

A TO Z RETAINED OWNERSHIP COMPANY

1994 Year-End Summary

Introduction

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

Retained ownership of cattle through the finishing phase was not profitable during the 1993-94 program. A shortage of corn nationally caused increases in feeding costs and shifts in feeding rations to other feed grain sources. The cattle market remained strong through the fall of 1993, thus maintaining the high values of calves going into feeding programs and keeping opportunity/interest costs high through the 1994 feeding period. Finally, the bottom fell out of the fed cattle market in early 1994, due primarily to a seasonal increase in supply over earlier years. All of the factors together contributed to the losses approaching \$100 per head and these were experienced over much of the cattle feeding business in 1994.

The A to Z Retained Ownership Company in 1994 was no different than the national and regional trends mentioned earlier. The price of steers going into the program was \$86 per cwt, with a \$6 upward slide and \$3 downward slide. Using this actual market price scenario, initial values of the steers going into the feeding program averaged \$537 per head. The opportunity cost of not selling the calves at weaning (an interest expense tied directly with the initial value of the steers) averaged \$15 per head over the feeding period. Corn prices impacted A to Z cattle feeding by causing a shift to alternative concentrates (barley and wheat) in the feeding rations. This shift in concentrates did not impact animal performance as steers gained over 3.1 pounds per day and consumed 6.7 pounds of feed per pound of gain. Retained ownership losses averaged \$44 per head, significantly lower than popular press figures from the major cattle feeding states.

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 faculty during the fall of 1992.

Specific project objectives were to provide cattle producers with:

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

Program Formation

Initiation

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

Feedlot selection

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

Financing

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

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. The second year feeding phase involved 34 producers (primarily from southwestern Idaho) placing 285 head of preconditioned steers in the trial. Allied Industry representatives provided technical and financial support for the pre-weaning/receiving program. On February 9, 1994 a "Hedging and Options Workshop" was held for interested participants. A mid-year meeting with the producers was held February 10, 1994 at Bruneau to provide them with animal performance summary data and explore market situation, outlook, and alternatives. Cattle were finished and sold by Bruneau Cattle Company to Iowa Beef Processors (IBP) of Boise. Carcass data were gathered by U of I faculty for individual animals through the USDA grading system. Feedlot performance information, carcass data, and costs and returns were gathered throughout the program and summarized for each owner and the pen of cattle as a whole. These data formed the basis for the final educational program, conducted on June 15, 1994 in Fruitland. The meeting was attended by 25 of the 34 producers, and numerous other guests. Producers received animal performance (feedlot and carcass) data, as well as the proceeds from the sale of their cattle. All of the information was explained and evaluated during the educational session. In addition, a questionnaire was distributed to the participants in order to evaluate the program and make suggestions for future programs.

Data gathered during the project was tabulated in computerized format and analyzed using the SAS statistical package. Objectives of the analysis were to determine factors, such as carcass performance, market prices, and others, which influence retained ownership profitability.

Procedures

Thirty-four ranchers consigned 285 steers in increments of five head to the "A to Z Retained Ownership Company" program in October and November 1993. Steers selected were to weigh between 550 and 750 pounds upon arrival at the feedlot. Calves were to be dehorned, castrated, weaned by November 9, 1993 (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 19 or 20, 1993) 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, Smith Kline Beecham*) and 7-way blackleg and *H. somnus* (Ultrabac 7/Somubac, bacterin-toxoid, Smith Kline Beecham*). USDA eartags were placed in steers at the ranch. Owners provided breed-of-sire, breed-of-dam, weaning date and calving date information. Live animal shrunk weights were determined on an individual owner basis at central collection points prior to being delivered to the feedlot, or upon arrival at the feedlot.

Calves arrived and were weighed on a truckload basis at the feedlot on November 29 and 30, 1993. Overall transit shrink from the central collection points to the feedlot was calculated to be 4.22 percent. On December 4, 1993 calves were administered boosters to both vaccines, treated for internal and external parasites, including liver flukes (Ivomec-E, Merck Ag Vet*), tagged with a duplicate eartag for individual identification, measured for hip height, and implanted with a growth promotant (Ralgro, Pitman-Moore*). In addition all calves received a *Pasteurella haemolytica* (One-Shot, bacterin-toxoid Smith Kline Beecham*) vaccination at this time. A coccidiostat (Deccox, RHÔNE-POULENC*) was used in the receiving and start-up ration for 25 days.

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

Initial steer values were determined using a price of \$86.00 per hundred weight (cwt) for a 600 pound steer with a \$6.00 per cwt upward slide (i.e., a 500 pound steer would have a \$92.00 per cwt initial value) and a \$3.00 per cwt downward slide (i.e., a 700 pound steer would have a \$83.00 per cwt initial value). This value was taken from an electronic marketing service report for feeder steer prices for December 4, 1993. All owners shared death loss and health treatment costs with charges assessed on a per head basis. Costs associated with the loss of a steer were determined by summing the initial value of the steer and feedlot costs encumbered by that steer. The owner was reimbursed for the initial value of the particular steer lost.

Steers were individually weighed January 15, 1994 and placed on the finishing ration January 31, 1994. Dry matter intakes were determined on an individual owner basis for the receiving and start-up rations and on an individual steer basis 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 steers was determined using days on feed and visual observation as indicators of cattle reaching the choice quality grade by Bruneau Cattle Company personnel. Steers were slaughtered at Iowa Beef Processors (IBP) of Boise on April 29, 1994 (43 head), May 20, 1994 (128 head) and May 27, 1994 (107 head).

Carcass value was determined by the grade and yield method. Prices received are reported in Table 1. Market prices received in perspective to seasonal live prices for fed cattle in 1992 through 1994 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 steers on an individual owner basis was determined by subtracting feedlot costs (feed, yardage, processing, medicine, and interest), initial value of the steer, and opportunity costs on the initial value (6 percent interest on initial value for the duration of the feeding period) from the total carcass value of the steer (less transportation, brand inspection, and checkoff).

Results and Discussion

Animal Performance

Initial information on the pen of cattle is reported in Table 2. Fifteen different sire breeds were represented, with seven breeds having at least 10 steers in the program (Fig. 2). Of the fifteen breeds-of-sire, 44.0 percent of the steers would be from the more moderate British breed-type, and 50.7 percent would be considered larger framed continental breed-type, with 5.3 percent of unknown breeding. Average age of the steer calves entering the feedlot was 280 days (equaling a February 23, 1993 average calving date), with an initial weight of 630 pounds.

Steer performance for the start-up period, which lasted 46 days, is reported in Table 3. Steers averaged 740 pounds at the first weigh period (January 15, 1994). Performance averaged 2.40 pounds of gain per day, with feed efficiency of 8.46 pounds of feed (dry matter basis) per pound of gain. Average dry matter intake was 18.5 pounds per day. No steers died from delivery through the end of the start-up rations. Medical treatments during this period included 12 steers for respiratory complications and one castration. Average energy values for the receiving and start-up rations were 71.88 Mcal per cwt for NE_m and 45.98 Mcal per cwt for NE_g . With an average weight of 685 pounds during the start-up period, steers were consuming 2.7 percent of their body weight in dry matter.

Steer performance for the finishing period is reported in Table 4. Average finish weight of the 278 steers was 1,164 pounds, with steers consuming 22.0 pounds dry matter per day and gaining 3.42 pounds per day. Feed efficiency was 6.46 pounds of dry matter per pound of gain over the 125-day finish period. Death loss was 2.1 percent, as two steers died of respiratory complications, 2 from injury, 1 bloat and one unknown during the finishing phase. Medical treatments during this period included 12 steers for respiratory complications, 21 steers for coccidiosis and two miscellaneous treatments. Steers having to be "pulled" for medical treatment was 13 percent with 3.5 percent of the pen being "repulls" for at least a second treatment. Average energy values for the finishing ration were 98.00 Mcal per cwt for NE_m and 64.44 Mcal per cwt for NE_g , which were higher than values reported by the feedlot ($NE_m = 91.25$ Mcal per cwt and $NE_g = 60.71$ Mcal per cwt). It appears that some compensatory growth occurred during the finishing phase from the growing phase. With an average weight of 953 pounds during the finishing period, steers were consuming 2.3 percent of their body weight in dry matter. Steer performance for the combined start-up and finishing periods is reported in Table 5. Over the entire feeding period, steers gained 3.14 pounds per day, consuming 21.05 pounds of dry matter per day. Average feed efficiency was 6.71 pounds of dry matter per pound of gain and the average days on feed were 171 days.

Carcass data for the feedlot steers is reported in Table 6. Overall quality grading produced 1.1 percent Prime, 62.6 percent Choice, 35.2 percent Select and 1.1 percent Standard. While there was considerable extra carcass trim occurring on the kill floor during the processing of these steers, there were no substantial carcass discounts. One carcass was greater than 950 pounds, five were between 850 and 950 pounds, 19 were between 600 and 650 pounds, and four were less than 600 pounds. Nine carcasses were yield grade 4 and 19 were between 3.5 and 4.0. Eight carcasses had a ribeye areas less than 10 square inches, 44 were between 10 and 11.5 square inches and 37 were over 14.5 square inches. Four steers were docked a total of \$3.50 for pre-existing bruises. Discounts for these undesirable traits (quoted by IBP) were \$21.00 per cwt for carcasses greater than 980 pounds, \$16.00 per cwt for carcasses between 950 and 980 pounds, and \$8.00 per cwt for carcasses less than 550 pounds. Yield grade 4 and 5 carcasses were docked \$20.00 to \$24.00 per cwt. On a pen basis, these problems were infrequent and did not trigger any financial penalties. However, if carcasses were to be sold on a merit basis these type of discounts would be incurred. Calculations for cutability indicate the lean meat yield of the carcass. Carcass lean gain calculations indicate growth composition, or, how much of the average daily gain was purely muscle gain and not fat deposition.

The effect of breed-of-sire on feedlot performance is reported in Table 7. Breeds-of-sire represented by less than 10 head were combined into the "Other" breeds category. No statistical differences were detected for days on feed or feed efficiency between breeds-of-sire. Limousin-sired calves had faster average daily gains than Hereford, Salers and "Other" and greater dry matter intakes than Hereford, Angus and "Other". In addition, heavier, larger framed steers entering the feedlot tended to have higher average daily gains.

The effect of breed-of-sire on carcass performance is reported in Table 8. There were no detectable differences in quality grade between breeds-of-sire of these steers, as there was considerable variation both within and across sire breeds. Limousin-sired calves had greater hot carcass weights, ribeye areas cutability and lean gain per day, and lower yield grades than Hereford, Angus, and "Other". There were numerous smaller breed differences in carcass traits.

Costs and Returns

Costs associated with the custom feeding operation on a per steer and per pound of gain basis are reported in Tables 9 and 10. Processing, medicine, death loss and interest were assessed on a fixed basis and were the same for each steer. On a cost per pound of gain basis, these costs are lower for steers with higher average daily gains. Total feedlot costs per steer averaged \$384.75. Feed costs per pound of gain averaged \$0.43 and all expenses averaged \$0.57 per pound of gain.

The overall break-even prices and profitability of the feeding program are shown in Table 11. Keep in mind that profitability as represented here is for the feeding period only, it is not a net income value for that calf since the total annual cow costs are approximated with the initial value. Overall break even live price was \$73.60 per cwt and the average loss was \$43.20 per steer.

Factors that affected profitability (loss) were feedlot average daily gain, quality grade (choice vs. select), breed of sire and marketing date. These four factors alone accounted for 91.5 percent of the variation in profitability for the feeding phase. Quality grade and marketing date, when considered together, are the choice/select spread for carcass price over time. Select steers lost an average of \$29.23 more than Choice steers. Profitability of steers as affected by marketing date and quality grade are shown in Figure 3. With the rapidly declining price structure that occurred during the marketing period of the "A to Z" steers, the outdate of an individual owner's steers greatly affected profitability (loss). The relationship between average daily gain on profitability was not impacted by quality grade and is illustrated in Figure 4. On average steers had to gain at least 4.00 pounds per day in order to break-even. Steers that gained less than 2.00 pounds per day lost an average of \$100.00 or more. Breed-of-sire affected profitability during this project. Larger framed animals (Salers and Simmentals) had higher total costs than most other breeds in the trial, mainly due to higher feed intake (Table 12). Limousin- and Charolais-sired calves typically ranked at the top in terms of favorable profitability (loss), break even, and cost of gain. Final yield grade, kidney pelvic and heart fat, hot carcass weight, ribeye area and owner did not affect profitability. In fact, all of these variables combined would account for less than 9 percent of the variation in profitability observed in this feeding demonstration.

Summary

For the 1993-94 feeding program overall average daily gain of the steers was 3.14 pounds per day during the 171 day feeding period. Dry matter intake was 21.05 pounds per head daily, with a feed efficiency of 6.74 (pounds of feed per pounds of gain). Hot carcass weight was 735 pounds with 63.7 percent of the steers grading choice or higher. Breed differences accounted for some difference in feedlot and carcass performance, while variation within breed was still high. Losses averaged \$43.68 per steer with a live weight price of \$73.60 per cwt required to break-even. Marketing date, feedlot average daily gain, breed-of sire, and the choice/select spread accounted for most of the variation in profitability.

Overall the A to Z Retained Ownership Company program was a success as determined by a review of the summary questionnaires filled out by 25 of the 34 ranchers at the year-end meeting. Most of the respondents (96 percent) indicated satisfaction with the project and 41 percent of the ranchers were considering changing their ranching operation to adjust to the current market situation. Most all ranchers would participate in another demonstration project (85 percent). Producers offered several suggestions involving additional animal weights and tighter restrictions on the initial weight of steers entering the program which will be used in future retained ownership educational programs.

Literature Cited

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- Sims, D. D., A. G. Maddux, and J. Mintert. 1991. Kansas steer futurities: An analysis of the retained ownership program. Cooperative Extension Service Publication C-725, Manhattan, Kansas.
- Wagner, J. J., T. B. Goehring, D. L. Boggs, L. W. Insley, D. M. Feuz, G. E. Murra, D. E. Moore, and B. Knutson. 1992. South Dakota Retained Ownership Demonstration. Report 92-15. South Dakota State University Agricultural Experiment Station, Brookings.

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

Marketing date	Choice	Select
April 29, 1994	1.19	1.16
May 20, 1994	1.12	1.07
May 27, 1994	1.10	1.05

Table 2. Initial animal performance, receiving 11/30/93.

	No. of Steers	Mean	Minimum	Maximum	Std dev
Weight, lb	284	630	435	815	76
Hip height, in.	284	46.5	40.0	52.0	1.9
Frame score	284	5.4	2.1	8.1	1.0
Age, days	284	280	222	339	26
Initial value, \$/head ^a	284	\$536.82	\$411.09	\$648.33	\$46.38

^a Initial value of the steers was determined using the value of \$86.00 per cwt. for a 600 lb steer with a \$6.00 per cwt upward slide for steers < 600 lb and a \$3.00 per cwt downward slide for steers > 600 lb (i.e. a 500 lb steer would have a \$92.00 per cwt initial value and a 700 lb steer would have an \$83.00 per cwt initial value).

Table 3. Animal performance, receiving through start-up period (11/30/93 to 1/15/94).

	No. of Steers	Mean	Minimum	Maximum	Std dev
Weight, lb 1/15/94	284	740	513	950	84
Average daily gain, lb/day	284	2.40	.17	5.36	.86
Dry matter intake, lb ^a	284	18.5	8.0	38.7	4.96
Feed efficiency, lb feed DM/lb gain	284	8.46	5.79	50.59	4.02

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

Table 4. Animal performance, finishing period (1/15/94 to out-date).

	No. of Steers	Mean	Minimum	Maximum	Std dev
Finished weight, lb ^a	278	1167	832	1525	97
Days on feed	278	125	105	133	9.3
Average daily gain, lb/day	278	3.42	1.74	4.79	.53
Dry matter intake, lb ^b	278	22.0	12.10	34.70	3.35
Feed efficiency, lb feed DM/lb gain	278	6.46	5.38	8.61	.46

^a Calculated from hot carcass weight using a standard 63 percent dressing percentage.

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

Table 5. Animal performance, total feeding period (11/30/93 to out-date).

	No. of Steers	Mean	Minimum	Maximum	Std dev
Average daily gain, lb/day	278	3.14	1.64	4.44	.43
Days on feed	278	171	151	179	9.3
Dry matter intake, lb ^a	278	21.05	12.02	32.67	3.05
Feed efficiency, lb feed DM/lb gain	278	6.71	5.54	8.05	.46

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

Table 6. Animal performance, carcass data.

	No. of Steers	Mean	Minimum	Maximum	Std dev
Hot carcass weight, lb	278	735	524	961	61
Final yield grade	278	2.6	.3	4.5	.74
Ribeye area, sq. in.	278	13.04	7.6	17.8	1.60
Kidney, pelvic & heart fat, %	278	2.07	.5	3.0	.52
Adjusted back fat, in.	278	.42	.04	.84	.14
Marbling score ^a	278	6.27	2.0	15.0	2.26
Quality grade ^b	278	11.5	8.0	15.0	1.28
Cutability, % ^c	278	50.75	46.2	55.99	1.72
Carcass lean gain, lb/day ^d	278	1.02	.54	1.45	.14

^a Marbling score, 2 = Standard⁺, 3 = Select⁻, 4 = Select⁰, 5 = Select⁺, 6 = Choice⁻, 7 = Choice⁰, 8 = Choice⁺, 9 = Modest⁻, 10 = Modest⁰, 11 = Modest⁺, 12 = Moderate⁻, 13 = Moderate⁰, 14 = Moderate⁺.

^b Quality grade, 9 = Select⁻, 10 = Select⁰, 11 = Select⁺, 12 = Choice⁻, 13 = Choice⁰, 14 = Choice⁺.

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

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

Table 7. Effect of breed-of-sire on feedlot performance.^a

Breed-of-sire	No. of steers	Days on feed	Total average daily gain lb/day	Total dry matter intake lb/day	Feed efficiency lb feed/lb gain
Angus	75	170 ± 1	3.12 ^{cd} ± .05	20.8 ^c ± 0.3	6.7 ± .02
Charolais	24	174 ± 2	3.14 ^{cd} ± .11	21.0 ^{cd} ± 0.7	6.7 ± .05
Gelbvieh	10	178 ± 6	3.23 ^{cd} ± .28	21.9 ^{cd} ± 1.8	6.8 ± .11
Hereford	29	172 ± 2	3.06 ^c ± .08	20.5 ^c ± 0.5	6.7 ± .03
Limousin	26	172 ± 3	3.42 ^d ± .17	22.9 ^d ± 1.1	6.7 ± .07
Salers	19	177 ± 3	3.03 ^c ± .12	20.6 ^{cd} ± 0.8	6.8 ± .05
Simmental	52	173 ± 1	3.20 ^{cd} ± .06	21.4 ^{cd} ± 0.4	6.7 ± .03
Other ^b	43	169 ± 1	3.07 ^c ± .07	20.6 ^c ± 0.4	6.7 ± .03

^a Least-square Means followed by the standard error of the least-square mean.

^b Remaining breed-of-sires with less than 10 representatives/breed including Murray Grey, Brangus, Beefmaster, Red Angus, Shorthorn, South Devon and unknown.

^{cd} Means without a common superscript differ (P<.05).

Table 8. Effect of breed-of-sire on carcass performance.^a

Breed-of-sire	No. of steers	Hot carcass weight, lb	Quality grade ^b	Final yield grade	Ribeye area, sq in.	Cutability, % ^c	Carcass lean gain, lb/day ^d
Angus	75	727 ^{fg} ± 5	12.0 ± .14	2.9 ^f ± .14	12.6 ^f ± .16	50.1 ^f ± .16	.99 ^{fg} ± .02
Charolais	24	737 ^{fgh} ± 12	11.2 ± .32	2.2 ^h ± .16	13.5 ^{gh} ± .36	51.5 ^h ± .37	1.03 ^{fgh} ± .04
Gelbvieh	10	758 ^{fgh} ± 30	11.4 ± .80	2.6 ^{fh} ± .40	12.9 ^{fg} ± .90	50.6 ^{fh} ± .92	1.04 ^{fgh} ± .09
Hereford	29	728 ^{fg} ± 9	11.2 ± .24	3.0 ^f ± .12	12.2 ^f ± .27	49.9 ^f ± .27	.97 ^f ± .03
Limousin	26	764 ^h ± 17	11.8 ± .47	2.2 ^h ± .23	14.3 ^g ± .52	51.6 ^h ± .54	1.13 ^h ± .05
Salers	19	732 ^{fgh} ± 13	10.9 ± .34	2.5 ^{gh} ± .17	12.9 ^{fh} ± .38	51.0 ^{gh} ± .39	.98 ^{gh} ± .048
Simmental	52	742 ^{gh} ± 7	11.5 ± .18	2.5 ^h ± .09	13.3 ^{gh} ± .20	51.0 ^h ± .21	1.04 ^h ± .02
Other ^e	43	722 ^f ± 7	11.3 ± .20	2.9 ^{fg} ± .10	12.5 ^f ± .22	50.2 ^{fg} ± .22	.98 ^{fg} ± .02

^a Least-square means followed by the standard error of the least-square mean.

^b Quality grade, 9 = Select⁻, 10 = Select⁰, 11 = Select⁺, 12 = Choice⁻, 13 = Choice⁰, 14 = Choice⁺.

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

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

^e Remaining breed-of-sires with less than 10 representatives/breed including Murray Grey, Brangus, Beefmaster, Red Angus, Shorthorn, South Devon and unknown.

^{fgh} Means without a common superscript differ (P<.05).

Table 9. Costs associated with custom feeding on a \$ per steer basis.

	No. of Steers ^a	\$/Steer			
		Mean	Minimum	Maximum	Std dev
Total feed ^b	278	\$306.27	\$212.43	\$454.46	\$33.17
Yardage ^c	278	\$34.29	\$30.20	\$35.80	\$1.87
Processing ^d	278	\$7.47	\$7.47	\$7.47	
Medicine ^d	278	\$2.01	\$2.01	\$2.01	
Death loss	278	\$16.16	\$16.16	\$16.16	
Interest ^{de}	278	\$3.55	\$3.55	\$3.55	
Opportunity ^f	278	\$15.10	\$12.101	\$18.67	\$1.34

^a Six steers died while on the finishing ration.

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

^c Yardage costs were \$.20 per steer each day.

^d Fixed cost shared by owners on a per steer basis.

^e Feeding period financing costs, including interest at 8.5 percent and a loan origination fee.

^f Opportunity cost was calculated at 6 percent interest on the initial value of each steer for the duration of the feeding period.

Table 10. Costs associated with custom feeding on a \$ per lb of gain basis.

	No. of Steers ^a	\$/lb of Gain			
		Mean	Minimum	Maximum	Std dev
Total feed ^b	278	\$.430	\$.360	\$.510	\$.029
Yardage ^c	278	\$.065	\$.045	\$.122	\$.001
Processing ^d	278	\$.014	\$.009	\$.025	\$.002
Medicine ^d	278	\$.004	\$.003	\$.007	\$.001
Death loss ^d	278	\$.031	\$.020	\$.055	\$.005
Interest ^{de}	278	\$.007	\$.005	\$.012	\$.001
Opportunity ^f	278	\$.029	\$.019	\$.053	\$.005
Total cost of gain	278	\$.573	\$.480	\$.750	\$.040

^a Two of the steers died while on the finishing ration and one steer was held over for drug withdrawal.

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

^c Yardage costs were \$.20 per steer each day.

^d Fixed cost shared by owners on a per steer basis.

^e Feeding period financing costs, including interest at 8.5 percent and a loan origination fee.

^f Opportunity cost was calculated at 6 percent interest on the initial value of each steer for the duration of the feeding period.

Table 11. Breakeven price and profitability associated with custom feeding.

	No. of Steers ^a	Mean	Minimum	Maximum	Std dev
Break even price, \$/cwt	278	\$73.60	\$68.04	\$83.65	\$2.33
Profit/(Loss), \$/steer	278	(\$43.68)	(\$157.42)	62.10	\$37.20

^a Six steers died while on the finishing ration.

Table 12. Effect of breed-of-sire on costs and profitability.^a

Breed-of-sire	No. of steers	Total costs \$/steer	Break even price, \$/cwt	Cost/lb of gain \$/lb	Profit/(Loss) \$/steer
Angus	75	\$849.90 ^e ± \$7.20	\$73.77 ^{de} ± .10	\$.60 ^{de} ± \$.004	(\$38.92) ^d ± \$1.44
Charolais	24	\$822.15 ^{cd} ± \$11.90	\$73.41 ^{cd} ± .17	\$.59 ^{cd} ± \$.006	(\$33.30) ^{ef} ± \$2.38
Gelbvieh	10	\$862.20 ^{def} ± \$18.20	\$73.72 ^{ceg} ± .25	\$.61 ^{df} ± \$.010	(\$39.52) ^{de} ± \$3.63
Hereford	29	\$864.45 ^{eh} ± \$10.97	\$73.88 ^{ef} ± .15	\$.61 ^{ef} ± \$.006	(\$39.42) ^d ± \$2.19
Limousin	26	\$801.71 ^c ± \$11.67	\$73.19 ^c ± .16	\$.58 ^c ± \$.006	(\$29.37) ^f ± \$2.33
Salers	19	\$888.89 ^{ghi} ± \$13.47	\$74.30 ^{fg} ± .19	\$.62 ^f ± \$.007	(\$49.71) ^d ± \$2.69
Simmental	52	\$872.11 ^{ghi} ± \$8.21	\$73.99 ^{ef} ± .11	\$.61 ^f ± \$.004	(\$41.62) ^c ± \$1.64
Other ^b	43	\$870.19 ^{ei} ± \$8.75	\$74.19 ^{fg} ± .12	\$.62 ^f ± \$.005	(\$42.77) ^d ± \$1.75

^a Least-square means followed by the standard error of the least-square mean.

^b Remaining breed-of-sires with less than 10 representatives/breed including Murray Grey, Brangus, Beefmaster, Red Angus, Shorthorn, South Devon and unknown.

^{cdefghi} Means without a common superscript differ (P<.05).

APPENDIX

Ranchers

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

Larry/Shari Adkins
2377 S Grays Ck Road
Indian Valley, ID 83632
208-256-4366

Vic Armacost
P O Box 219
New Meadows, ID 83654
208-347-2336

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

Merrell Childers
2096N Galena Rd
Council, ID 83612
208-253-4319

Bill Copher
2490 Cemetery Lane
Council, ID 83612
208-253-4283

Larry Derie
2205 Jackson Creek Road
Council, ID 83612
208-253-6068

Marshall Dryden
P O Box 312
New Meadows, ID 83654
208-347-2445

Larry & Penny Fisk
P O Box 91
Fruitvale, ID 83620
208-253-6073

Bob German
1752E 2350S
Gooding, ID 83330
208-934-5568

Ross Goddard
Star Route
Mackay, ID 83251
208-588-2514

Mac Gossard
2694 Upperdale Rd
Council, ID 83612
208-253-4318

Jack Harrop
HC 60, Box 240
Moore, ID 83255
208-554-4641

Jim Hastie
P O Box 444
Council, ID 83612
208-253-6402

Jerry Hoagland
HC 79, Box 44
Melba, ID 83641
208-495-2810

Sandy James
P O Box 413
Council, ID 83612

Linda Jensen
P O Box 4
Glenns Ferry, ID 83623
208-366-2670

Dan C Keetch
166 Keetch Road
Montpelier, ID 83254
208-847-2242

Doug Kessler
P O Box 684
Council, ID 83612
208-253-4556

Brad Little
Box 205
Emmett, ID 83617
208-365-4611

Jim Little
P O Box 68
Emmett, ID 83617
208-365-2220

Lloyd Noe & Sons
6601 W Dickman Rd
Melba, ID 83641
208-495-2885

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

Pratt Hereford Ranch
HC 66, Box 477
Kooskia, ID 83539
208-926-7710

Jack Rubelt
2280 Old Hornet Rd
Council, ID 83612
208-253-6963

Royce/Bob Schwenkfelder
3381 Schwenkfelder
Cambridge, ID 83610
208-257-3591

Douglas M Scism
P O Box 99
Fruitvale, ID 83620
208-253-6023

Ken Seid
Route 1, Box 58
Midvale, ID 83645
208-355-2339

Jack Shaffer
P O Box 32
Indian Valley, ID 83632
208-256-4330

Howard Sutton
2660 Farm To Market
Midvale, ID 83645
208-355-2450

Ranchers -- Continued

Steve Sutton
HC 70 Box 2454
Midvale, ID 83645
208-355-2311

Victor Ward/Peggy Haren
P O Box 77
Indian Valley, ID 83632
208-256-4496

Jay & Cindi Wilde
Route 1
King Hill, ID 83633
208-366-2904

Mark Yates
2502 Cemetery Lane
Council, ID 83612
208-253-6053

Producer Steering Committee

Larry Adkins
Ferrell Crossley

Larry Derie
Mike Paradis

Participating Feedlot

Bruneau Cattle Company
HC 85 Box 138
Bruneau, Idaho 83604
Eric Davis, Manager (208) 845-2762

Allied Industry Technical and Financial Support

Mike Mogensen
Merck AgVet Division, Merck & Co., Inc.
114 E. Cayman Dr
Meridian, Idaho 83642
(208) 888-3595

Clyde Olsen
SmithKline Beecham, Animal Health
2070 N Scioto Place
Meridian, Idaho 83642
(208) 887-6204

Pat Moran
Pitman-Moore.
474 Ranch Drive
Eagle, Idaho 83616
(208) 939-6031

Mike Schnabel
RHÔNE-POULENC Animal Nutrition N.A.
700 E 2226 S
Bountiful, Utah 84010
(801) 292-3644

Participating Lending Institutions

Idaho State Bank
Cambridge, Idaho

Feedlot Veterinarian

Lloyd Knight, DVM
Knight Veterinary Clinic
P.O. Box 603
Mountain Home, Idaho 83647
(208) 587-7941

Packing Industry Representative

Larry Roberts, Head of Sales
Iowa Beef Processors (IBP)
P. O. Box 9346
Boise, Idaho 83707
(208) 345-6660

University Faculty

Will Cook
Gem County Livestock Agent
2199 S Johns
Emmett, Idaho 83617

Fred Edmiston
Washington County Livestock Agent
485 E 3rd
Weiser, Idaho 83672
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Chad Gibson
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Fig. 1. Fed Steer Prices

January 1992 - Current

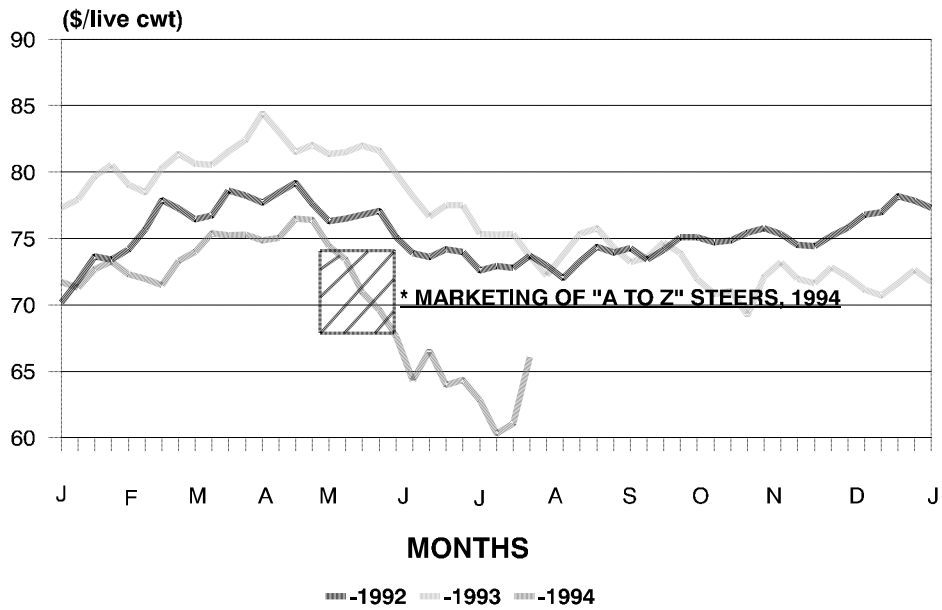


Fig. 2. A To Z Retained Ownership. Breed-of-sire

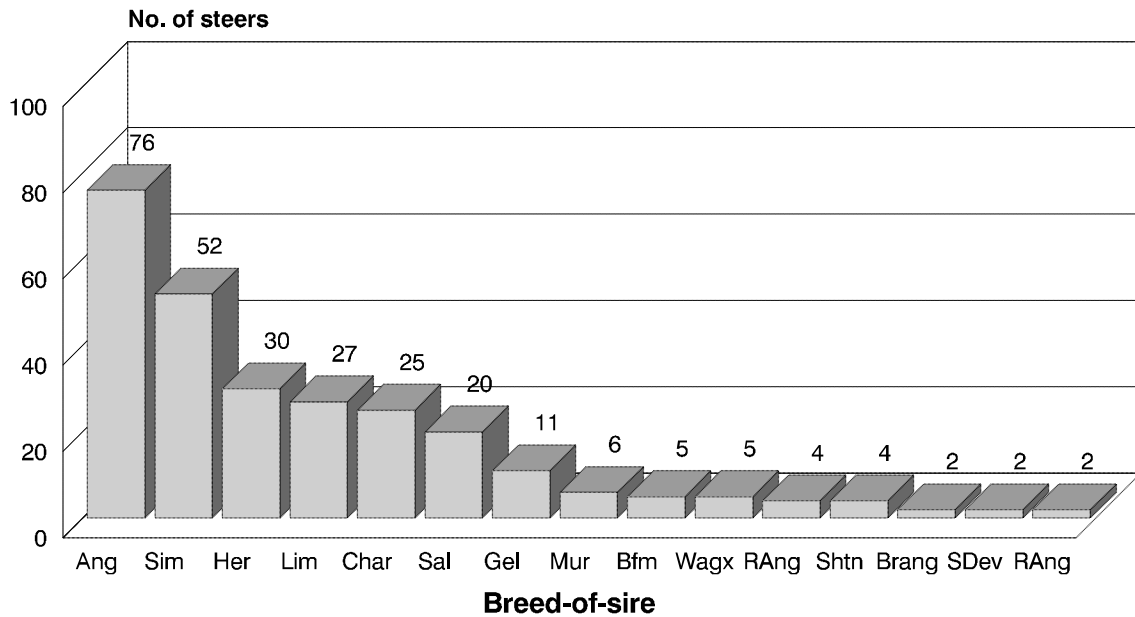


Fig. 3. Effect of quality grade and market date on profitability

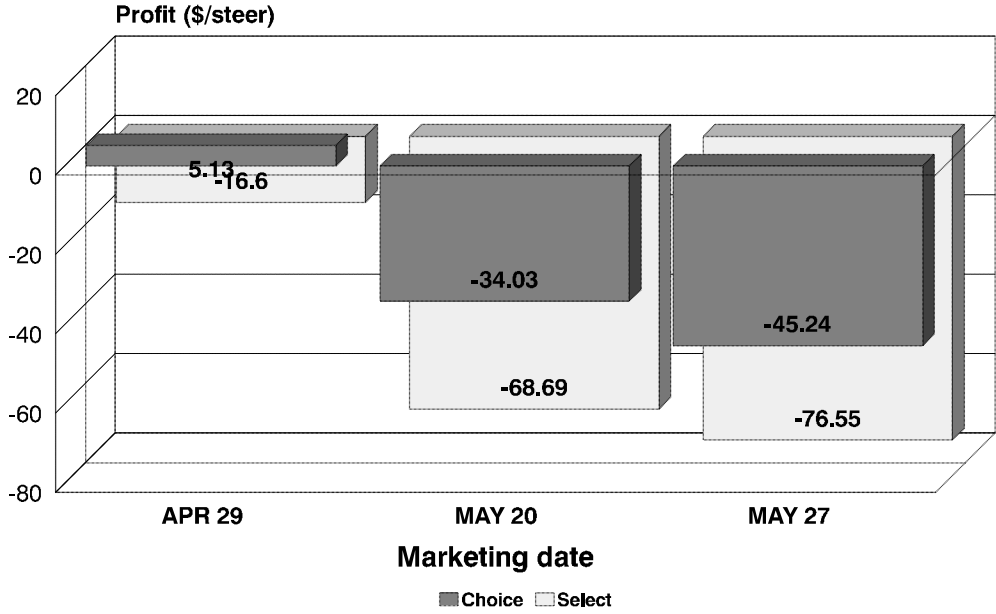


Fig. 4. Effect of average daily gain on profitability

