

# **A to Z Retained Ownership Company**

## **1993 Year-end Summary**

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### **INTRODUCTION**

Cattle production in the Intermountain West is dominated by ranches producing weaned calves, which are generally sold to other parties for further steps in the beef production process. The forage base and environmental conditions of the area usually dictate a management system of spring calving, summer breeding and fall weaning and sale of calves. Many cow-calf producers have no idea of the quality of their cattle as they proceed through the feeding and slaughter stages of the beef production process.

Marketing alternatives for cow-calf producers are fairly limited given the nature of production and availability of animals throughout the year. Supply and demand determine market prices and obviously affect profit levels for individual ranchers. Calf prices in the spring are usually relatively high, while fall prices are usually at the low point of the year (Figure 1). Again, the annual production cycle of cattle ranches means a lack of calves in the spring coupled with a demand for grass calves and an abundance of weaned calves in the fall destined for feedlots, backgrounding operations and other markets. Many producers have explored and used backgrounding, producing yearling cattle and other management strategies to enhance profitability. Few ranchers have looked into the possibility of retaining ownership of cattle through the feeding and slaughter phases of beef production. With new methods available for estimating potential return and risk on retained ownership programs (Marousek et al., 1992), ranchers can evaluate alternative management and marketing methods in order to make informed decisions.

### **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 during the fall of 1992.

Specific project objectives were to provide cattle producers with:

- 1) a process for selection of a custom feedlot.
- 2) a process for selection of 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 Spring of 1992. A review of other retained ownership programs (Sims et al., 1991; Wagner et al., 1992) was conducted by University of Idaho faculty. A small group of producers was asked to form a Steering Committee, which set up the basic ground rules for the program and agreed to make initial decisions in devising the program.

### *Feedlot selection*

Preliminary work involved surveys of five feedlots on their management, feeding and billing programs. This survey was conducted by U of I faculty, 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 was selected as the custom feedlot for the retained ownership trial.

### *Financing*

In terms of financing the feeding program, a similar approach was followed. University of Idaho faculty surveyed four lending institutions concerning terms and conditions of a feeding program loan. Several banks would require additional steps in order for the cooperative to secure financing. These steps included the necessity to have a producer/lender-signed form specifying that the cattle were lien-free, the necessity of an additional lien to the prospective lender, the creation of a non-profit corporation and others. After much consideration and debate by the Steering Group, Idaho State Bank in Cambridge was selected. Weiser River Cattlemen's Association agreed to allow A to Z Retained Ownership Company use their non-profit organizational status for the umbrella to run the trial and secure financing.

### *Program Design*

Once the feedlot was selected and financing secured, the feeding program was set 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 custom feedlot. At the second of these meetings a preconditioning program was designed by the feedlot's consulting veterinarian. The feeding phase involved 31 producers (primarily from southwestern Idaho) with 200 head of pre-conditioned steers. Technical and financial support for the pre-weaning/receiving program were provided by Allied Industry representatives. A mid-year meeting with the producers was held February 2, 1993 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 for individual animals through the USDA Grading System. Feedlot performance information, carcass data and costs and returns were gathered throughout the program and summarized by owner and by pen. This data formed the basis for the final educational program, conducted on June 10, 1993 in Fruitland. The meeting was attended by 29 of the 31 producers, guests and others. Producers received animal performance (feedlot and carcass) data, as well as their final paycheck. All of the information was explained and evaluated during a short 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 which influence retained ownership profitability, breed differences, carcass performance and others.

## **PROCEDURES**

Thirty-one ranchers consigned 200 steers in increments of 5 head to the "A to Z Retained Ownership Company" program in October and November 1992. Steers were selected to weigh between 550 to 750 pounds upon arrival at the feedlot. Calves were dehorned, castrated, weaned at least 21 days (by November 10, 1992) 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, 1992) prior to receiving their booster shots at the feedlot. Initial vaccinations included Lepto-5 (bacterin), IBR, BVD (killed vaccine), PI<sub>3</sub> (heat sensitive) and BRSV (modified live vaccine) (CattleMaster 4+L5, Smith Kline Beecham\*) and 7-way blackleg and *H. somnus* (Ultrabac 7/Somubac, Smith Kline Beecham\*). USDA eartags were placed in steers at the ranch. Breed-of-sire and calving date information was provided by the owners. Live animal shrink weights were determined, on an individual owner basis, at central collection points prior to being delivered to the feedlot.

Calves were received and weighed on a truckload basis at the feedlot on December 1 and 2, 1992. Overall transit shrink from the central collection points to the feedlot was calculated to be 3.68%. On December 4, 1992 calves were administered boosters to both vaccines, treated for internal and external parasites, including liver flukes (Ivomec-F, Merck Ag Vet\*), tagged with a duplicate eartag for individual identification, measured for hip height and implanted with a growth promotant (Ralgro, Pitman-Moore\*). A coccidiostat (DECCOX, RHÔNE-POULENC\*) was used in the receiving and start-up ration for 25 days.

Initial value of the steers was determined using the value of \$85.00/cwt for a 700 lb steer with a \$4.00/cwt slide (i.e. a 600 lb steer would have a \$89.00/cwt initial value, 750 lb steer would have an initial value of \$83.00/cwt, etc.). This value was taken from an electronic marketing service report for feeder steer prices for December 5, 1992. Death loss and health treatment costs were shared by all owners and charges were 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 that was lost.

Steers were individually weighed on January 13, 1993 and placed on a finishing ration on January 18, 1993. 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 and gain equations of Owens et al., 1984. 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, Boise) on April 23, 1993 (41 head), May 7, 1993 (42 head), May 15, 1993 (48 head), May 22, 1993 (66 head) and May 28, 1993 (1 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 1993 are reported in Figure 2. 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 % interest on initial value for the duration of the feeding period) from the total carcass value of the steer (less transportation, brand inspection and check-off).

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\* (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)

## RESULTS AND DISCUSSION

### *Animal Performance*

Initial information on the pen of cattle is reported in Table 2. Fifteen different sire breeds were represented, with 6 breeds having at least 10 steers in the program (Figure 3). Of the fifteen breeds-of-sire 39.8% of the steers would be of the more moderate British breed-type and 60.2% would be considered larger framed continental breed-type. Average age of the steer calves entering the feedlot was 277 days, equaling a March 1, 1992 average calving date, with an initial weight of 653 pounds.

Steer performance for the start-up period, which lasted 42 days, is reported in Table 3. Steers averaged 773 pounds at the first weigh period (January 13, 1993). Performance averaged 2.86 lbs/day, with feed efficiency of 7.28 lbs of feed/lb of gain. Average dry matter intake was 20.7 lbs/day. No steers died from delivery through the end of the start-up rations. Medical treatments during this period included 10 steers for respiratory complications and 6 steers for foot problems. Average energy values for the receiving and start-up rations were 73.88 mcal/cwt for  $NE_m$  and 47.88 mcal/cwt for  $NE_g$ . With an average weight of 713 lb during the start-up period, steers were consuming 2.9% of their body weight in dry matter.

Steer performance for the finishing period is reported in Table 4. Average finish weight of the 198 steers was 1,164 lbs, with steers consuming 22.6 lbs of dry matter per day and gaining 3.31 lbs/day. Feed efficiency was 6.86 lbs of feed/lb of gain over the 119 day finish period. Death loss was 1.0% as two steers died of respiratory complications during the finishing phase. Medical treatments during this period included 7 steers for respiratory complications, 2 steers for polio, 1 castration and 2 steers for miscellaneous treatments. Average energy values for the finishing ration were 94.92 mcal/cwt for  $NE_m$  and 62.80 mcal/cwt for  $NE_g$  which were very close to the values reported by the feedlot ( $NE_m = 93.9$  mcal/cwt and  $NE_g = 62.35$  mcal/cwt). With an average weight of 968 lb during the finishing period, steers were consuming 2.3% 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 program, steers gained 3.19 pounds per day, consuming 22.1 lbs of dry matter per day. Average feed efficiency was 6.94 lbs of feed/lb of gain and the average days on feed were 161 days.

Carcass data for the feedlot steers is reported in Table 6. Overall 59.7% (138 out of 198) of the steers graded choice with the remainder grading select. While there was some extra carcass trim occurring on the kill floor during the processing of these steers, there were no substantial carcass discounts. Two carcasses were over 950 lb, 4 were under 600 lb, 8 carcasses were yield grade 4 and one had a ribeye less than 10 sq. in. Discounts for these undesirable traits (quoted by IBP) were \$10.00 - \$12.00/cwt for 950 lb or heavier carcasses, \$20.00 - \$26.00/cwt for 600 lb or lighter carcasses and \$10.00 - \$12.00/cwt for yield grade 4 carcasses. On a pen basis, these problems were infrequent and did not trigger any financial penalties. Calculations for cutability are an indication of the lean meat yield of the carcass. Carcass lean gain calculations are an indication of composition of growth, that is 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" category. No differences were detected for average daily gain between breeds-of-sire. However, heavier, larger framed steers entering the feedlot tended to have higher average daily gains. Considerable variation existed within each breed for average daily gain and therefore numerical differences between breeds are

not significantly different. Steers sired by Simmental bulls in this trial were on feed for fewer days than the rest of the cattle. This is primarily due to the heavier initial weights of the Simmental steers entering the feedlot. Simmental steers averaged 754 lb entering the feedlot, or 91 pounds over the pen average. As expected, heavier, larger framed steers had higher calculated dry matter intakes. In addition, Charolais, Limousin and Simmental sired steers consumed more feed than the steers combined in the other category. Lighter weight steers entering the feedlot were more efficient in converting feed to gain than heavier steers, especially during the receiving and start-up period. Feed efficiency was not affected by breed-of-sire.

The effect of breed-of-sire on carcass performance is reported in Table 8. There were no detectable differences in carcass traits between breeds-of-sire of these steers. Again, there was considerable variation both within and across sire breeds. Carcass lean gain (lb/day) tended to be higher for heavier, larger framed steers entering the feedlot.

### Economics

Costs associated with the custom feeding operation on a per steer and per lb of gain basis are reported in Tables 9 and 10. Processing, medicine, death loss and interest were assessed on a fixed basis and therefore were the same for each steer. On a cost per lb of gain these costs are lower for steers with higher average daily gains.

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.

Factors that affected profitability were feedlot average daily gain, quality grade (choice vs. select), and marketing date. These three factors alone accounted for 95.5% of the variation in profitability for the feeding phase. Quality grade and marketing date, when considered together, are basically the choice/select spread for carcass price over time. The difference in profitability between choice and select steers was over \$80.00/head on May 14 when the choice/select spread was \$11.00/carcass cwt. Profitability of steers as affected by marketing date and quality grade are shown in Figure 4. The relationships between average daily gain and quality grade on profitability are illustrated in Figure 5. Select steers had to gain at least 2 lb/day in order to break-even, while choice steers had to gain at least 1.5 lb/day. The difference in profitability between choice and select steers gaining 3 lb/day was approximately \$65.00/head. Final yield grade, kidney pelvic and heart fat, hot carcass weight, ribeye area, breed of sire and owner did not affect profitability. In fact, all of these variables combined would account for less than 5% of the variation in profitability that was observed in this feeding demonstration.

### **SUMMARY**

For the 1992-93 feeding program overall average daily gain of the steers was 3.19 lb/day during the 161 day feeding period. Dry matter intake was 22.1 lb/day with a feed efficiency of 6.94 (lb of feed/lb of gain). Hot carcass weight was 733 lb with 59.7% of the steers grading choice. Breed differences were relatively minor in respect to feedlot and carcass performance. Profitability averaged \$95.03/steer with a live weight price of \$73.65/cwt required to break-even. Feedlot average daily gain and the choice/select spread across the different marketing dates accounted for most of the variation in profitability. Again breed-of-sire had little affect on 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 29 of the 31 ranchers at the

year-end meeting. Several suggestions involving additional animal weights and tighter restrictions on the initial weight of steers entering the program were made by producers and will be used for future retained ownership educational programs.

#### **LITERATURE CITED**

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Table 1. Carcass Prices (\$/lb) Received by Quality Grade and Marketing Date.

Marketing date	Choice	Select
April 23	1.32	1.28
May 7	1.32	1.26
May 15	1.34	1.23
May 22 and 28	1.33	1.24

Table 2. Initial Animal Performance, Receiving 12/1/92.

	No of Steers	Mean	Minimum	Maximum	Std Dev
Weight, lb	200	653	450	992	101
Hip height, in.	200	47.0	43.3	51.5	1.9
Frame score	200	5.6	3.3	8.1	1.0
Age, days	200	277	180	367	27
Initial value, \$/head <sup>a</sup>	200	563.34	427.28	727.26	59.94

<sup>a</sup> Initial value of the steers was determined using the value of \$85.00/cwt. for a 700 LB steer with a \$4.00/cwt. slide (i.e. a 600 LB steer would have a \$89.00/cwt. initial value, 750 LB steer = \$83.00, etc....).

Table 3. Animal Performance, Receiving through Start-up Period (12/1/92 to 1/13/93).

	No. of Steers	Mean	Minimum	Maximum	Std Dev
Weight, lb 1/13/93	200	773	515	1059	102
Average daily gain, lb/day	200	2.86	1.95	3.83	.43
Dry matter intake, lb <sup>a</sup>	200	20.7	13.7	30.1	3.2
Feed efficiency, lb feed/lb gain	200	7.28	5.53	9.44	.85

<sup>a</sup> 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 (1/13/93 to Out-date).

	No. of Steers	Mean	Minimum	Maximum	Std Dev
Finished weight, lb <sup>a</sup>	198	1164	860	1583	122
Days on feed	198	119	101	136	10.8
Average daily gain, lb/day	198	3.31	1.13	4.84	.62
Dry matter intake, lb <sup>b</sup>	198	22.6	11.5	35.3	4.3
Feed efficiency, lb feed/lb gain	198	6.86	5.65	11.33	.70

<sup>a</sup> Calculated from hot carcass weight using a standard 63 % dressing percentage.

<sup>b</sup> 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 (12/1/92 to Out-date).

	No. of Steers	Mean	Minimum	Maximum	Std Dev
Average daily gain, lb/day	198	3.19	1.60	4.39	.49
Days on feed	198	161	143	178	10.8
Dry matter intake, lb <sup>a</sup>	198	22.1	13.81	33.54	3.62
Feed efficiency, lb feed/lb gain	198	6.94	5.76	9.87	.64

<sup>a</sup> 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	198	733	542	997	77
Final yield grade	198	2.8	1.3	4.8	.6
Ribeye area, sq. in.	198	12.36	11.5	16.7	1.48
Kidney, pelvic & heart fat, %	198	2.0	.5	3.0	.59
Adjusted back fat, in.	198	.43	.20	.80	.12
Marbling score <sup>a</sup>	198	5.8	3.0	14.0	1.9
Quality grade <sup>b</sup>	198	11.4	9.0	14.0	1.2
Cutability, % <sup>c</sup>	198	50.3	45.5	53.8	1.5
Carcass lean gain, lb/day <sup>d</sup>	198	1.02	.53	1.38	.16

<sup>a</sup> Marbling score, 2 = Standard<sup>+</sup>, 3 = Select<sup>-</sup>, 4 = Select<sup>0</sup>, 5 = Select<sup>+</sup>, 6 = Choice<sup>-</sup>, 7 = Choice<sup>0</sup>, 8 = Choice<sup>+</sup>, 9 = Modest<sup>-</sup>, 10 = Modest<sup>0</sup>, 11 = Modest<sup>+</sup>, 12 = Moderate<sup>-</sup>, 13 = Moderate<sup>0</sup>, 14 = Moderate<sup>+</sup>.

<sup>b</sup> Quality grade, 9 = Select<sup>-</sup>, 10 = Select<sup>0</sup>, 11 = Select<sup>+</sup>, 12 = Choice<sup>-</sup>, 13 = Choice<sup>0</sup>, 14 = Choice<sup>+</sup>.

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

<sup>d</sup> 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.<sup>a</sup>

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	39	162 <sup>c</sup> ± 2	3.09 ± .08	21.4 <sup>ef</sup> ± .5	7.0 ± .05
Charolais	20	161 <sup>c</sup> ± 4	3.38 ± .18	23.0 <sup>e</sup> ± 1.1	6.8 ± .12
Hereford	27	166 <sup>c</sup> ± 3	2.95 ± .14	20.8 <sup>ef</sup> ± .8	7.1 ± .09
Limousin	16	162 <sup>c</sup> ± 4	3.31 ± .15	22.7 <sup>e</sup> ± .9	6.8 ± .10
Salers	10	164 <sup>c</sup> ± 6	3.18 ± .25	21.7 <sup>ef</sup> ± 1.5	6.9 ± .16
Simmental	32	148 <sup>d</sup> ± 2	3.20 ± .13	22.2 <sup>e</sup> ± .8	6.9 ± .08
Other <sup>b</sup>	53	162 <sup>c</sup> ± 3	2.99 ± .07	20.8 <sup>f</sup> ± .4	7.0 ± .04

<sup>a</sup> Least-square Means followed by the standard error of the least-square mean.

<sup>b</sup> Remaining breed-of-sires with less than 10 representatives/breed including Gelbvieh, Murray Grey, Brangus, Tarentaise, Santa Gertrudis, Piedmontese, Beefmaster, Red Angus, Shorthorn and unknown.

<sup>cd</sup> Means without a common superscript differ (P<.05).

<sup>ef</sup> Means without a common superscript differ (P<.10).

Table 8. Effect of Breed-of-Sire on Carcass Performance.<sup>a</sup>

Breed-of-sire	No. of steers	Hot carcass weight, lb	Quality grade <sup>b</sup>	Final yield grade	Ribeye area, sq in.	Cutability, %	Carcass lean gain, lb/day <sup>d</sup>
Angus	39	724 ± 8	11.8 ± .2	3.3 ± .1	11.7 ± .2	49.1 ± .2	.96 ± .03
Charolais	20	752 ± 19	11.3 ± .5	2.8 ± .2	12.6 ± .5	50.3 ± .5	1.08 ± .06
Hereford	27	718 ± 14	11.7 ± .4	3.3 ± .2	11.1 ± .4	49.1 ± .4	.92 ± .04
Limousin	16	746 ± 16	10.8 ± .4	2.5 ± .2	13.3 ± .4	50.9 ± .4	1.07 ± .05
Salers	10	739 ± 26	11.0 ± .6	2.4 ± .3	13.0 ± .7	51.2 ± .7	1.03 ± .08
Simmental	32	722 ± 13	11.3 ± .3	2.7 ± .2	12.0 ± .3	50.4 ± .4	1.02 ± .04
Other <sup>e</sup>	53	715 ± 7	11.3 ± .2	2.7 ± .1	12.3 ± .2	50.6 ± .2	.96 ± .02

<sup>a</sup> Least-square means followed by the standard error of the least-square mean.

<sup>b</sup> Quality grade, 9 = Select<sup>-</sup>, 10 = Select<sup>0</sup>, 11 = Select<sup>+</sup>, 12 = Choice<sup>-</sup>, 13 = Choice<sup>0</sup>, 14 = Choice<sup>+</sup>.

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

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

<sup>e</sup> Remaining breed-of-sires with less than 10 representatives/breed including Gelbvieh, Murray Grey, Brangus, Tarentaise, Santa Gertrudis, Piedmontese, Beefmaster, Red Angus, Shorthorn and unknown.

Table 9. Economics: Costs Associated with Custom Feeding on a \$/Steer Basis.

	No. of Steers <sup>a</sup>	\$/Steer			
		Mean	Minimum	Maximum	Std Dev
Total feed <sup>b</sup>	197	277.36	191.05	373.24	35.65
Yardage <sup>c</sup>	197	32.21	28.60	34.40	2.15
Processing <sup>d</sup>	197	7.72	7.72	7.72	
Medicine <sup>d</sup>	197	1.64	1.64	1.64	
Death loss	197	7.27	7.27	7.27	
Interest <sup>de</sup>	197	3.48	3.48	3.48	
Opportunity <sup>f</sup>	197	14.87	10.94	18.77	1.53

<sup>a</sup> Two of the steers died while on the finishing ration and one steer was held over on a drug withdrawal.

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

<sup>c</sup> Yardage costs were \$ .20/steer each day.

<sup>d</sup> Fixed cost shared by owners on a per steer basis.

<sup>e</sup> Feeding period financing costs, including interest @ 8.5 % and a loan fee.

<sup>f</sup> Opportunity cost was calculated as 6 % interest on the initial value of each steer for the duration of the feeding period

Table 10. Economics: Costs Associated with Custom Feeding on a \$/lb of Gain Basis.

	No. of Steers <sup>a</sup>	\$/lb of Gain			
		Mean	Minimum	Maximum	Std Dev
Total feed <sup>b</sup>	197	.43	.36	.60	.04
Yardage <sup>c</sup>	197	.063	.056	.067	.004
Processing <sup>d</sup>	197	.016	.011	.034	.003
Medicine <sup>d</sup>	197	.003	.003	.007	.001
Death loss <sup>d</sup>	197	.015	.010	.032	.003
Interest <sup>de</sup>	197	.007	.005	.015	.001
Opportunity <sup>f</sup>	197	.029	.021	.037	.003
Total cost of gain	197	.58	.46	.90	.06

<sup>a</sup> Two of the steers died while on the finishing ration and one steer was held over on a drug withdrawal.

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

<sup>c</sup> Yardage costs were \$ .20/steer each day.

<sup>d</sup> Fixed cost shared by owners on a per steer basis.

<sup>e</sup> Feeding period financing costs, including interest @ 8.5 % and a loan fee.

<sup>f</sup> Opportunity cost was calculated as 6 % 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 <sup>a</sup>	Mean	Minimum	Maximum	Std Dev
Profit, \$/steer	197	95.03	-23.4	224.43	43.16

<sup>a</sup> Two of the steers died while on the finishing ration and one steer was held over on a drug withdrawal.

Table 12. Effect of Breed-of-Sire on Economics.<sup>a</sup>

Breed-of-sire	No. of steers	Total costs \$/steer	Break even price, \$/cwt	Cost/lb of gain. \$/lb	Profit, \$/steer
Angus	39	856.00 <sup>b</sup> ± 11.26	73.72 ± .15	.58 <sup>c</sup> ± .01	87.59 ± 1.59
Charolais	20	823.21 <sup>ab</sup> ± 15.78	73.38 ± .21	.57 <sup>c</sup> ± .01	87.62 ± 2.24
Hereford	27	821.98 <sup>a</sup> ± 13.11	73.83 ± .17	.56 <sup>c</sup> ± .01	85.81 ± 1.86
Limousin	16	837.10 <sup>ab</sup> ± 17.92	73.48 ± .24	.57 <sup>c</sup> ± .01	88.61 ± 2.54
Salers	10	920.93 <sup>c</sup> ± 21.67	74.20 ± .29	.61 <sup>d</sup> ± .01	87.62 ± 3.07
Simmental	32	926.35 <sup>c</sup> ± 12.44	74.19 ± .16	.62 <sup>d</sup> ± .01	91.45 ± 1.76
Other <sup>b</sup>	53	841.68 <sup>ab</sup> ± 9.49	73.60 ± .13	.57 <sup>c</sup> ± .01	87.92 ± 1.35

<sup>a</sup> Least-square means followed by the standard error of the least-square mean.

<sup>b</sup> Remaining breed-of-sires with less than 10 representatives/breed including Gelbvieh, Murray Grey, Brangus, Tarentaise, Santa Gertrudis, Piedmontese, Beefmaster, Red Angus, Shorthorn and unknown.

<sup>cd</sup> Means without a common superscript differ (P<.05).

## APPENDIX

### Ranchers

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BACON VALLEY RANCH  
1684 GOODRICH CREEK  
COUNCIL, ID 83612  
253-4770

LARRY/SHARI ADKINS  
SEVEN A RANCH  
2377 S GRAYS CK ROAD  
INDIAN VALLEY, ID 83632  
256-4366

HARRY ARMSTRONG  
BOX 149  
RYEGATE, MT 59074

JOHN BALDERSON  
BOX 345  
COUNCIL, ID 83612

MERRELL CHILDERS  
2096N GALENA RD  
COUNCIL, ID 83612  
253-4319

BILL COPHER  
2490 CEMETERY LANE  
COUNCIL, ID 83612  
253-4283

FRANK DAVIS  
HC 85 BOX 179  
BRUNEAU, ID 83604  
845-2633

MARSHALL DRYDEN  
P O BOX 312  
NEW MEADOWS, ID 83654  
347-2445

LARRY DERIE  
2205 JACKSON CR ROAD  
COUNCIL, ID 83612  
253-6068

LARRY & PENNY FISK  
P O BOX 91  
FRUITVALE, ID 83620  
253-6073

DAVE VESELKA  
BOX 35  
INDIAN VALLEY, ID 83632  
256-4303

MAC GOSSARD  
2694 UPPERDALE RD  
COUNCIL, ID 83612  
253-4318

J W HOLMES & SONS  
948 GRAYS CREEK RD  
INDIAN VALLEY, ID 83632  
256-4457

GEORGE HULME  
BOX 71  
PARIS, ID 83261

LINDA JENSEN  
LINDALE MURRAY GREY  
P O BOX 4  
GLENN'S FERRY, ID 83623  
366-2670

DAN C KEETCH  
166 KEETCH ROAD  
MONTPELIER, ID 83254  
847-2242

JIM LITTLE  
V DOT CATTLE CO  
P O BOX 68  
EMMETT, ID 83617  
365-2220

DAVE MERRITT  
HC 78 BOX 3781  
OLA, ID 83657  
584-3557

RUSSELL MINK  
MINK LAND/LIVESTOK  
2920 HWY 95  
CAMBRIDGE, ID 83610  
257-3776

PAUL NICHOLS  
P O BOX 6  
FRUITVALE, ID 83620  
253-4730

ALVIN YANTIS  
2235 MIDDLEFORK ROAD  
COUNCIL, ID 83612  
253-4411

LLOYD NOE & SONS  
SALERS  
6601 W DICKMAN RD  
MELBA, ID 83641  
495-2885

MIKE PARADIS  
BOX 348  
COUNCIL, ID 83612  
253-4458

MIKE ROUTSON  
ROUTSON RANCH INC  
493 FRAISER RD  
WEISER, ID 83672  
549-2090

JACK RUBELT  
2280 OLD HORNET RD  
COUNCIL, ID 83612  
253-6963

LEE SCHMELZER  
6575 SHALEROCK RD  
EMMETT, ID 83617  
365-6515

ROYCE/BOB SCHWENKFELDER  
S & S CATTLE CO  
3381 SCHWENKFELDER  
CAMBRIDGE, ID 83610  
257-3591

DOUGLAS M SCISM  
P O BOX 99  
FRUITVALE, ID 83620  
253-6023

JACK SHAFFER  
P O BOX 32  
INDIAN VALLEY, ID 83632  
256-4330

STEVE SUTTON  
HC 70 BOX 2454  
MIDVALE, ID 83645  
355-2311

MARK YATES  
2502 CEMETERY LANE  
COUNCIL, ID 83612  
253-6053

### **Producer Steering Committee**

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Larry Adkins	Mike Paradis
Ferrell Crossley	Mike Routson
Larry Derie	Lee Schmelzer
Russell Mink	

### **Interviewed Feedlots**

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Bruneau Cattle Company HC 85 Box 138 Bruneau, Idaho 83604 Eric Davis, Manager (208) 845-2762	France Incorporated 2050 E 1500 S Gooding, Idaho 83330 Vern France, Manager (208) 934-5382
High & Dry Feeders 3010 1st lane E Parma, Idaho 83660 Terry and Patty Townley (208)674-2009 Alva and Margie Mitchell (503) 473-2890	K C Feedlot 1730 WeIser River Rd Weiser, Idaho Gary Chipman, Manager (208) 549-0930
Idaho Feedlot 911 Houston Rd Eagle, Idaho Bob Lincoln, Manager	

### **Allied Industry Technical and Financial Support**

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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

### **Interviewed Lending Institutions**

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Larry Adkins Idaho State Bank Cambridge, Idaho	Dwight Comfort and Vernon Dennis Farm Credit Services P O Box 730 Caldwell, Idaho 83606
Elwood Webb First Security Bank 103 12th Ave S Nampa, 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)  
Boise, Idaho

**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  
(208) 549-0438

Chad Gibson  
Owyhee County Livestock Agent  
P O Box 400  
Marsing, Idaho 83639  
(208) 896-4104

Gordon Keetch  
Adams County Livestock Agent  
P O Box 43  
Council, Idaho 83612  
(208) 253-4279

Patrick Momont  
Beef Specialist  
Dept. Animal & Veterinary Science  
16952 S 10th Ave.  
Caldwell, Idaho 83605  
(208) 459-6365

Neil Rimbey  
Range Economist  
Dept Agricultural Economics & Rural Sociology  
16952 S 10th Ave.  
Caldwell, Idaho 83605  
(208) 459-6365