared to the previous six years are shown in Appendix B. Health, feedlot and carcass

performance differences between light and heavy weight steer and heifer pens are reported in tables in Appendix C. Incoming value of calves, feed costs and carcass prices are variable over years and contribute greatly to the variation in profitability. Cattle performance is much less variable from year to year.

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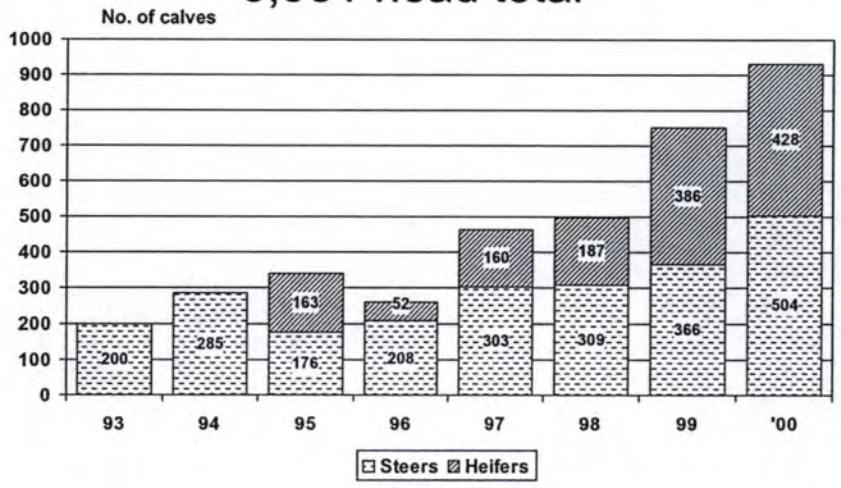
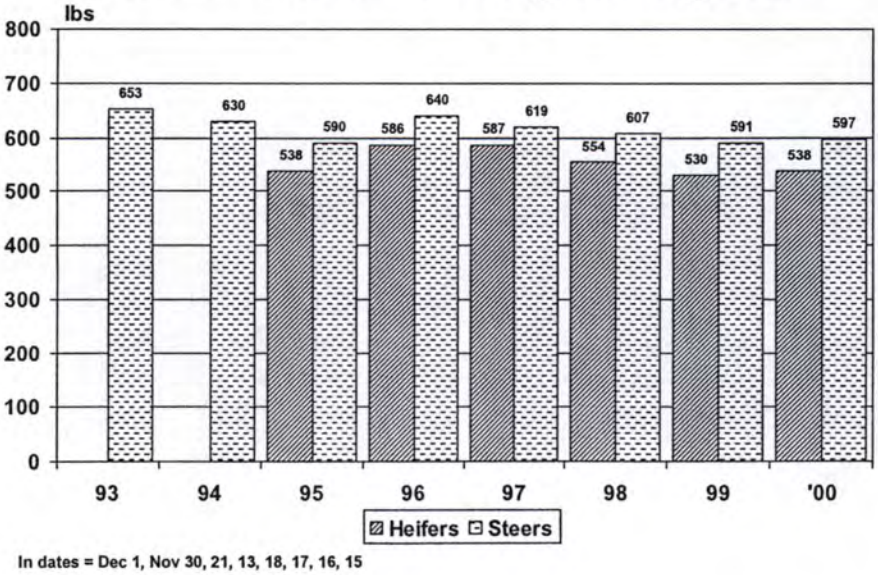
Appendix B

A to Z Consignments

3,981 head total



A to Z Receiving Weights



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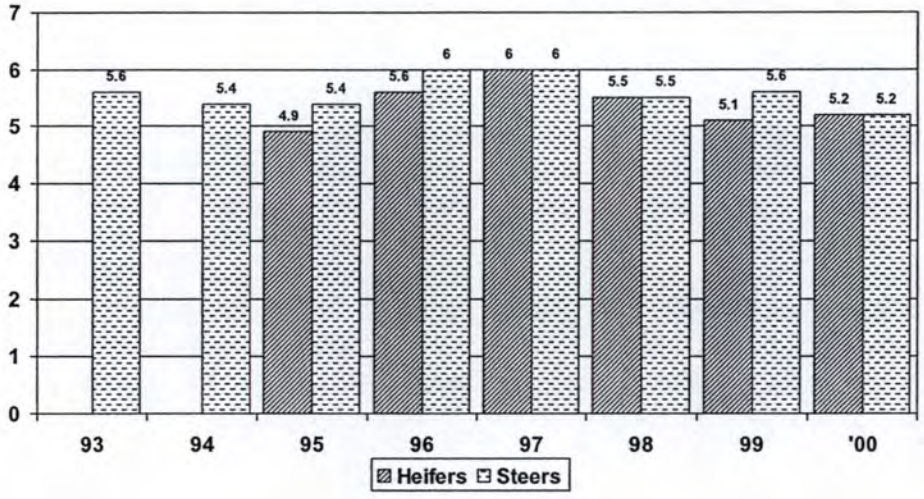
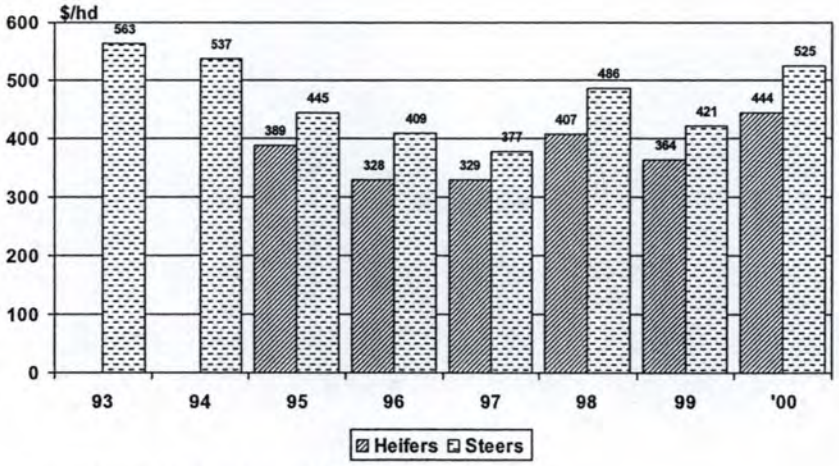
A to Z Frame Scores



A to Z Initial Value



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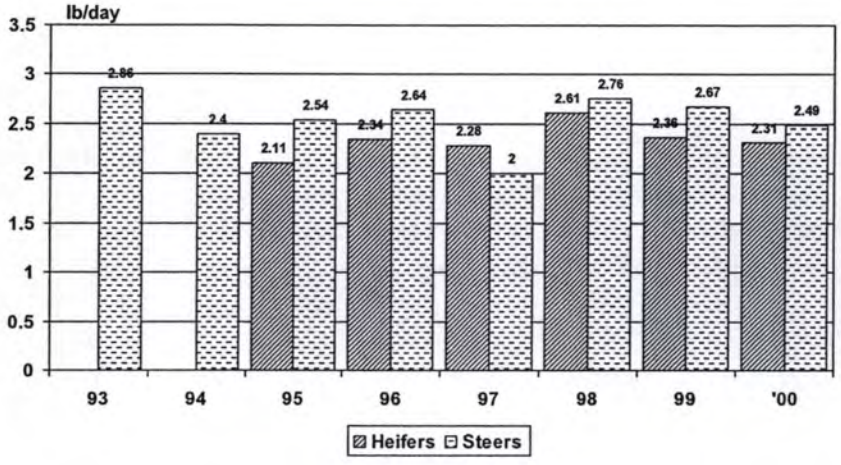
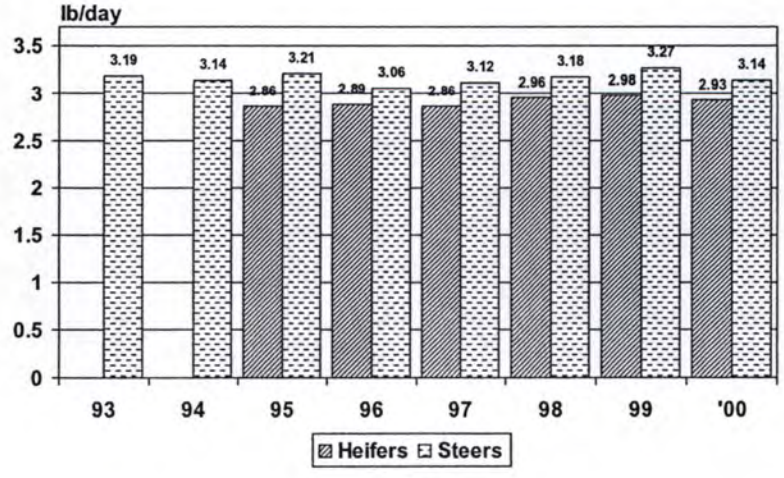
A to Z - ADG

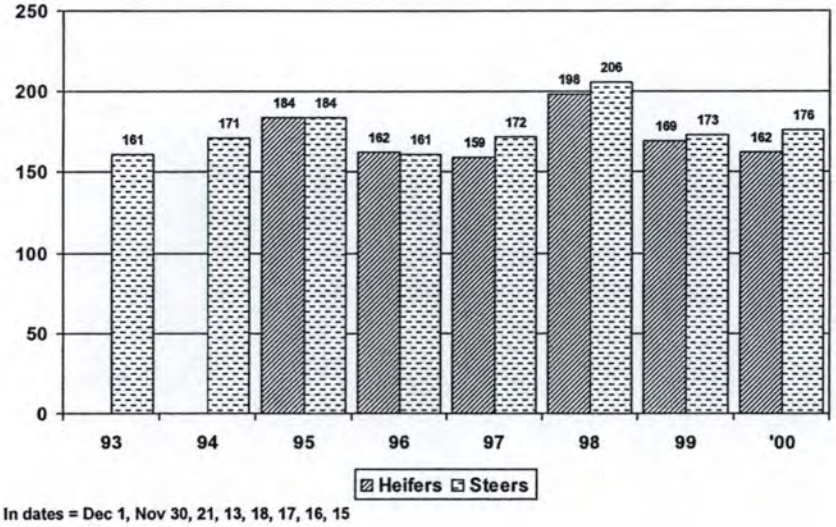
Receiving - Startup



A to Z - ADG Total



A to Z - Days on Feed



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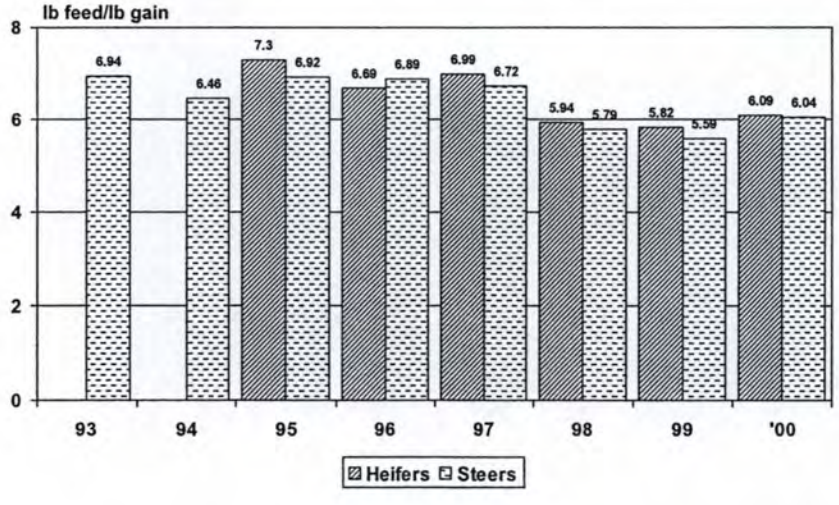
A to Z - F/G



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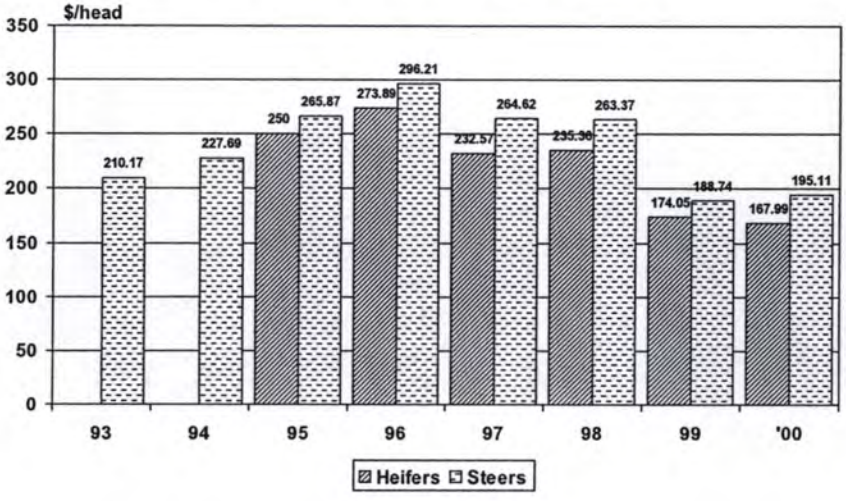
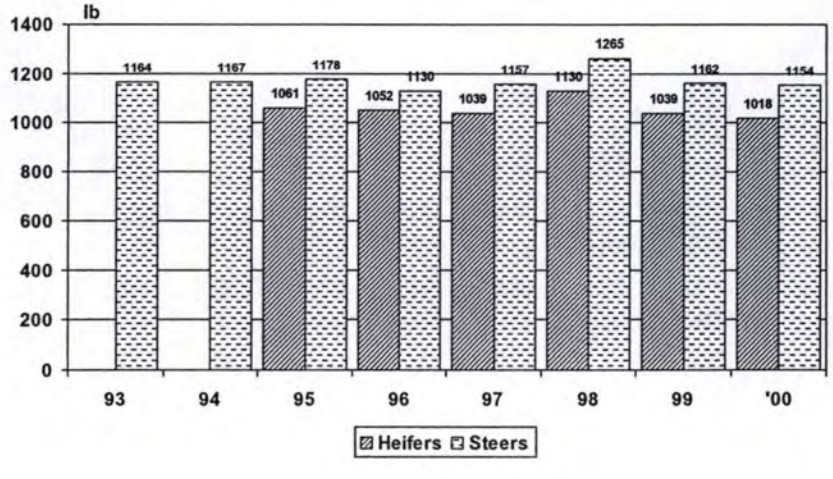
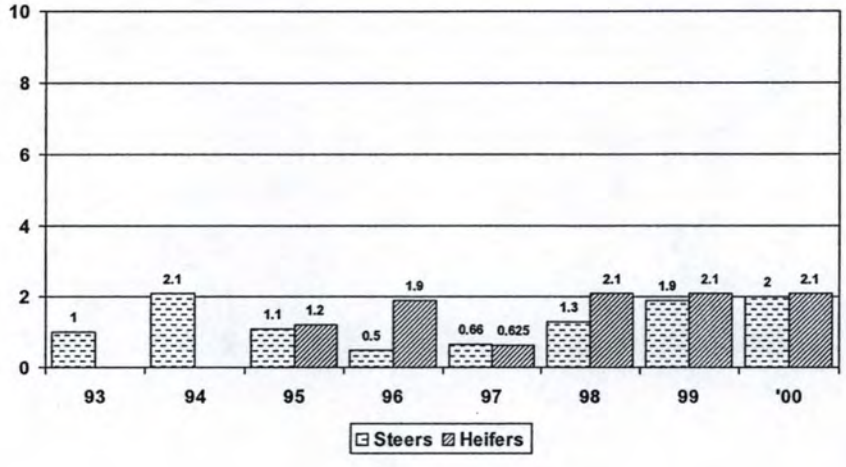


A to Z Finished Weights

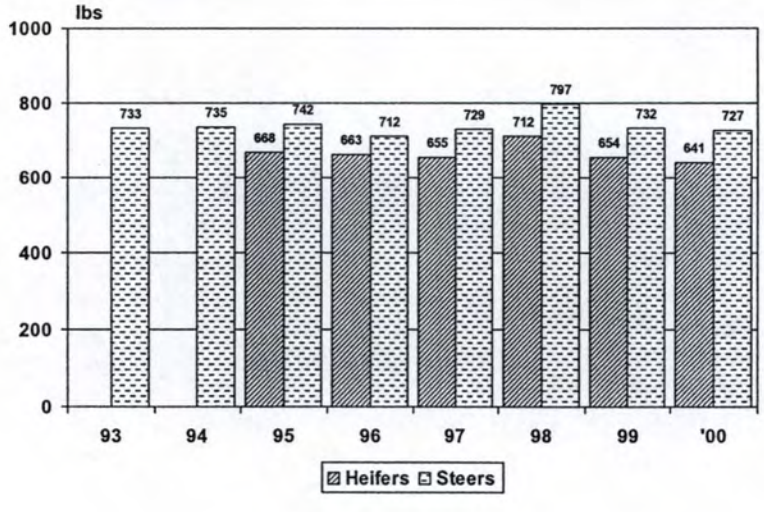
(63% yield)



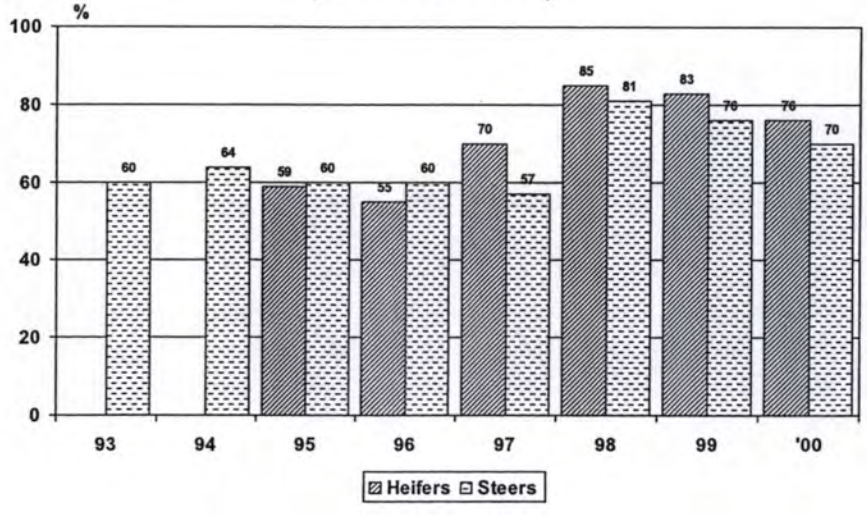
A to Z Death Loss (%)



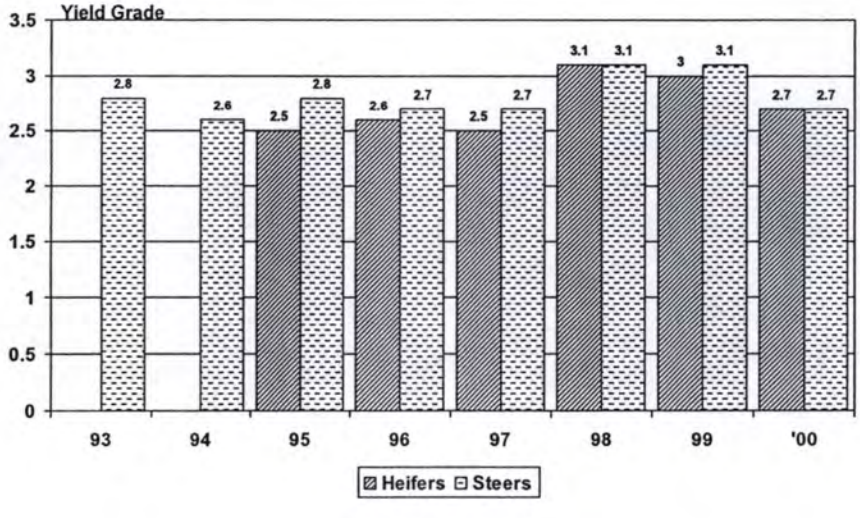
A to Z Carcass Weights



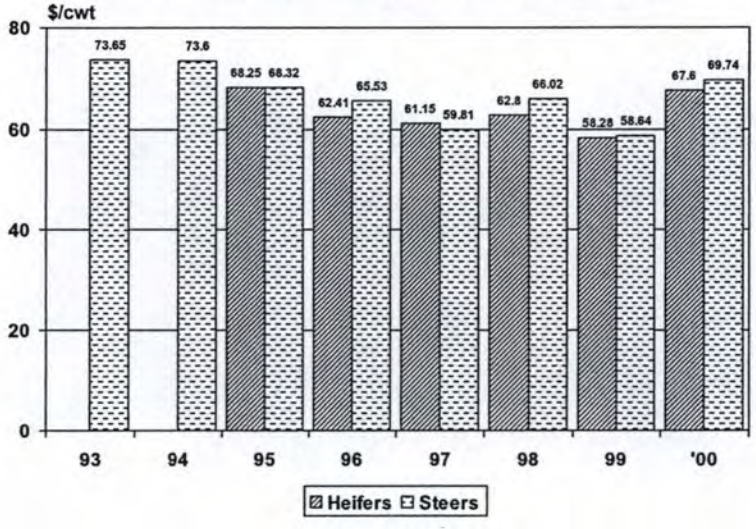
A to Z Quality Grade
(% Ch & Pr)



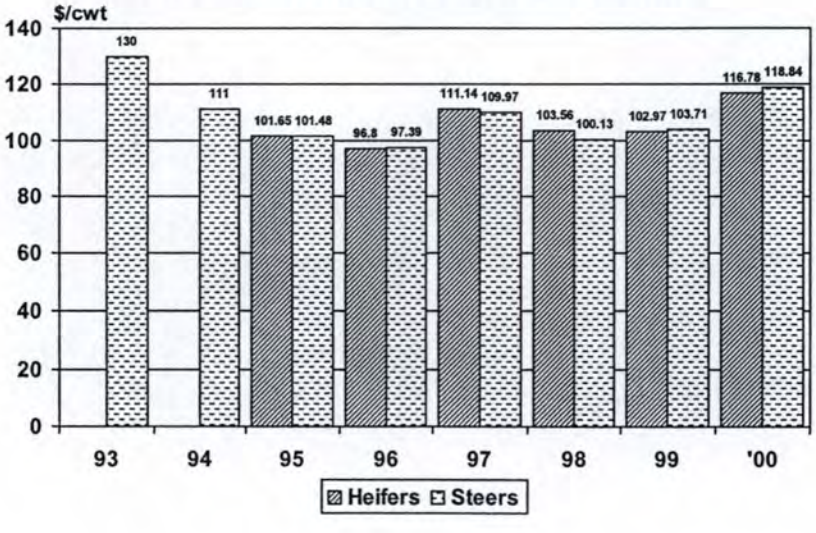
A to Z Yield Grades



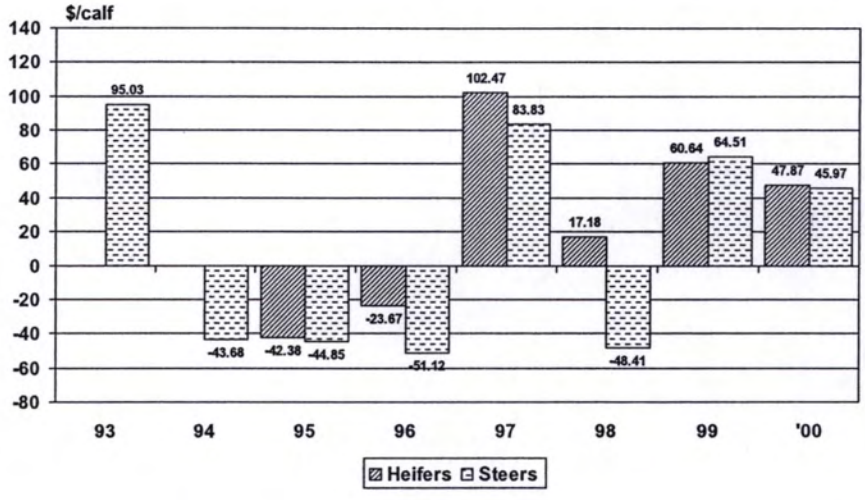
A to Z - Break-Even



A to Z Carcass Price



A to Z - Profit


$/calf
140
120
100
80
60
40
20
0
-20
-40
-60
-80
95.03
-43.68
-42.38
-44.85
-23.67
-51.12
102.47
83.83
17.18
-48.41
60.64
64.51
47.87
45.97
93
94
95
96
97
98
99
'00
Heifers
Steers

Appendix C

Health Comparisons

Table 1. Individual Treatment Records.

	Treatments							Dead								
	Resp	*Rep Resp*	*Cocci*	*Prolapse*	*Lump*	*Footrot*	*Castrate*	*Acute Bloat*	*Chronic Bloat*	*Clostri*	*Resp*	*Injury*	*Prolapse*	*?*	*Condemned*	*Salvage*
Hvy Steers	21	3	2	1	1	0	1	2	1	0	0	0	0	1	1	0
Lt Steers	28	3	1	0	0	0	0	2	0	1	3	0	0	0	0	2
Hvy Heifers	10	1	2	0	1	0	-	1	0	0	1	1	0	0	0	0
Lt Heifers	30	5	6	2	1	2	-	0	0	0	5	0	1	0	1	3

Table 2. Pen Treatment Records.

	Total Treatments	% Treated	Deads	% Deathloss
Heavy Steers	28	10.4	4	1.49
Light Steers	32	13.6	6	2.55
	60	11.9		
Heavy Heifers	14	7.1	3	1.52
Light Heifers	46	20.0	6	2.61
	60	14.0	19	2.0

Table 3. Quality Grade Breakdown.

	Steers		Heifers	
	Light	Heavy	Light	Heavy
Std	1	2	0	0
Se	62	84	52	49
Ch	147	171	159	145
Pr	17	7	10	1
Total	227	264	221	195
CAB	48	44	34	24
Ch & Pr	72.2%	67.4%	76.5%	74.9%
CAB	21.1%	16.6%	15.4%	12.3%
CAB & Pr	28.6%	19.2%	19.9%	12.8%
% Black	71%	68%	46%	50%

Table 4. Yield Grade Breakdown.

	Steers				Heifers			
YG	Light		Heavy		Light		Heavy	
1	43	18.9%	38	14.4%	22	10%	25	12.8%
2	107	47.1%	165	62.5%	129	58.4%	111	56.9%
3	73	32.2%	56	21.2%	66	30%	57	29.2%
4	4	1.8%	5	1.9%	4	1.8%	2	1.0%