

A TO Z RETAINED OWNERSHIP, INC.

2001 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 ninth year of the retained ownership program.

For the second time, the 2000-2001 A to Z Retained Ownership, Inc. included 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 during December.

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

The most interesting change for the 2000-2001 calf program was the use 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 pays premiums for carcasses that reflect higher sale value for IBP's market channels, while discounting those carcasses that do not "fit" these market specifications.

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 of \$20 to \$25 per carcass cwt, and any likelihood of profitability for these cattle is lost.

The other challenge that arose through the course of the feeding program was the increased death loss in the steer calves. Normally, death loss runs less than 2 percent. This year, 13 steers were lost (4.58 percent) and 2 heifers (0.86 percent). This is extremely puzzling in that steers were processed at the same time with the same vaccines as the heifers. Efforts are continuing to identify problems and modify management of the cattle for next year.

In addition, the relatively strong cattle market in the fall of 2000 resulted in producers marketing their cattle as weaned calves rather

than retaining ownership. Thus, participation in the program was down from 1999-2000.

OBJECTIVES

In an effort to provide 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 nine 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.

during the project are tabulated and analyzed in computerized format.

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 ninth year feeding phase had 692 cattle consigned to the program including 94 yearling steers, 81 yearling heifers, 284 steer calves and 233 heifer calves. Data gathered

PROCEDURES

Program Design: Yearlings

Four ranches consigned 94 yearling steers and 81 yearling heifers to the A to Z Retained Ownership, Inc. program in August 2000. 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). Cattle 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 21 and 22, 2000. On August 25, 2000 cattle were individually weighed (assessed a percentage shrink back to truck weight), administered vaccines which included Lepto-5 (bacterin), IBR, BVD (killed vaccine), PI₃ (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 \$84.00/cwt for a 750 lb steer with a \$3.00 slide and \$81.00/cwt for a 725 lb heifer with a \$5.00 slide. These values were taken from an electronic marketing service

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report for feeder cattle prices for the week of August 21, 2000.

Cattle were placed on the finishing ration on September 11, 2000. 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, unless otherwise noted. All cattle were processed at IBP of Boise on December 22, 2000.

Program Design: Calves

Twenty-two ranches consigned 284 steer calves and 233 heifer calves to the A to Z Retained Ownership, Inc. program in November 2000. 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 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 prior to receiving their booster shots at the feedlot. Initial vaccinations included Lepto-5 (bacterin), IBR, BVD (killed vaccine), PI₃ (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.

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Calves arrived and were weighed on a truckload basis at the feedlot on November 12 and 13, 2000. On November 20, 2000 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 \$90.00/cwt for a 600 lb steer with a \$6.00 slide and \$87.00/cwt for a 550 lb heifer with a \$6.00 slide. These values were taken from an electronic marketing service report for feeder cattle prices for the week of November 2, 2000. 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 cattle. 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.

Steer and heifer pens were placed on the finishing ration on January 15, 2001. Calves were individually weighed (assessed a 5% shrink) on January 19, 2001. 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).

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 on April 20, 2001 (90 heifers) and May 4, 2001 (141 heifers and 271 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 according to the IBP RTMV (Real-Time Market Value) pricing grid. Prices received are reported in Table 13.

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).

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 336 days with an initial weight of 761 pounds. Heifers averaged 303 days of age and weighed 725 pounds.

Animal performance for the feeding period is reported in Table 2. Steer finished weight was 1,226 pounds with an average feeding period of 123 days. Performance averaged 3.79 pounds of gain per day, with feed efficiency of 5.64 pounds of feed (dry matter basis) per pound of gain. Average dry matter intake was 21.5 pounds per day. During the feeding period one steer died due to bloat problems and one additional steer was condemned at the processing plant (death loss 2.2%). Medical treatments consisted of 1 steer being treated for foot rot.

Heifer finished weight for the feeding period was 1,175 pounds (Table 2), averaged 123 days on feed and gained 3.67 pounds per day. Dry matter intake was 20.9 pounds per day and feed efficiency was 5.64 pounds of

dry matter per pound of gain. There was no death loss in the heifer pen and one animal was treated for coccidiosis.

Carcass data for the yearling cattle is reported in Table 3. Overall, steer carcass quality grading produced 1 percent Prime, 71 percent Choice, and 27 percent Select. Heifer carcasses graded 2.5 percent Prime, 85.2 percent Choice, and 12.4 percent Select. Steer carcass yield grading produced 6.45 percent yield grade 1, 66.7 percent yield grade 2, 20.4 percent yield grade 3 and 5.4 percent yield grade 4. Heifer carcasses graded 3.7 percent yield grade 1, 54.3 percent yield grade 2, 35.8 percent yield grade 3 and 6.2 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 (< 550 pounds). The Choice/Select spread was \$7.74 (Table 4) at marketing. Prime carcasses brought an additional \$11.50/cwt for the December market date. Yield grades 1 and 2 were priced \$6.50 and \$2.50 per cwt, respectively over yield grade 3. Heavy weight carcasses were discounted \$17.47/cwt and light carcasses were discounted \$24.47/cwt.

Table 1. Initial yearling performance, receiving (8/21/00).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Weight, lb	92	760.81	545.35	1014.64	111.42
Age, days	54	336.26	329.00	337.00	2.34
Initial value, \$/head ^a	92	632.93	491.57	771.74	67.81
<u>Heifers</u>					
Weight, lb	81	724.69	522.54	936.64	97.38
Age, days	39	302.97	298.00	337.00	11.88
Initial value, \$/head ^a	81	582.43	476.16	659.56	45.27

^a Initial value of the steers was \$84.00/cwt for 750 lb base weight with a \$3.00 slide. Heifer initial value was \$81.00/cwt for a 725 lb base weight with a \$5.00 slide.

Table 2. Yearling performance, total feeding period (8/21/00 to 12/22/00).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Weight, lb	92	1226.05	933.87	1603.23	155.23
Average daily gain, lb/day	92	3.79	2.56	5.48	.58
Days on feed	92	122.78	122.00	123.00	.41
Dry matter intake, lb ^a	92	21.50	10.00	35.13	4.65
Feed efficiency, lb feed DM/lb gain	92	5.64	2.56	6.70	.58
<u>Heifers</u>					
Weight, lb	81	1175.45	866.13	1488.71	143.88
Average daily gain, lb/day	81	3.67	2.46	6.60	.66
Days on feed	81	122.74	122.00	123.00	.44
Dry matter intake, lb ^a	81	20.90	12.07	38.14	5.04
Feed efficiency, lb feed DM/lb gain	81	5.64	4.63	6.68	.49

^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
<u>Steers</u>					
Hot carcass weight, lb	92	760.15	579.00	994.00	96.24
Final yield grade	92	2.82	1.32	4.61	.72
Ribeye area, sq in	92	12.76	9.10	17.10	1.44
Kidney, pelvic & heart fat, %	92	1.91	1.00	3.00	.49
Backfat, in	92	.45	.10	1.00	.18
Marbling score ^a	92	6.85	3.00	17.00	2.66
Quality grade ^b	92	11.79	9.00	15.00	1.31
Carcass price, \$/cwt	92	122.81	93.03	139.00	7.87
<u>Heifers</u>					
Hot carcass weight, lb	81	728.78	537.00	923.00	89.21
Final yield grade	81	3.09	1.19	5.23	.72
Ribeye area, sq in	81	12.38	9.30	15.60	1.50
Kidney, pelvic & heart fat, %	81	2.07	1.00	3.00	.46
Backfat, in	81	.55	.30	1.10	.18
Marbling score ^a	81	8.33	3.00	21.00	2.83
Quality grade ^b	81	12.49	9.00	17.00	1.12
Carcass price, \$/cwt	81	124.25	93.29	136.76	8.34

^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 = Select⁰, 11 = Select⁺, 12 = Choice⁻, 13 = Choice⁰, 14 = Choice⁺, \geq 15 = Prime.

Table 4. Yearling carcass prices received by quality and yield grade (\$ per cwt).

	Yield Grade	Prime	Choice	Select
<u>Steers</u>				
December 22, 2000	1		129.00	121.20
	2	136.50	125.00	117.20
	3		122.50	114.76
<u>Heifers</u>				
December 4, 1999	1		129.26	121.46
	2	136.76	125.26	117.46
	3		122.76	114.96

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 \$221.34 and heifers averaged \$215.81 per head. Feed and yardage costs per pound of gain averaged 40 cents per pound of gain for both steers and heifers. Total feeding costs/pound of gain were 48 cents for both steers and heifers.

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 \$69.81 per cwt for steers and \$68.18 per cwt for heifers. The average profit was \$76.86 per steer and \$106.39 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	92	156.45	72.65	255.79	33.57
Yardage ^b	92	30.70	30.50	30.75	.10
Processing ^c	92	5.00	5.00	5.00	--
Medicine	92	.14	.14	.14	--
Death loss	92	5.30	5.30	5.30	--
Interest ^{cd}	92	3.09	3.09	3.09	--
Opportunity ^e	92	12.77	9.94	15.56	1.35
Total Cost	92	221.34	136.55	324.72	35.20
Heifers					
Total feed ^a	81	152.20	88.37	277.80	36.36
Yardage ^b	81	30.69	30.50	30.75	.11
Processing ^c	81	5.00	5.00	5.00	--
Medicine	81	.14	.14	.14	--
Death loss	81	5.30	5.30	5.30	--
Interest ^{cd}	81	3.09	3.09	3.09	--
Opportunity ^e	81	11.75	9.63	13.34	.90
Total Cost	81	215.81	149.35	340.12	37.44

^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
<u>Steers</u>					
Total feed ^a	92	.33	.15	.40	.03
Feed and yardage ^b	92	.40	.21	.46	.03
Total cost of gain	92	.48	.28	.55	.04
<u>Heifers</u>					
Total feed ^a	81	.33	.28	.40	.03
Feed and yardage ^b	81	.40	.35	.45	.02
Total cost of gain	81	.48	.42	.54	.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 \$.25 per animal each day.

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

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Break-even price, \$/cwt	92	69.81	62.21	75.48	2.11
Profit/Loss, \$/steer	92	76.86	-145.01	246.27	69.15
<u>Heifers</u>					
Break-even price, \$/cwt	81	68.18	61.20	74.84	2.45
Profit/Loss, \$/heifer	81	106.39	-121.31	220.38	69.14

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 266 days (equaling a February 19, 2000 average calving date), with an initial weight of 600 pounds. Heifers had an average age of 267 days (February 18, 2000 average calving date) and weighed 556 pounds.

Animal performance for the start-up period, which lasted 67 days, is reported in Table 9. Steers averaged 785 pounds at the first weigh period (January 19, 2001). Performance

averaged 2.77 pounds of gain per day, with feed efficiency of 5.8 pounds of feed (dry matter basis) per pound of gain. Average dry matter intake was 15.46 pounds per day. From delivery through the end of the warm-up rations, three steers died (bloat, coccidiosis and respiratory).

Heifers averaged 733 pounds at the first weigh period (January 19, 2001) and gained 2.64 pounds per day. Feed efficiency for the heifers was 5.55 pounds of feed per pound of gain, with average dry matter intake of 14.48 pounds per day. No heifers died during the receiving, startup and grower phases.

Performance for the finishing period is reported in Table 10. Average finish weight of the steers was 1,143 pounds, with steers consuming 20.72 pounds dry matter per day and gaining 3.42 pounds per day. Feed efficiency was 5.48 pounds of dry matter per pound of gain over the 101-day finishing period. Final death loss was 4.6 percent, as 13 steers died (2 from bloat/clostridia, 5 respiratory, 5 of undetermined causes and 1 condemned at IBP).

Heifers finished at an average weight of 1,060 pounds, consumed 19.59 pounds of dry matter per day and gained 3.30 pounds per day, during the finishing phase. Feed efficiency was 5.96 pounds of feed per pound

of gain over the 99-day finishing period. Final death loss was at 0.9%, as 2 heifers died (1 from respiratory and 1 condemnation).

Performance for the combined start-up and finishing periods is reported in Table 11. Over the entire feeding period, steers gained 3.16 pounds per day, consuming 18.68 pounds of dry matter per day. Average feed efficiency was 6.12 pounds of dry matter per pound of gain and the average days on feed was 172 days. Heifers gained 3.03 pounds per day, consumed 17.53 pounds of dry matter and converted 5.77 pounds of feed to a pound of gain over an average of 166 days on feed.

Table 8. Initial animal performance, receiving 11/13-14/00.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Weight, lb	271	600.10	414.29	866.61	73.98
Hip height, in	271	46.26	42.00	52.50	1.78
Frame score	266	5.48	3.04	8.55	.91
Age, days	266	265.92	187.00	387.00	33.06
Initial value, \$/head ^a	271	536.78	419.02	641.32	39.25
<u>Heifers</u>					
Weight, lb	231	555.93	388.96	731.33	62.39
Hip height, in	231	45.29	40.50	50.50	1.80
Frame score	229	4.96	2.57	7.58	.90
Age, days	229	266.61	201.00	387.00	28.64
Initial value, \$/head ^a	231	479.35	375.98	556.69	33.84

^a Initial value of the steers was \$90.00/cwt for 600 lb base weight with a \$6.00 slide. Heifer initial value was \$87.00/cwt for a 550 lb base weight with a \$6.00 slide.

Table 9. Animal performance, receiving through start-up period (11/13-14/00 to 1/19/01).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Weight, lb (1/19/01)	271	784.78	565.25	1073.50	78.59
Average daily gain, lb/day	271	2.77	-1.20	4.56	.76
Dry matter intake, lb/day ^a	271	15.46	2.60	25.12	3.17
Feed efficiency, lb feed DM/lb gain	271	5.80	-2.16	18.56	1.49
<u>Heifers</u>					
Weight, lb (1/19/01)	231	732.65	541.50	959.50	71.75
Average daily gain, lb/day	231	2.64	.72	4.27	.61
Dry matter intake, lb/day ^a	231	14.48	6.93	22.78	2.99
Feed efficiency, lb feed DM/lb gain	231	5.55	4.29	10.53	.63

^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 (1/19/01 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Finished weight, lb ^a	271	1143.46	785.71	1498.41	109.98
Average daily gain, lb/day	271	3.42	-1.61	8.12	.92
Dry matter intake, lb ^b	271	20.72	1.91	48.63	4.88
Feed efficiency, lb feed DM/lb gain	271	5.48	-145.32	9.79	9.23
<u>Heifers</u>					
Finished weight, lb ^a	231	1060.48	687.30	1300.00	98.18
Average daily gain, lb/day	231	3.30	.61	4.45	.62
Dry matter intake, lb ^b	231	19.59	6.77	29.26	3.93
Feed efficiency, lb feed DM/lb gain	231	5.96	4.99	11.07	.50

^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 (11/13-14/00 to out-date).

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Average daily gain, lb/day	271	3.16	.22	5.89	.60
Days on feed	271	171.80	171.00	173.00	.48
Dry matter intake, lb ^a	271	18.68	9.26	34.00	3.25
Feed efficiency, lb feed DM/lb gain	271	6.12	4.87	43.11	2.54
<u>Heifers</u>					
Average daily gain, lb/day	231	3.03	1.38	4.17	.43
Days on feed	231	166.43	157.00	179.00	6.79
Dry matter intake, lb ^a	231	17.53	7.88	26.03	2.85
Feed efficiency, lb feed DM/lb gain	231	5.77	4.79	6.93	.34

^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. Average hot carcass weight for the steers was 720 pounds, with a yield grade of 2.78 and a 12.2 in.² ribeye. Average marbling score was mid-small (7.04) and average quality grade was low choice (11.85). Heifer average carcass weight was 668 pounds, with a yield grade of 2.7 and a 12.19 in.² ribeye. Average marbling score for the heifers was mid-small (7.51) and quality grade was low choice (12.06).

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 marketing period, ranging from a high of \$125.30/cwt to a low of \$121.37. The USDA Choice/Select spread ranged from \$4.40/cwt to \$6.40, 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 \$20/cwt throughout the marketing period. Light weight carcasses were discounted to a greater extent (\$20.61 to \$22.81/cwt) than heavy weight carcasses (\$4.61 to \$7.81/cwt). Carcasses qualifying for Certified Angus Beef (CAB) received premiums ranging from \$5.77/cwt to \$5.86/cwt, while USDA Prime premiums ranged from \$11/cwt to \$12.15/cwt.

Table 12. Animal performance, carcass data.

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Hot carcass weight, lb	271	720.38	495.00	944.00	69.29
Final yield grade	271	2.78	1.25	5.28	.67
Ribeye area, sq in	271	12.20	9.70	16.30	1.12
Kidney, pelvic & heart fat, %	271	2.07	1.00	3.50	.42
Backfat, in	271	.41	.05	.90	.15
Marbling score ^a	271	7.04	0.00	19.00	2.85
Quality grade ^b	271	11.85	6.00	16.00	1.46
Carcass price, \$/cwt	271	122.38	86.00	134.50	6.18
<u>Heifers</u>					
Hot carcass weight, lb	231	668.10	433.00	819.00	61.85
Final yield grade	231	2.70	.68	5.50	.73
Ribeye area, sq in	231	12.19	9.40	17.20	1.35
Kidney, pelvic & heart fat, %	231	2.06	1.00	4.00	.41
Backfat, in	231	.46	.10	1.10	.17
Marbling score ^a	231	7.51	3.00	18.00	2.81
Quality grade ^b	231	12.06	9.00	16.00	1.26
Carcass price, \$/cwt	231	124.15	92.00	137.45	7.62

^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 = Select⁰, 11 = Select⁺, 12 = Choice⁻, 13 = Choice⁰, 14 = Choice⁺, \geq 15 = Prime.

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

	12/23/00 Yearlings 81 Heifers, 92 Steers	4/20/01 Calves 90 Heifers	5/4/01 Calves 141 Heifers, 271 Steers
Pr	+14.00	+12.15	+11.00
CAB	+6.44	+5.86	+5.77
YG1	+6.50	+6.50	+6.50
YG2	+2.50	+2.50	+2.50
Ch 3 Base	122.76	125.30	121.37
Se	-7.80	-4.40	-6.40
YG4	-21.67	-20.00	-20.00
< 550	-24.47	-22.81	-20.61
> 950	-17.47	-7.81	-4.61
Steers	-.26	+.24	-.37

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 \$300.03 and heifers averaged \$261.66 per head. Feed and yardage costs per pound of gain averaged 47 cents and 45 cents for steers and heifers, respectively. Total feeding costs/pound of gain were 52 cents and 49 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 \$73.44 per cwt for steers and \$70.04 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 \$97.84 for steer calves and \$102.79 for the heifer calves, including death

loss. In other words, if the average price for steer calves in the fall of 2000 was less than \$97.84, then the retained ownership program was more profitable than selling weaned calves in the fall. The average profit was \$45.38 per steer and \$89.84 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 marketing period.

Calves entering the A to Z program were valued at \$90/cwt for a 600 lb steer with an \$6.00 slide and \$87/cwt for a 550 lb heifer with a \$6.00 slide. Using these market prices, initial values of the cattle going into the feeding program averaged \$537/steer and \$479/heifer. The opportunity cost of not selling the calves at weaning (an interest expense tied directly to the initial value of the calves) averaged \$12.77/head and \$11.75/head over the feeding period, for steers and heifers, respectively.

Animal performance was slightly above last year's program, with steers gaining 3.16 pounds per day and heifers gaining 3.03 pounds per day. Feed efficiency (pounds of feed per pound of gain), was 6.12 pounds of feed per pound of gain for the steers, while heifers converted at 5.77 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
<u>Steers</u>					
Total feed ^a	271	203.02	98.93	372.47	35.68
Yardage ^b	271	42.95	42.75	43.25	.12
Processing ^c	271	5.99	5.99	5.99	--
Medicine	271	2.40	2.40	2.40	--
Death loss	271	18.78	18.78	18.78	--
Interest ^{cd}	271	4.02	4.02	4.02	--
Opportunity ^e	271	15.16	11.78	18.13	1.11
Total Cost	271	300.03	195.89	468.01	36.36
<u>Heifers</u>					
Total feed ^a	231	185.25	86.24	284.44	30.40
Yardage ^b	231	41.61	39.25	44.75	1.70
Processing ^c	231	5.79	5.79	5.79	--
Medicine	231	2.36	2.36	2.36	--
Death loss	231	2.23	2.23	2.23	--
Interest ^{cd}	231	4.02	4.02	4.02	--
Opportunity ^e	231	13.10	10.58	15.23	.89
Total Cost	231	261.66	160.90	364.34	31.52

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

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Total feed ^a	271	.39	.31	2.68	.16
Feed and yardage ^b	271	.47	.39	3.81	.23
Total cost of gain	271	.52	.43	4.27	.26
<u>Heifers</u>					
Total feed ^a	231	.37	.30	.44	.02
Feed and yardage ^b	231	.45	.39	.62	.03
Total cost of gain	231	.49	.42	.87	.04

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

	No. of Animals	Mean	Minimum	Maximum	Standard Deviation
<u>Steers</u>					
Break-even live price, \$/cwt	271	73.44	62.29	100.75	3.75
Break-even feeder price, \$/cwt	271	97.84	31.97	128.09	12.36
Profit/Loss, \$/steer	271	45.38	-365.91	199.60	64.06
<u>Heifers</u>					
Break-even live price, \$/cwt	231	70.04	66.07	84.29	2.53
Break-even feeder price, \$/cwt	231	102.79	49.98	129.36	12.29
Profit/Loss, \$/heifer	231	89.84	-203.61	195.59	62.46

SUMMARY

For the 2000-2001 feeding program, steer calves had an average daily gain of 3.16 pounds per day and heifers gained an average of 3.03 pounds per day during the feeding period. Yearling steers gained an average of 3.79 pounds per day and yearling heifers gained 3.67 pounds per day. Dry matter intake was 18.68 and 17.53 pounds per head daily for steer and heifer calves, respectively. Average dry matter intake for yearlings was 21.50 and 20.90 for steers and heifers, respectively. Feed efficiency was 6.12 pounds for the steer calves and 5.77 pounds for the heifer calves (pounds of feed per pound of gain). Yearling feed efficiency was 5.64 pounds of feed per pound of gain for both steers and heifers. Hot carcass weights were 720 pounds (steer calves) and 668 pounds (heifer calves). Yearlings had average carcass weights of 760 and 729 for steers and heifers, respectively. Seventy- three percent of the steer calves and 83 percent of the heifer calves graded choice or higher. In addition, 24 percent of the steer calves and 22 percent of the heifer calves met CAB specifications. Calf profits averaged \$45.38 per steer and \$89.84 per heifer. The range in profits and losses was very large for both steers (+\$199.60 to -

\$365.91 per head) and heifers (+\$195.59 to -\$203.61 per head). Yearling profits were \$76.86 per head for steers and \$106.39 per head for heifers, with similar large ranges in per head profitability as was shown by the calves. 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 marketing periods accounted for most of the variation in profitability.

Overall, the 2000-2001 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 2001-2002. This year ranchers indicated that the highest value of the A to Z Retained Ownership, Inc. program was enhanced

marketing of their calf crop. Other high priorities of the program were retaining ownership of calf crop, keeping abreast with changes in the beef industry, fine-tuning ranch management, and selection of replacement heifers and bulls. 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 2000-2001 compared to the previous eight years are shown in Appendix B. The two years of yearling data are included 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 A

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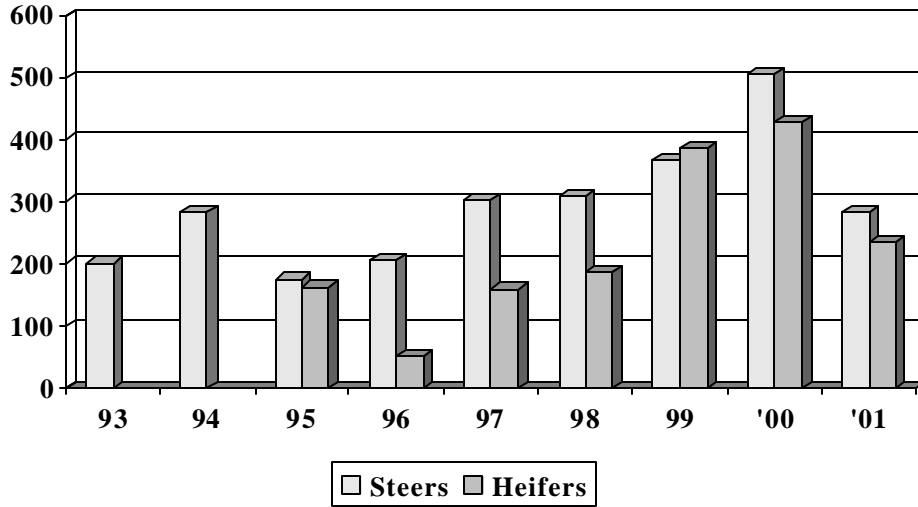
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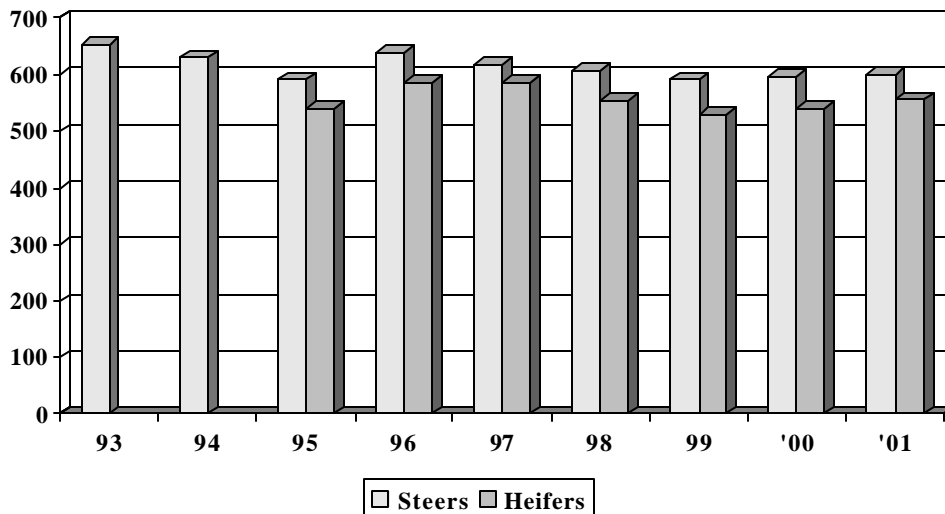
Appendix B

A to Z Consignments Calves

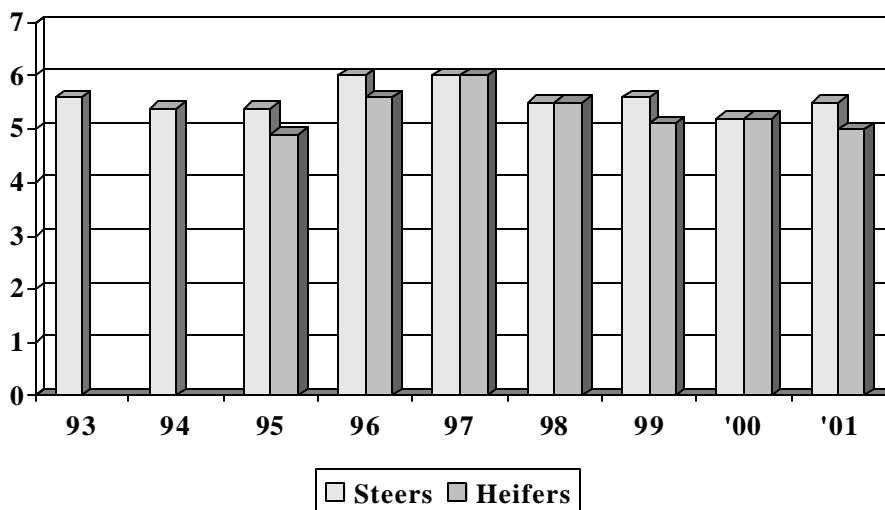


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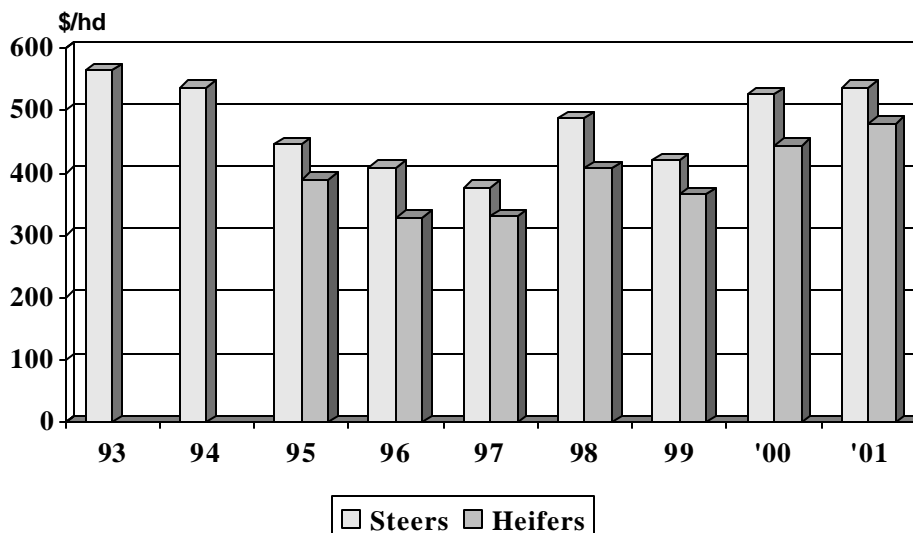
A to Z Receiving Weights Calves



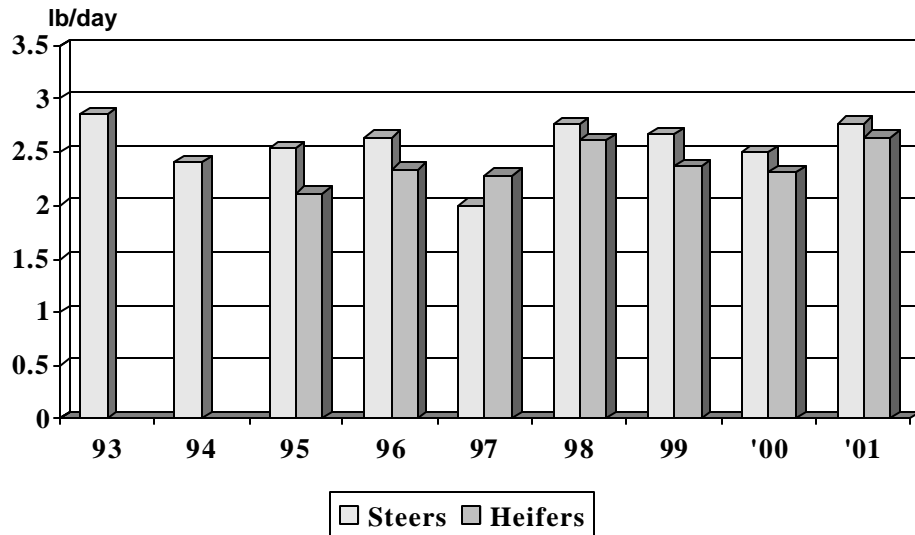
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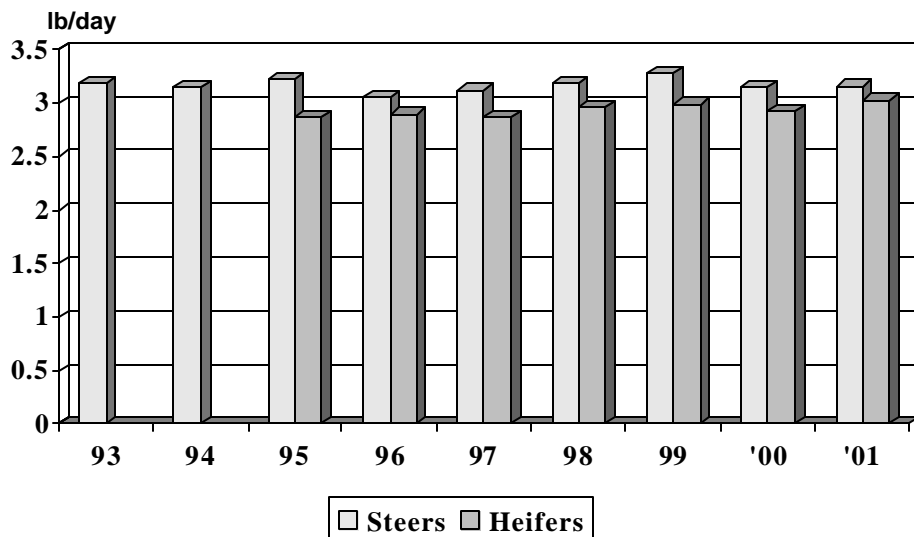
A to Z Initial Value Calves



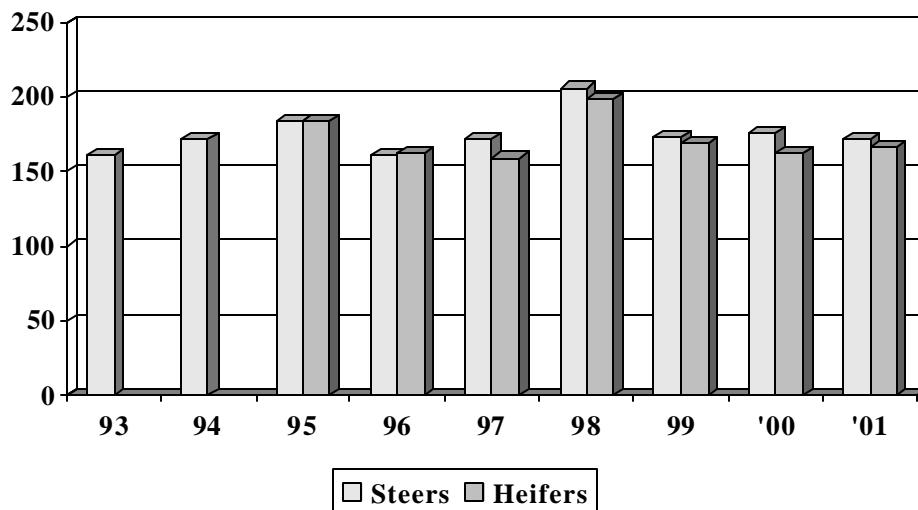
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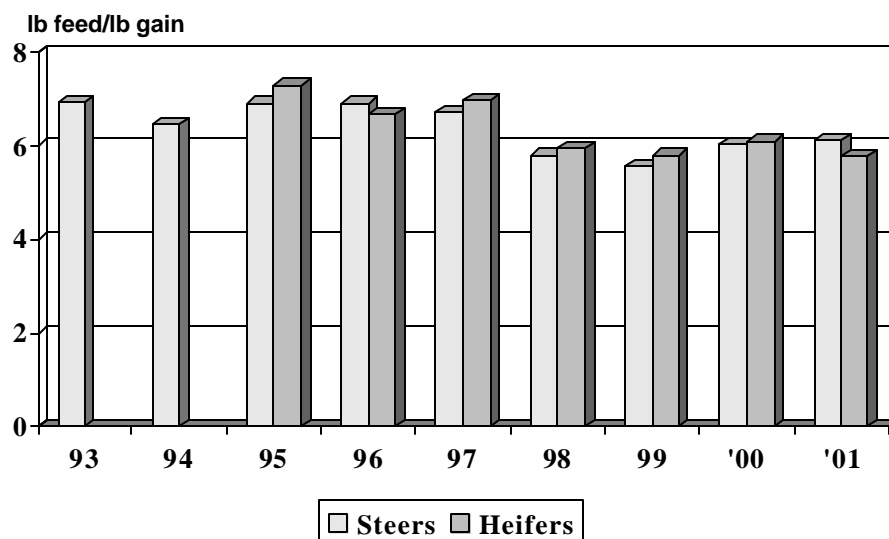
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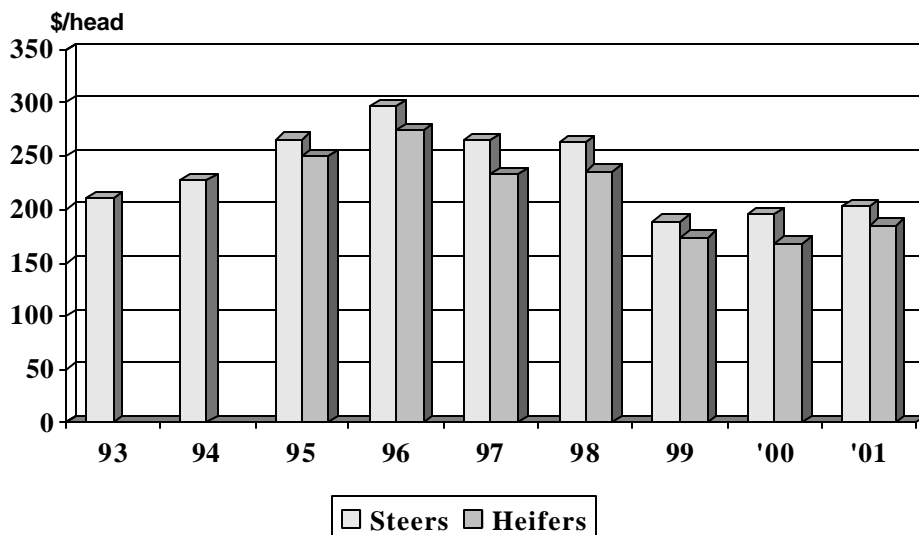
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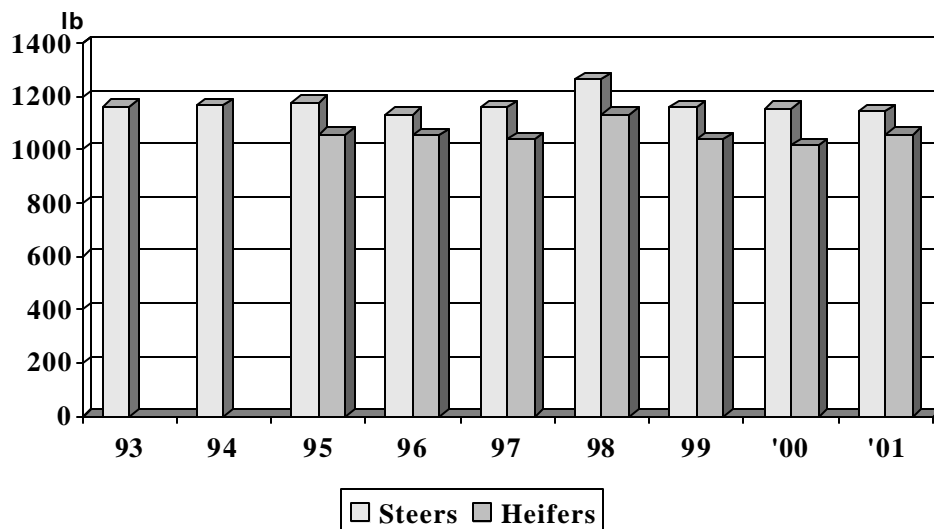
A to Z – F/G Calves



A to Z – Feed Cost Calves

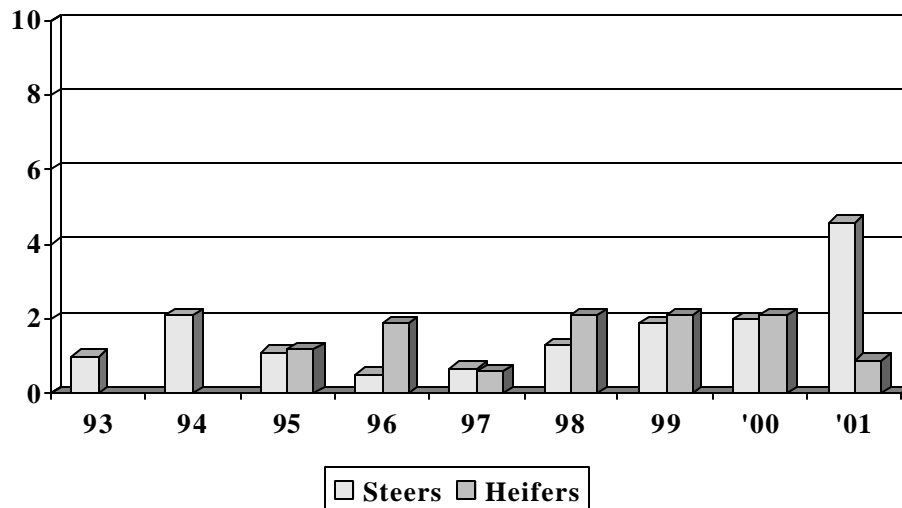


A to Z Finished Weights Calves



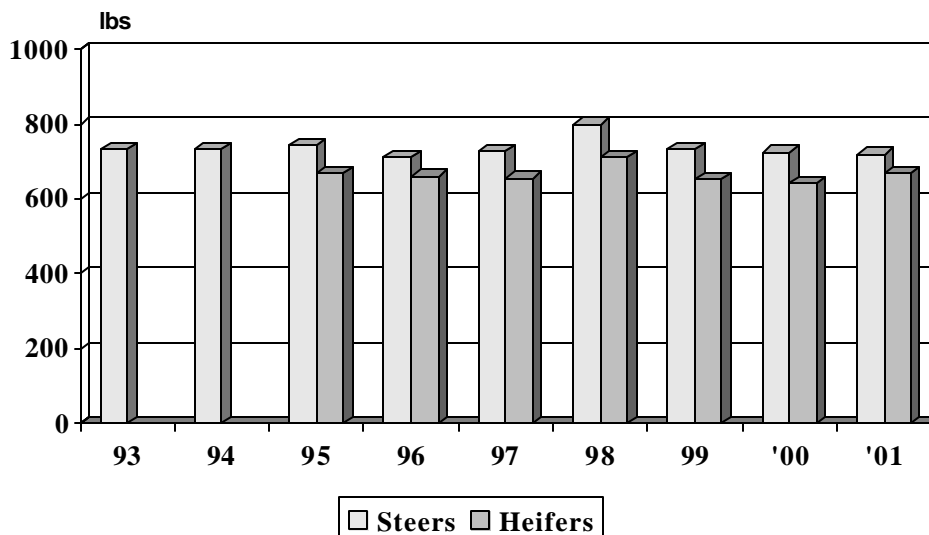
A to Z Death Loss (%)

Calves

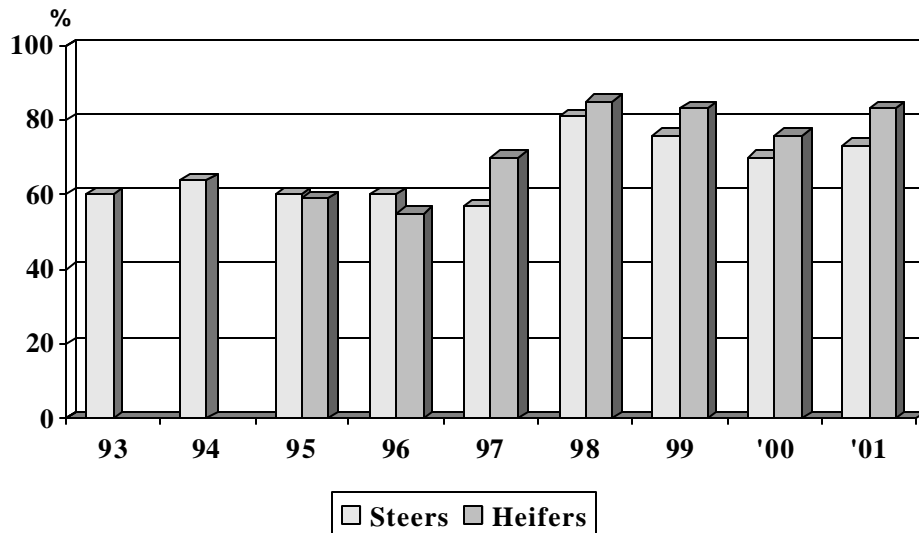


A to Z Carcass Weights

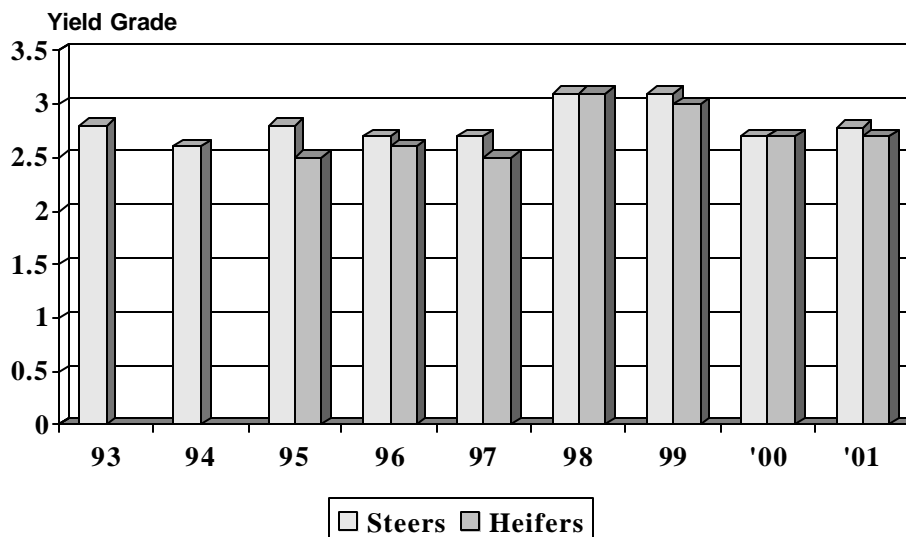
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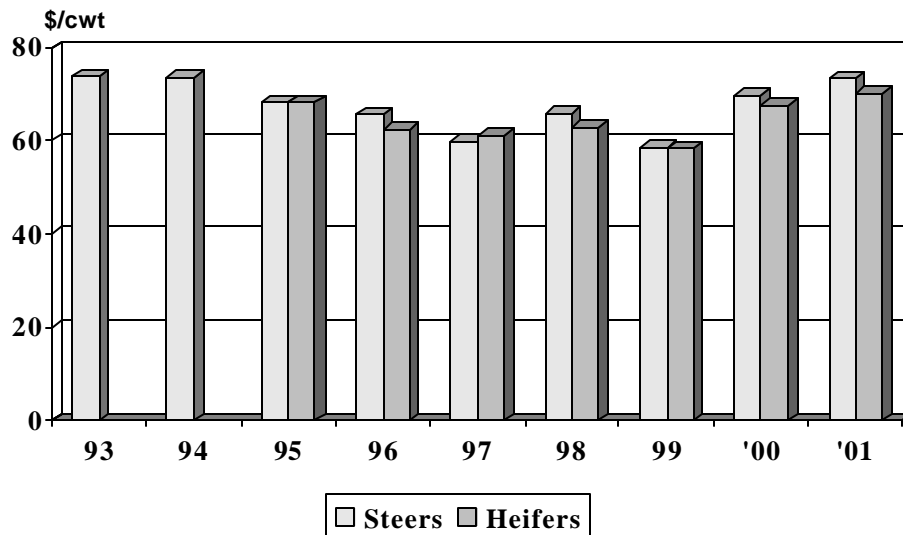
A to Z Quality Grade (% Ch and Pr) Calves



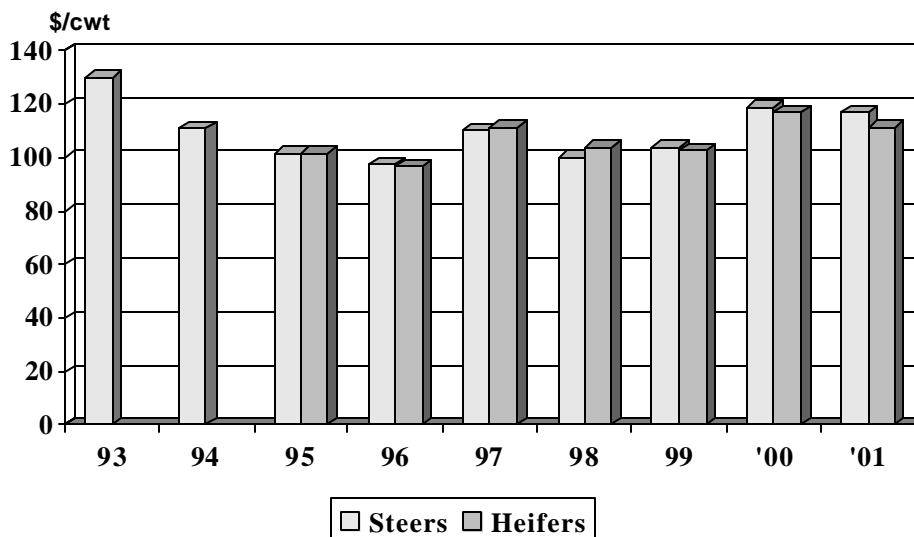
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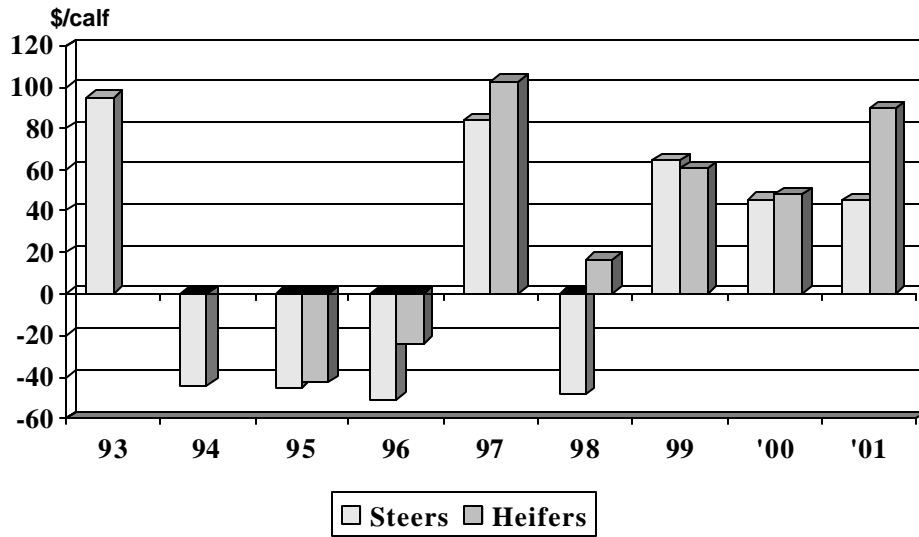
A to Z – Break-Even Calves



A to Z Carcass Price Calves

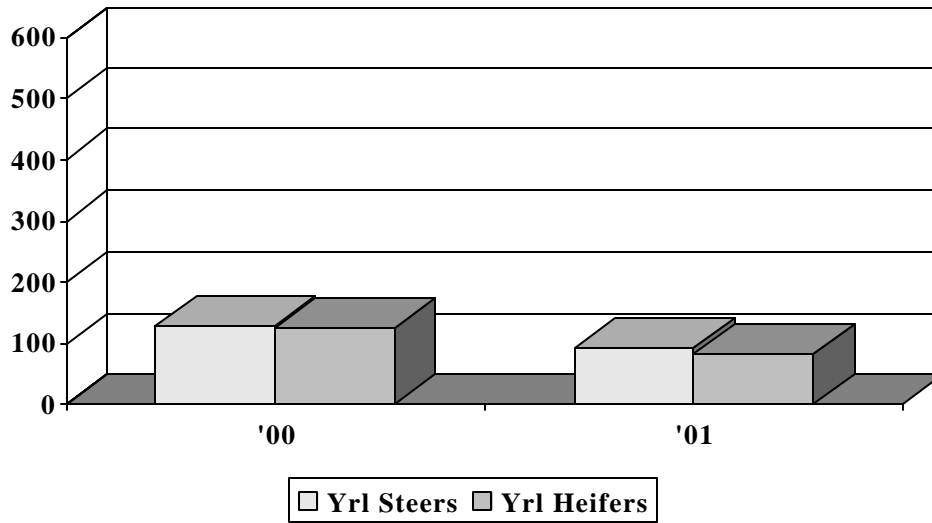


A to Z – Profit Calves



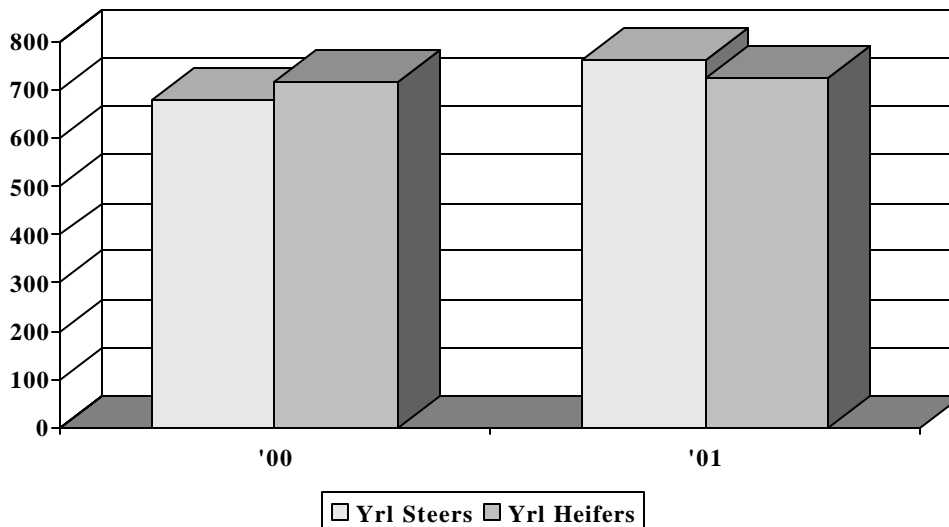
Appendix C

A to Z Consignments Yearlings

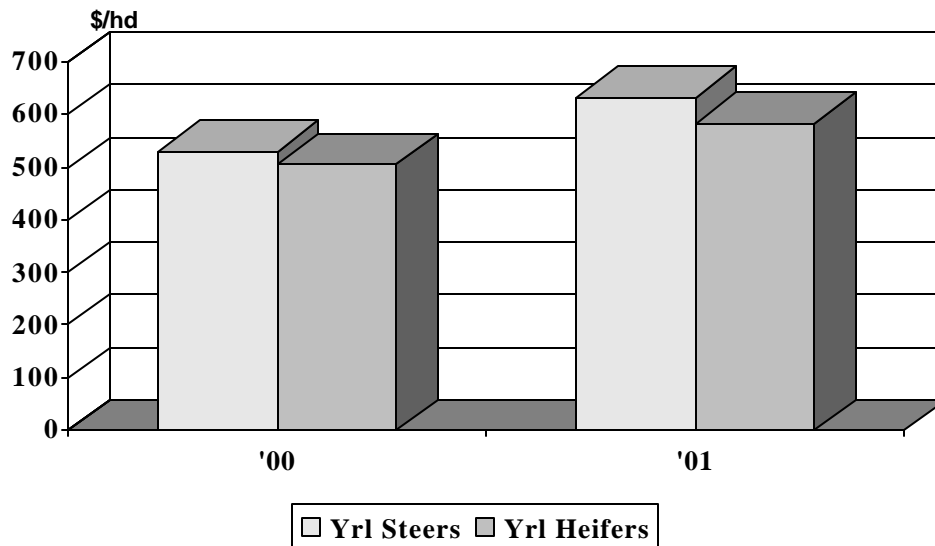


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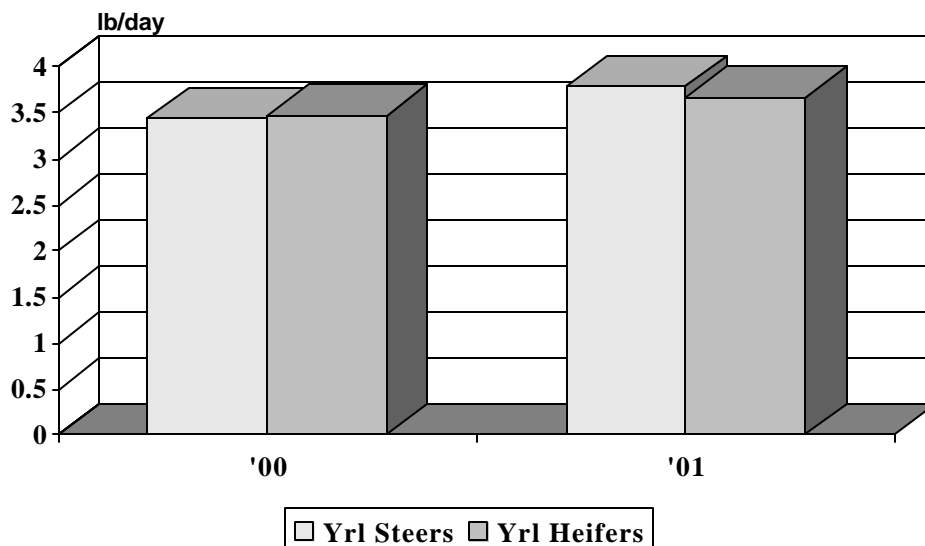
A to Z Receiving Weights Yearlings



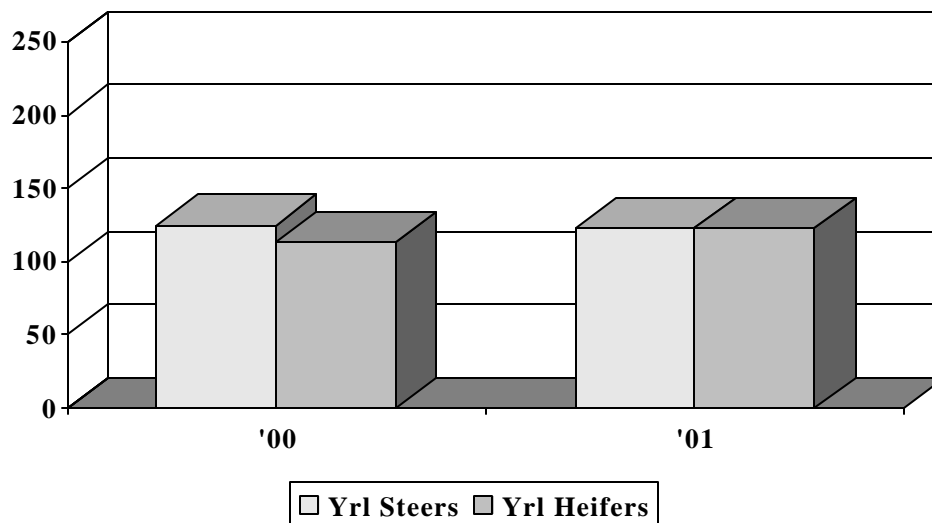
A to Z Initial Value Yearlings



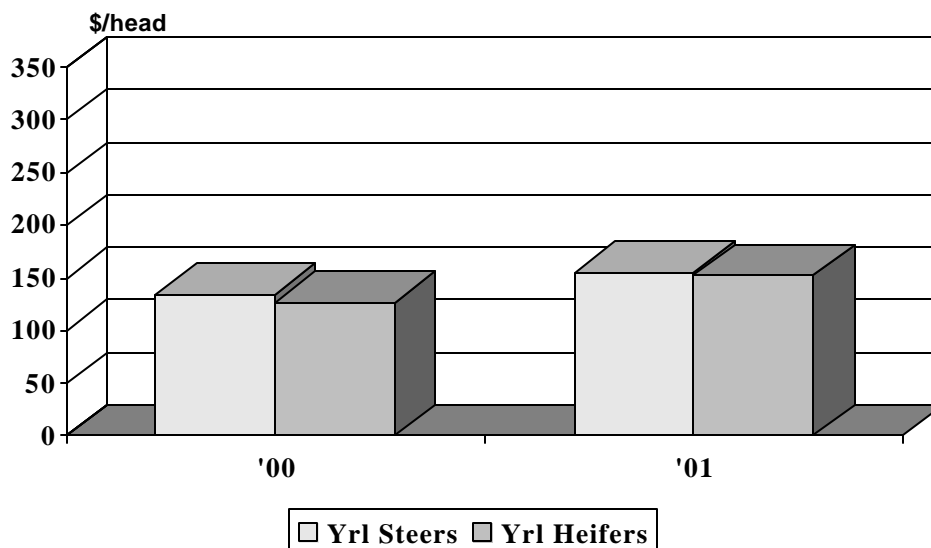
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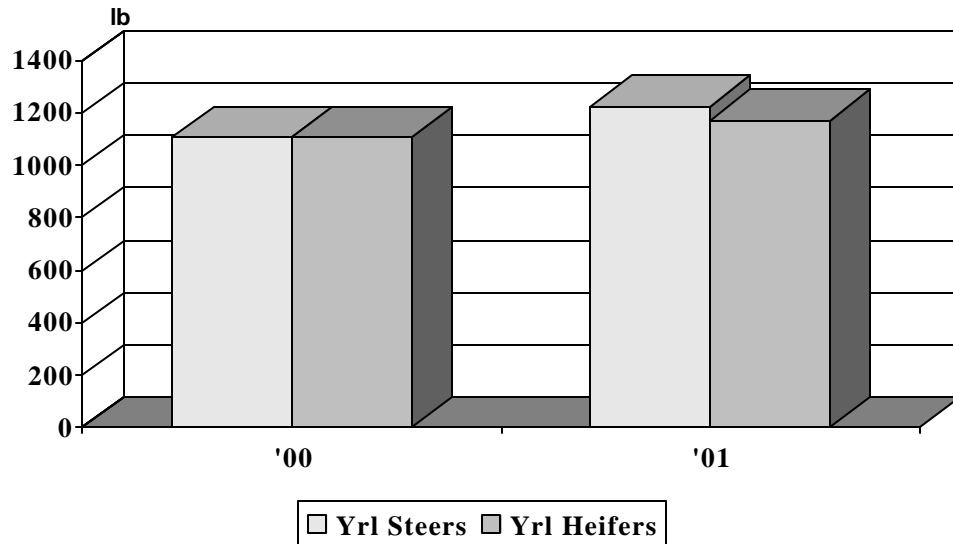
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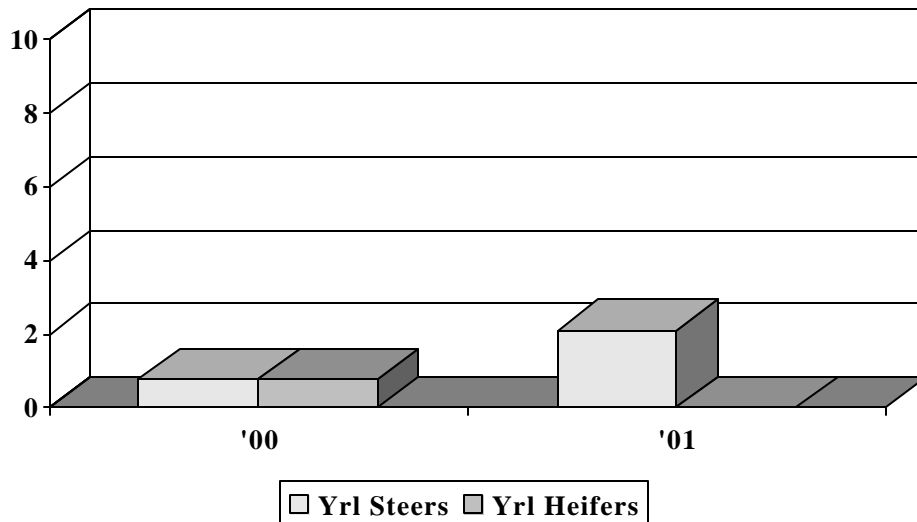
A to Z – Feed Cost Yearlings



A to Z Finished Weights Yearlings

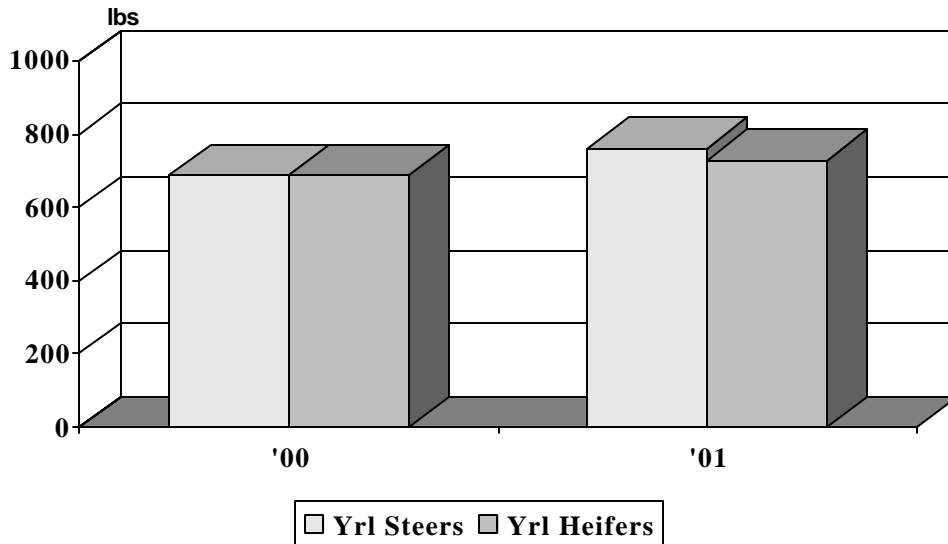


A to Z Death Loss (%) Yearlings



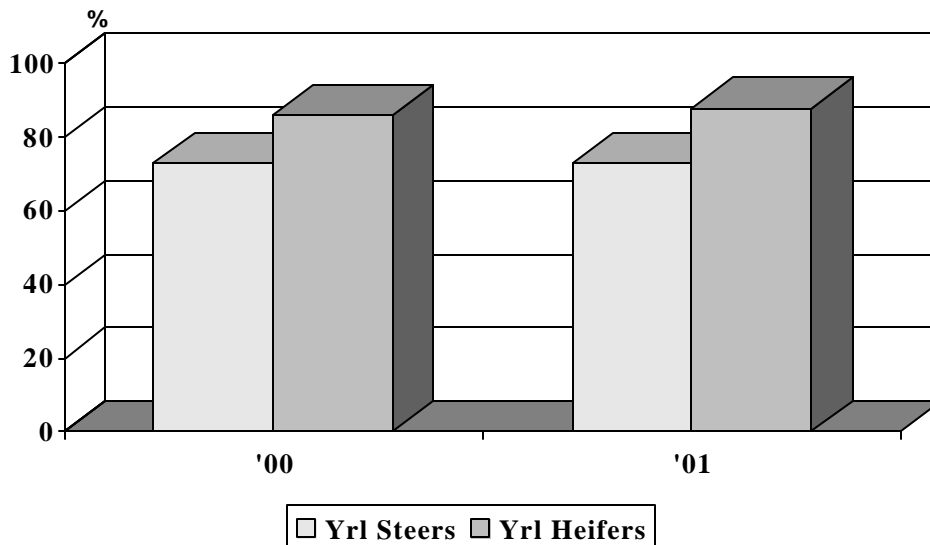
A to Z Carcass Weights

Yearlings



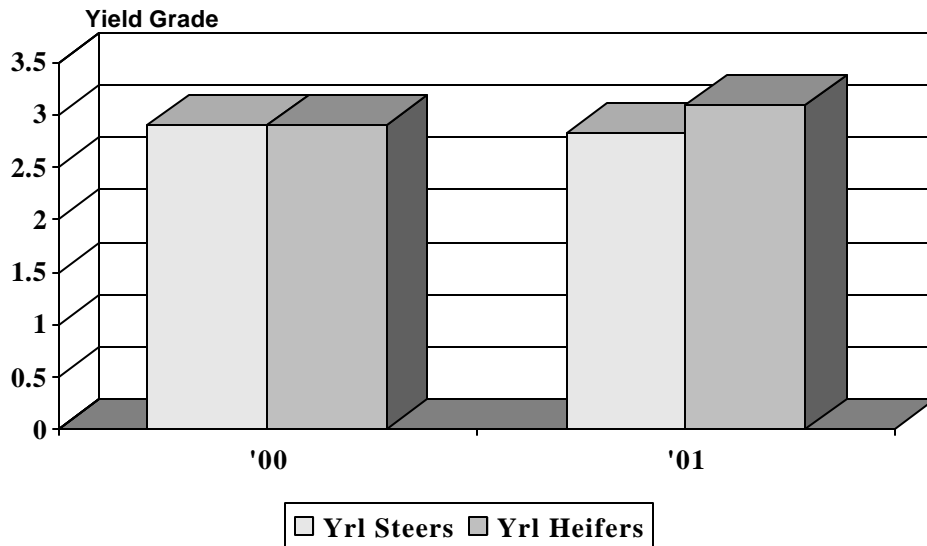
A to Z Quality Grade (% Ch and Pr)

Yearlings



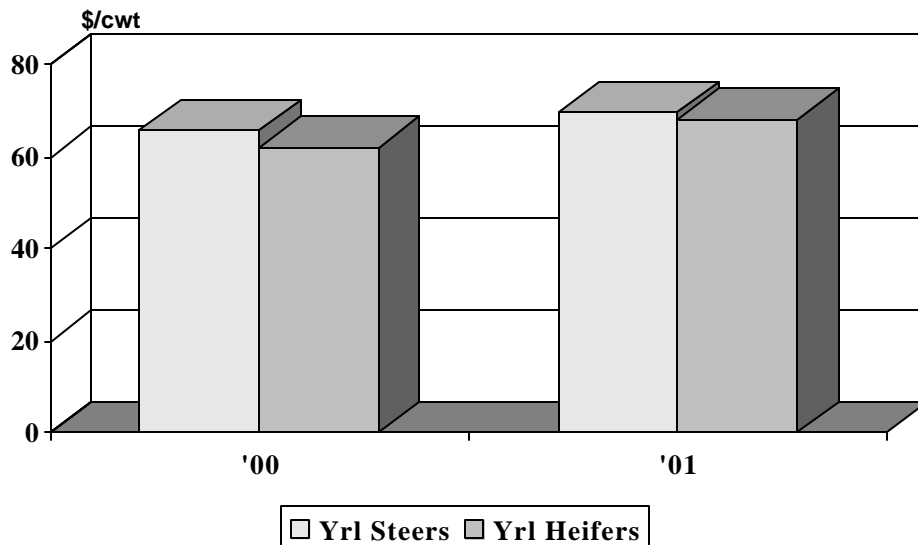
A to Z Yield Grades

Yearlings



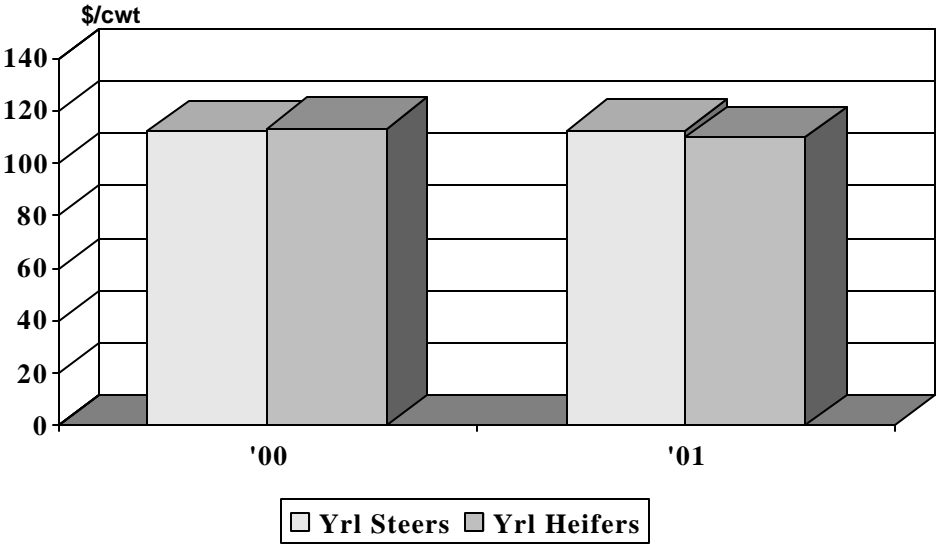
A to Z – Break-Even

Yearlings



A to Z Carcass Price

Yearlings



A to Z – Profit

Yearlings

