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1999-2000 Ranch to Rail Summary Report

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Recommended Citation
Zobell, Dale and Chapman, C. Kim, "1999-2000 Ranch to Rail Summary Report" (2000). *All Archived Publications.* Paper 1.
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1999-2000 Ranch to Rail Summary Report

Utah State University Extension's Ranch to Rail program is designed to give cattle producers information on post-weaning feedlot performance and carcass data enabling them to better market their calf crop. **It is not intended to promote retained ownership programs, nor is its aim to compare or promote breeds or breeders.** Rather, it gives producers the opportunity to see how their cattle fit into beef production and what changes in management or selection they must make to remain competitive. Only steer calves from the 1999 calf crop were eligible to be included in the program.

The 1999-2000 Ranch to Rail program included entries from 21 ranches from throughout Utah. The 144 head enrolled in the program were received at Johnson Feedlot in Aurora, Utah on November 1, 1999 with the program beginning on November 17th following a two-week warm-up period.. When they arrived at the feedlot the steers were eartagged, weighed, injected with Bovi-Shield™ and One Shot Ultra™ for protection against respiratory and clostridial diseases, treated with Dectomax® Pour-on for parasite control, implanted with a Ral-Gro™ implant and assigned an in-value based on market prices received for steers at Producers Livestock Marketing Service in Salina that week. Pfizer Animal Health sponsored the program this year and provided the vaccines and anthelmintic for the entire program year. Pfizer shipped product to producers who pre-enrolled cattle in the program so their calves were backgrounded prior to coming to the feedlot. The steers were sorted into three feeding groups based on frame size, body type and weight. Management relative to feeding times, medication and rations during the feeding period was similar to other feedlot calves.

Prices Used to Determine In-Values

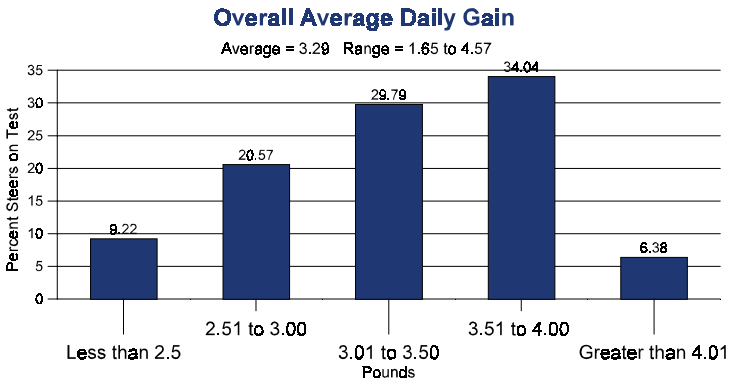
Weight Range	Price
400 to 449	$89.30
450 to 499	$86.30
500 to 549	$84.04
550 to 599	$82.04
600 to 649	$79.75
650 to 699	$76.75
700 to 749	$75.75
750 to 799	$73.75
800 to 899	$71.25
900 to 949	$69.75

Two steers were removed from the program following the warm-up period due to their inability to be brought up to feed on the grower ration.

As the steers reached 900 pounds, each individual was scanned using an ultrasound scanning device and the data was entered into software from Kansas State University to determine the optimal marketing window, taking into account both economic and performance factors. As individuals reached the weights and body condition which have been identified as acceptable by the beef industry, they were again scanned to ascertain whether they were sufficiently finished to grade Choice. The ultrasound imagery combined with weight, breed characteristics and visual evaluation were used to determine when the cattle were to be slaughtered. The cattle were slaughtered and marketed through E.A. Miller Packing in Hyrum, Utah. Carcass data was collected approximately 72 hours after slaughter. Ribeye photos were taken of each carcass and these were sent to the owner of that steer along with detailed performance and carcass data. Feed, yardage, processing and medical charges were financed by the feedlot. Expenses were deducted from the carcass sale proceeds and the balance was sent to the owner following slaughter.

Performance Information

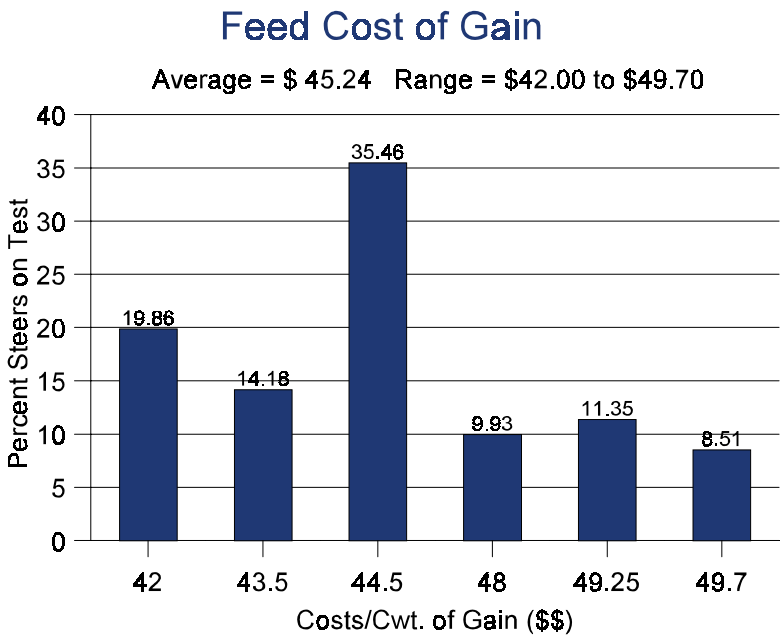
Weights used to determine rate of gain were the weight at the beginning of the test (following the warm-up period) and the final sale weight. Average beginning weight was 636 pounds, and the average sale weight was 1182 pounds with a range of 942 to 1468 pounds. Days on feed averaged 171 days and ranged from 118 to 258 days. Average daily gain for all steers in the program was 3.29 pounds and ranged from 1.65 to 4.57 pounds. Seventy percent of the calves gained over 3.0 pounds per day while 9.2% gained less than

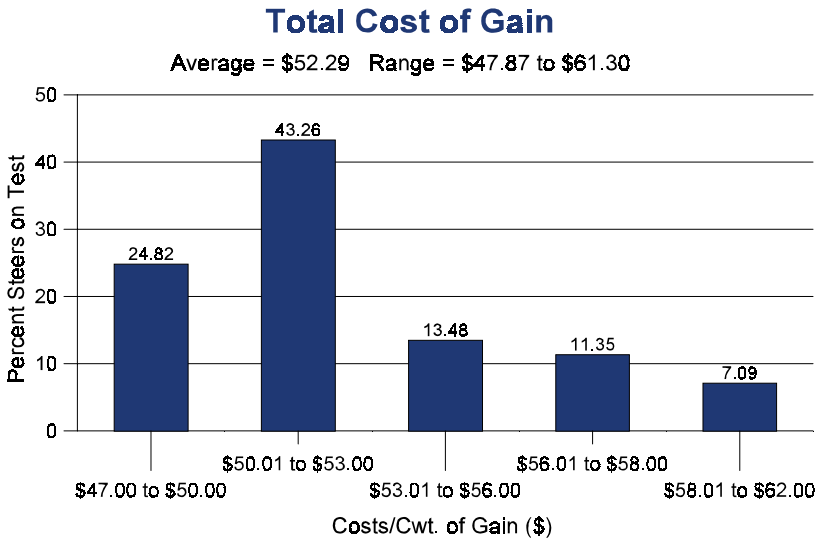


2.5 pounds. There was very little illness in the calves during the feeding period, which partially explains why the rates of gain were so high. The beginning weights of the calves ranged from 374 to 935 pounds, which resulted in calves being sorted into pens based on weight, breed composition and predicted days on feed. This system appears to have been successful for the majority of the calves.

Feed consumption per head was calculated by dividing the total pen consumption by the total number of head days for the pen. Each steer was then assigned its feed costs according to the number of days on feed. This was based on the assumption that every steer had equal access to feed. Sorting of the calves initially enabled calves of similar weight to be fed together.

Feed costs were calculated for each group at the time of marketing and reflect current commodity prices for the feeds in the ration at the time the calves were marketed. Feed cost of gain averaged $45.24 and ranged from $42.00 to $49.70.



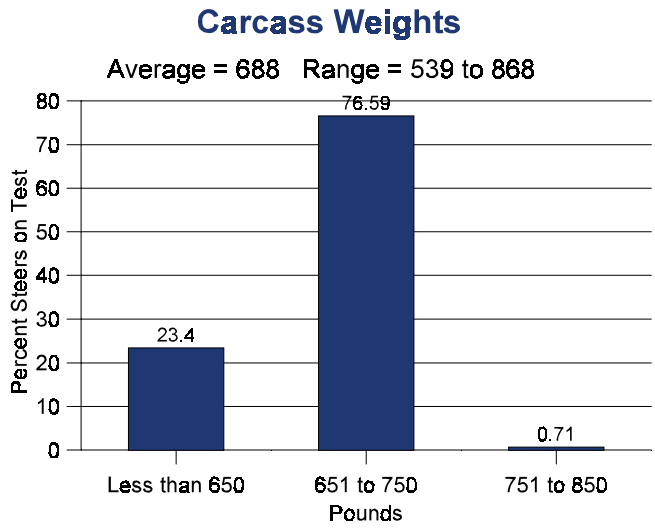


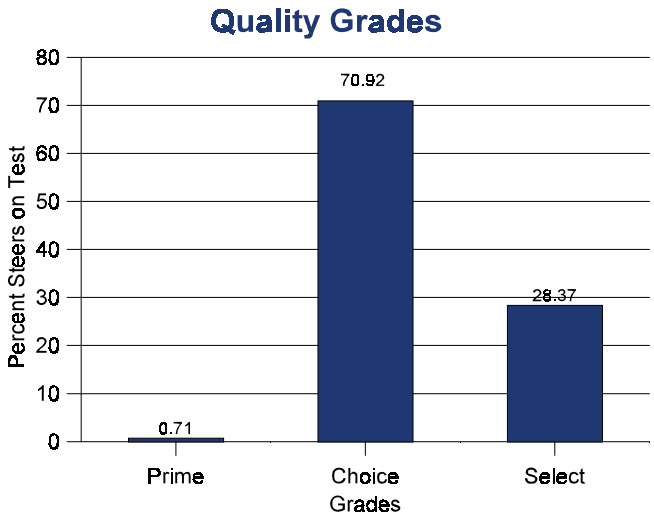
The total cost of gain included feed, yardage, shipping and brand inspection fees. The total cost of gain per cwt. averaged $52.29 and ranged from $47.87 to $61.30.

CARCASS INFORMATION

The steers were sold on a carcass basis when the ultrasound scan combined with live weight, breed characteristics and visual evaluation indicated a high probability of the carcass grading choice. The steers were sold in six market groups.

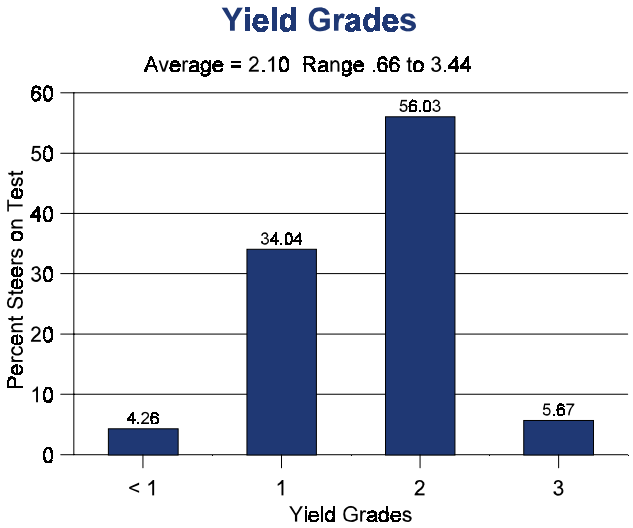
Carcass weights averaged 688 pounds, with 71.30% of the carcasses falling within the 650 lb. to 850 lb. range preferred by most packers.





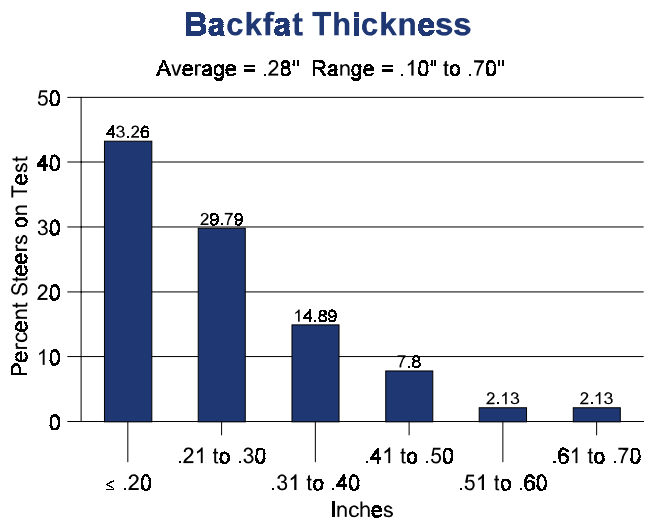
Approximately 71% of the carcasses graded Choice, less than one percent were Prime and 28.37% were Select. None of the cattle graded lower than Select. Due to strong markets in the spring, steers were sold as soon as it was determined the would grade Choice, in order to take advantage of those markets.

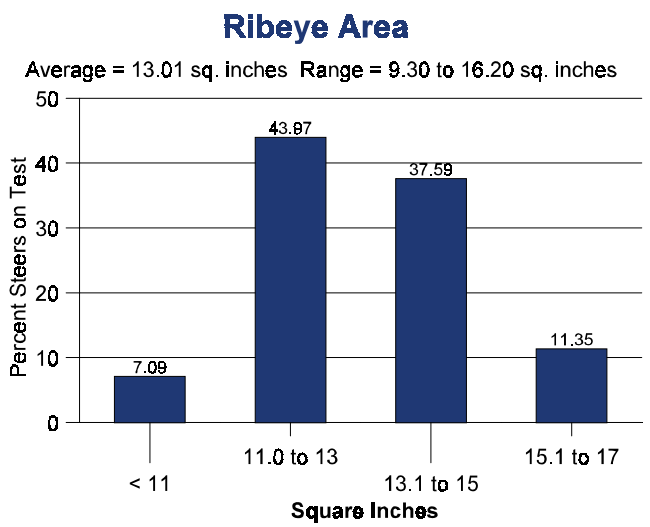
Ninety-five percent of the steers produced carcasses with yield grades below 3.0. Average yield grade was 2.10 and the range was from .66 to 3.44.



Yield grade is influenced by the amount of fat a carcass is carrying and the carcass' muscle mass. The average back fat thickness over the ribeye was .28 inches and fat thickness ranged from .10 to .70 inches. Optimal fat thickness is between .25 and .45 inches. Less than this optimal amount can lead to tough cuts due to cold shortening and these carcasses often do not display enough marbling to grade choice. Thicknesses in excess of the .45" level lead to excessive trim waste. High fat deposition can be a factor of either being held on feed too long, genetic predisposition to deposit fat, or a combination of both.

The surface area of the ribeye is the chief indicator of overall muscle mass on the carcass. Ranch-to-Rail steer ribeyes averaged 13.01 square inches and ranged from 9.3 to 16.2 square inches. Ribeye areas in the range of 11.0 to 17.0 are the most marketable in the retail market, and nearly 93% of the carcasses fit that criteria. Extremes on both sides of this optimal range present marketing and fabrication problems and selection should be made to minimize these types of animals from the beef herd.

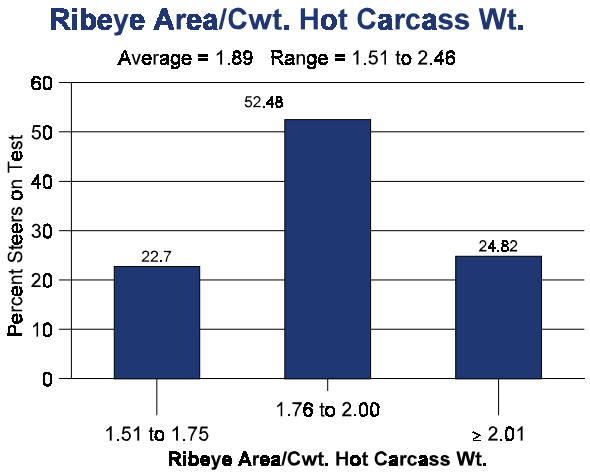




Carcass Characteristics of Ranch-to-Rail steers for each marketing period

Days on Feed		118	139	167	195	223	258
Date Sold		3/8/00	4/5/00	5/3/00	5/31/00	6/28/00	8/2/00
Quality Grade	**Yield Grade**	**No.**	**No.**	**No.**	**No.**	**No.**	**No.**
Prime	2			1			
Choice	1	3	4	14	2	8	8
	2	11	8	26	4	2	1
	3	1		6	1		
Select	1	6	2	1	6	3	7
	2	6	6	2	1		
	3	1					
Cutability (%)							
47 ≤ 50		11	4	21	3		
51 ≤ 53		16	15	29	11	12	9
54 ≤ 56		1	1			1	7

The amount of ribeye area tends to increase as carcass size increases. One way to measure ribeye area relative to carcass size is to calculate the ribeye area per 100 pounds of hot carcass weight. The average for this measure was 1.89 square inches per cwt., and the range was 1.51 to 2.46. The higher values indicate greater thickness of muscle, but selection solely on this trait could increase management problems associated with calving difficulty. Therefore, selection should be made for moderately high muscling which would coincide with a 2.2 or smaller ribeye area per cwt. of hot carcass weight. Approximately 91.5 percent of the steers on test fell into this range.



FINANCIAL INFORMATION

1999-2000 Ranch to Rail Average Financial Results	
Income	$778.55
Expenses	
Feeder Steer Value	$500.05
Feed	247.01
Yardage	25.56
Shipping	10.93
Brand Inspection	1.75
Total	$785.30
Net	<$6.75>

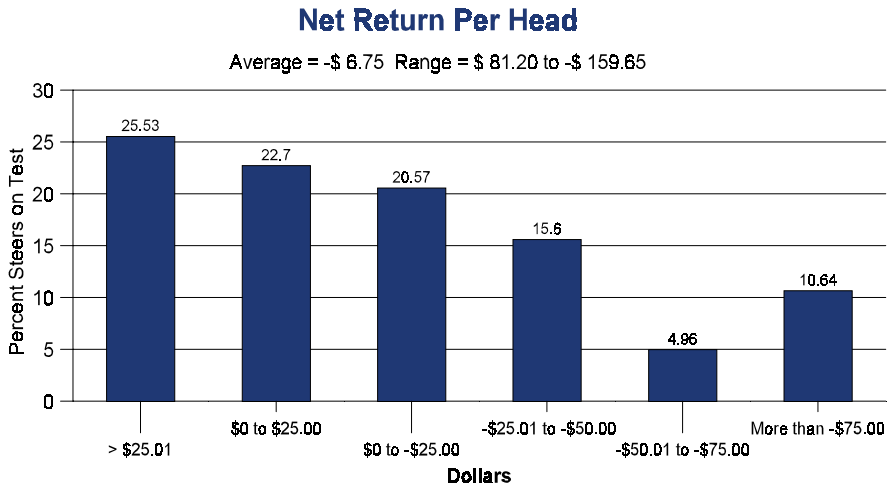
As seen in the budget (left), the average net return per head was -$ 6.75. The range in net return per head varied between a profit of $81.20 and a loss of $159.65. The profitable calves tended to be those that came in at slightly heavier weights, had high daily gains and were marketed early in the program. The calves marketed later in the program were characterized by decreased efficiency of gain or were extremely light coming in. This was especially true of the cattle in the final two marketing groups. Profitability of the steers in the fifth market group was also hindered by the historical mid-summer price slump. Carcass price for the fifth market group was $1.04 compared to $1.11 to $ 1.17 for earlier groups sold. The final group benefitted from higher prices in early August.

Profitability was further affected by extremely high feeder calf prices in the fall of 1999. This created a high opportunity cost for feeding cattle out versus selling the calves as weanlings.

Over 48 percent of the calves in the program had a positive net return. Just over 20.5 percent of the steers showed a net loss of between $0 and -$25.00, while slightly over 31 percent had a net loss greater than -$25.00.

These net return values do not reflect the cost of trucking from the ranch to the feedlot or interest on the feeder steer value, as these values were not available for analysis.

It should be stressed that this is not a retained ownership program. The program is based around the individual feedlot performance and carcass attribute data which is collected on each enrolled calf.



SUMMARY

The amount of variability in terms of feedlot performance, carcass traits and net return per head demonstrate the diversity found throughout the U.S. beef industry and in Utah. Producers must reduce this variability and produce a product that meets the needs of all segments of the industry if they are to remain competitive with competing meats such as pork and poultry. Ranchers must take stock of their respective operations, reduce costs wherever they can and then make adjustments in the genetics of their herd to insure they remain on track with market trends. The time is rapidly approaching wherein producers will be paid for the "value" of their product instead of simply being paid for a commodity. Those that know what comprises value in their product will be those who will receive higher returns for that product. The purpose of the Ranch to Rail program is to give producers the information on their cattle which will aid them as they make these production decisions to increase their production efficiency and profitability while providing a valuable marketable product to the beef industry.

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Utah State University Extension
Department of Animal, Dairy
& Veterinary Sciences
E.A. Miller Packing - Hyrum, Utah

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To participate in the 2000-2001 Ranch-to-Rail Program contact either Dr. Dale Zobell or C. Kim Chapman at the addresses or phone numbers listed above.

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