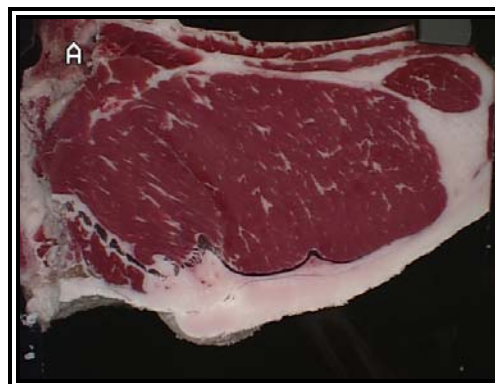
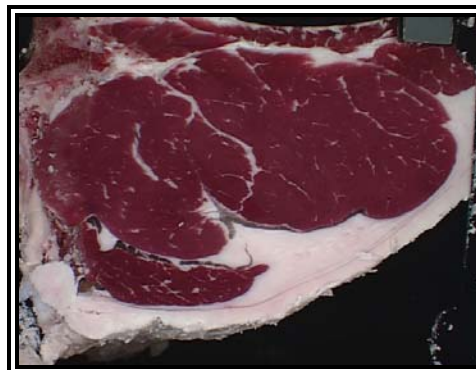
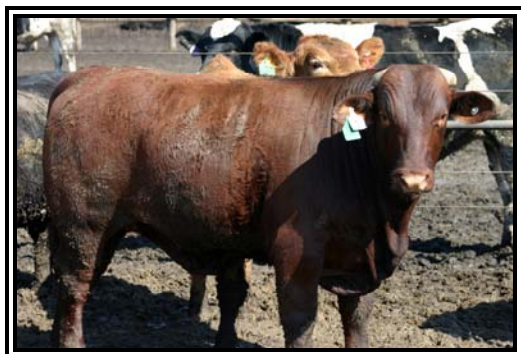


Arkansas Steer Feedout Program 2005-2006 Summary Report



Initial Wt (lbs)	625	Carcass Price/cwt	\$135.00
Initial Price/cwt	\$105	Hot Carcass Weight (lbs)	896
Initial Value	\$656.25	Carcass Value	\$1,209.60
Final Weight (lbs)	1,405	Ribeye Area	14.4
Average Daily Gain (lbs/day)	4.67	REA/HCW	1.61
Days On Feed	167	Backfat	0.52
Total Cost of Gain	\$0.42	Dressing %	63.8%
Feedlot Return	\$856.85	Quality Grade	Certified Angus Choice
Calculated Return	\$200.60	Plant Yield Grade	3.00



Initial Wt (lbs)	738	Carcass Price/cwt	\$137.00
Initial Price/cwt	\$100	Hot Carcass Weight (lbs)	947
Initial Value	\$738.00	Carcass Value	\$1,297.39
Final Weight (lbs)	1476	Ribeye Area	14.80
Average Daily Gain (lbs/day)	3.63	REA/HCW	1.56
Days On Feed	203	Backfat	0.46
Total Cost of Gain	\$0.51	Dressing %	64.2%
Feedlot Return	\$891.17	Quality Grade	Choice
Calculated Return	\$153.17	Plant Yield Grade	3.00

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Arkansas Steer Feedout Program 2005-2006

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Introduction

The University of Arkansas Cooperative Extension Service Steer Feedout Program provides cow-calf producers the opportunity to acquire information about postweaning performance and carcass characteristics of their calves. It also points out factors that influence value beyond the weaned calf phase of beef production. The program is not a contest to compare breeds or breeders or to promote retained ownership. The Feedout Program creates an opportunity for producers to determine how their calf crop fits the needs of the beef industry. The program also provides the information needed to determine if changes in genetics and/or management factors are warranted for producers to be competitive in beef production.

Calf Management

On November 10, 2005, 139 steer calves from 16 Arkansas producers representing 11 counties were placed on feed at Wheeler Brothers Feedyard in Watonga, Oklahoma. Calves were weighed and processed on November 11, 2005. All calves were placed in one pen. Management factors such as processing, medical treatments and rations were the same as the other cattle in the feedyard. This is the first year that electronic ear tags (EID) were used in the program. EID tags helped the feedyard and Extension personnel manage individual animal medicine costs and weights. The feedyard manager and Extension personnel selected animals for harvest when they reached the weight and condition regarded as acceptable for the industry and market conditions. Cattle were sold on a carcass basis with premiums and discounts for various quality grades, yield grades and carcass weights. Feed, processing and medicine costs were financed by the feedyard. All expenses were deducted from the carcass income, and proceeds were sent to the owners.

Of the 139 steers that started on feed in the fall, one died (0.99% death loss). One calf suffered from severe bloat, and it was sold to a local packing plant where its carcass was condemned. These two calves were not included in the statistical analyses. Therefore, 137 steers were used in the analyses.

Health Status

The sick pull rate was high with 80 calves (56%) treated for sickness. This is a dramatic improvement over last year's 80% pull rate. The pull rate was still high for cattle that were all listed as being preconditioned. The average medicine cost for the entire pen was \$13.39 per head, \$30 less than last year's average.

The health status of cattle in the feedyard usually has a major impact on performance and profit. The following analysis included the calves that received the preventive treatment and calves that were pulled and treated. Healthy steers had numerically higher feedlot net returns (\$703) than steers that became sick (\$674) but this difference was not significantly different.

No differences were noted between healthy and sick steers for average daily gain, hot carcass weight, feed cost per pound of gain, total cost per pound of gain, dressing percentage, yield grade, ribeye area, and ribeye area per cwt. of carcass weight ($P > 0.10$). Previous feedout data indicates that health status (healthy vs. sick) negatively impacts feedlot and carcass performance.

Given the past health issues that the cattle in the program have faced, producers need to implement a sound health management plan. By implementing a sound vaccination program at the ranch of origin, predictability and consistency of calves increases along with product value, and calves have the opportunity to express their genetic potential.

Financial Results

Table 1 is the overall financial summary, and Table 2 is a financial summary of the bottom 25%, top 25% and average for steers based on feedlot net return. A farm break-even value was calculated by dividing the feedlot net return by the in weight. If the feeder calf could have been sold in the fall of 2005 for more than the farm break-even value, financially it would have been better to sell the calf last fall than to feed it. The steers' farm break-even averaged \$1.14 per pound (average in weight was 609 pounds) and ranged from \$0.76 to \$1.63 per pound. For the week ending November 11, 2005, 500 to 600 pound steers were selling for \$1.03 to \$1.13 per pound.

Table 1. Financial Results Summary, 2005-2006^a

	Average per head (\$)	Range (\$)
Gross Income	1,029.17	504 to 1,315
Expenses		
Feed	275.18	213 to 336
Freight, interest, etc.	61.43	57 to 87
Medicine	<u>13.39</u>	<u>0 to 63.31</u>
Total	342.41	273 to 427
Feedlot Net Return	686.76	484 to 912
In Value	653.77	442 to 889
Calculated Return	32.99	-188 to 259

^a 137 head

Table 2. Financial Summary of the Bottom 25%, Top 25% and Average Steers Based on Feedlot Net Return

	Bottom 25%	Top 25%	Average
Number of Steers	35	35	137
Gross Income per head (\$)	890 ^a	1,184 ^b	1,029
Carcass Value Per Lb. (\$)	1.17 ^a	1.36 ^b	1.25
In Value per head (\$)	592 ^a	702 ^b	653
Medicine per head (\$)	17.39 ^c	12.17 ^d	13.00
Feed Cost per head (\$)	261 ^a	286 ^b	272
Total Expense per head (\$)	331 ^a	353 ^b	339
Feedlot Net Return per head(\$)	559 ^a	831 ^b	686
Calculated Return per head (\$)	-32 ^a	128 ^b	30.59
Days on Feed	198	196	194
Feed Cost Per Lb. of Gain (\$)	0.38	0.37	0.38
Total Cost Per Lb. of Gain (\$)	0.47	0.47	0.47

^{a, b} Values within rows with unlike superscripts are different (P < 0.0001).

Performance Results

The average steer in weight and final weight were 609 pounds (range = 373 to 889 lb.) and 1,284 pounds (1,057 to 1,528 pounds), respectively. Average daily gain was 3.47 pounds and ranged from 2.17 to 4.67 pounds. The performance summary of the bottom 25%, top 25% and average based on feedlot net return is shown in Table 3.

Table 3. Performance Summary of the Bottom 25%, Top 25% and Average Steers Based on Feedlot Net Return

	Bottom 25%	Top 25%	Average
In Weight (lb.)	543 ^a	651 ^b	609
Muscle Score	1.8	1.6	1.7
Frame Score			
Large	35%	42%	35%
Medium	65%	58%	65%
Final Weight (lb.)	1,256 ^a	1,390 ^b	1,284
Average Daily Gain (lb.)	3.36 ^a	3.49 ^b	3.47

^{a, b} Values within rows with unlike superscripts are different (P < 0.001).

Carcass Results

Overall, 40 percent of the steers graded Choice, which is lower than the national average (56.8%). One head graded Prime, and ten head received a premium for Certified Angus Beef or Angus Pride Choice. Table 4 summarizes the carcass data.

Table 4. Carcass Summary of the Bottom 25%, Top 25% and Average Steers Based on Feedlot Net Return

	Bottom 25%	Top 25%	Average
Hot Carcass Weight (lb.)	762 ^a	867 ^b	825
Carcass Value (\$/lb)	1.17 ^a	1.36 ^b	1.24
Dressing Percentage	63.1% ^a	65.2% ^b	64.3%
Ribeye Area (sq. in.)	13.6	13.8	13.6
Backfat	0.41 ^c	0.58 ^d	0.52
REA per 100 lb. carcass weight	1.77 ^a	1.59 ^b	1.65
Quality Grade	0% ^a	3% ^b	0.7%
Prime	0% ^a	91% ^b	40%
Choice	92% ^a	6% ^b	57%
Select	8% ^a	0% ^b	2.2%
No Roll	2.32	2.77	2.61
Yield Grade			

^{a, b} Values within rows with unlike superscripts are different ($P < 0.0001$).

^{c, d} Values within rows with unlike superscripts are different ($P < 0.001$).

Industry Standards

Carcass standards for the beef cattle industry are Choice quality grade, yield grade of less than 4, and hot carcass weight between 550 and 950 pounds. Thirty-five percent of the steers fit these industry standards. Table 5 shows the steers that met the industry standards averaged \$171 per head more than those that did not fit the industry standards ($P < 0.001$). They had higher carcass values because they graded Choice, and they were not discounted for yield grades greater than 4.0 or for carcasses outside the weight range. Of the steers that were in the top 25% based on feedlot net return, 94% met the industry standards, and for those in the bottom 25% based on feedlot net return, 100% did not meet the industry standards.

Table 5. Feedlot Net Return, Average Daily Gain and Carcass Value for Steers that Did or Did Not Meet Industry Standards^a

Item	Met Standards	Did Not Meet Standards	Difference
Feedlot Return	\$797	\$626	\$171 ^b
Average Daily Gain (Lb)	3.40	3.50	0.10
Carcass Value	\$1.37	\$1.17	\$0.20 ^b

^a USDA Quality Grade Choice, yield grade \leq 3.0 and carcass weight of 550 to 950 pounds

^b P < 0.001

Factors Affecting Steers' Feedlot Net Return

Listed at right are the significant (P < 0.01) factors that affected feedlot net return for steers in the 2005-2006 program. Factors are listed in descending order of importance.

<u>Rank</u>	<u>2005 – 2006</u>
1.	Quality Grade
2.	Initial Wt
3.	Hot Carcass Wt
4.	Yield Grade
5.	Medicine Cost

1. **Quality Grade** - Cattle that graded Prime, Choice, Select, and No Roll had feedlot net returns of \$835, \$782, \$621 and \$543 per head, respectively. All feedlot net returns based on quality grades were significantly different (P < 0.0001). Marbling is the primary factor that affects a calf's ability to grade Choice. Three main factors that affect marbling are: (1) the genetic ability to marble; (2) the maturity or the physiological age, not the chronological age; and (3) ration. Some cattle breeds report marbling EPD's in their sire summaries. Carcass traits such as marbling are highly heritable; therefore, selecting high marbling EPD bulls can be effective for improving the marbling ability of their calves. Breeds can also influence a calf's ability to grade Choice. Calves with a high percentage of English breeding usually have an increased ability to grade Choice.

Physiological age influences frame score. Large-frame cattle must be older (chronologically) to reach the same physiological age to express marbling as compared to smaller-frame cattle. Steers should be medium to large frame, and extremes at both ends of the scale (small and extremely large) should be avoided.



Initial Wt (lbs)	660	Carcass Price/cwt	\$137.00
Initial Price/cwt	\$110	Hot Carcass Weight (lbs)	874
Initial Value	\$726.00	Carcass Value	\$1,197.38
Final Weight (lbs)	1476	Ribeye Area	15.70
Average Daily Gain (lbs/day)	3.22	REA/HCW	1.80
Days On Feed	203	Backfat	0.35
Total Cost of Gain	\$0.51	Dressing %	66.6%
Feedlot Return	\$832.15	Quality Grade	Choice
Calculated Return	\$106.15	Plant Yield Grade	3.00

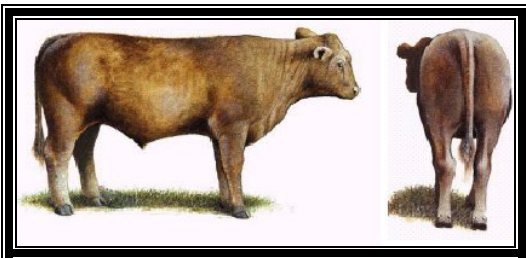
2. **Initial Weight** - The relationship between initial weight and feedlot net return was negative. As initial weight increased feedlot net return decreased. This relationship is slightly misleading though. The main reason initial weight shows up as a significant factor was due to the market at the time of harvest. The first group of steers harvested received the lowest carcass price of the three harvest groups. This first harvest group of steers was largely made up of the calves with heavier initial weight. Generally, the heavier the calf upon entrance to the feedyard the fewer days they take to reach slaughter weight. Nonetheless, in this year's program, heavier calves were at a disadvantage due to the market. It is not recommended to change the type and size of calf entering the feedlot based upon this finding.
3. **Hot Carcass Weight** - The relationship between hot carcass weight and feedlot net return was positive. As hot carcass weight increased, so did feedlot net return. The more carcass pounds sold, the greater the gross income and feedlot net return. Table 6 shows the relationship between hot carcass weight, total cost of gain, average daily gain, feedlot net return and calculated return.

Table 6. Summary of Hot Carcass Weight, Total Cost of Gain, Average Daily Gain, Feedlot Net Return and Calculated Return

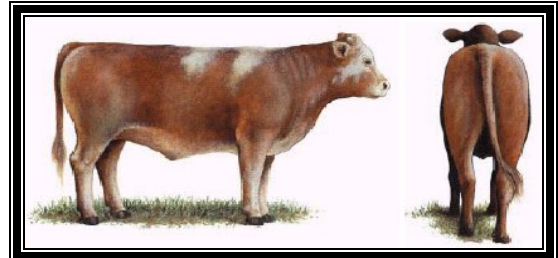
Hot Carcass Weight (lb.)	Total Cost of Gain (\$)	ADG (lb.)	Feedlot Net Return per Head (\$)	Calculated Return per Head(\$)
600-699	0.52	2.5	545	-33
700-799	0.46	3.3	617	23
800-899	0.47	3.5	703	30
900-999	0.47	3.8	798	74

Factors that affect hot carcass weight include frame size, muscle thickness and backfat. Muscle thickness is a major factor that relates to carcass weight. Thickness, depth and fullness of quarter, and width (without excessive fat) of back, loin and rump are indications of muscling.

The current USDA Feeder Cattle Grades utilize four muscle thickness scores (1 = thick, 2 = slightly thick, 3 = narrow and 4 = very narrow). Thickness is related to muscle-to-bone ratio at a given degree of thickness. Thicker muscled animals will have more lean meat. "Double-muscled" animals are included in the Inferior grade (unthrifty animals). Although such animals have a superior amount of muscle, they are graded U.S. Inferior because of their inability to produce acceptable degrees of meat quality.



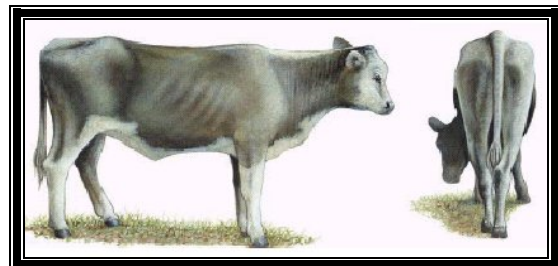
Muscle Score 1



Muscle Score 2



Muscle Score 3

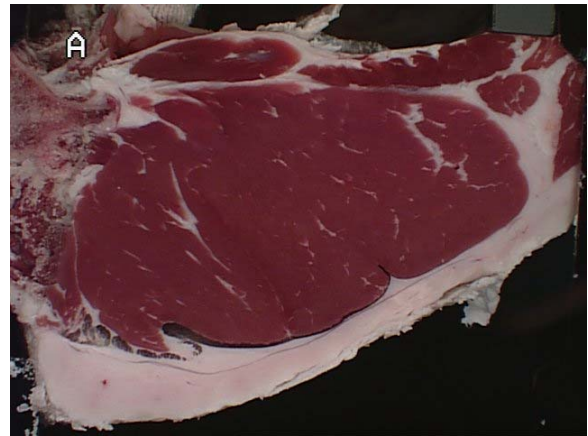


Muscle Score 4

The ideal calf should be Feeder Cattle Grade U.S. 1. Number 1 is thrifty and moderately thick throughout. They are moderately thick and full in the forearm and gaskin, showing a

rounded appearance through the back and loin with moderate width between the legs, both front and rear.

4. **Yield Grade** - As yield grade increased from 1 to 5, feedlot net return changed very little (\$630, \$657, \$714, \$712, \$742 per head for yield grades 1, 2, 3, 4 and 5, respectively). There were no significant differences between feedlot net returns for Yield Grades 1 and 5, although there appeared to be a trend that the higher yield grade showed an increase in feedlot net return. Backfat, ribeye area, hot carcass weight and percentage of kidney, pelvic and heart fat are the factors that determine yield grade. As yield grade (1 to 5) increases, the amount of fat increases in relation to the amount of lean making a lower numerical yield grade more desirable.

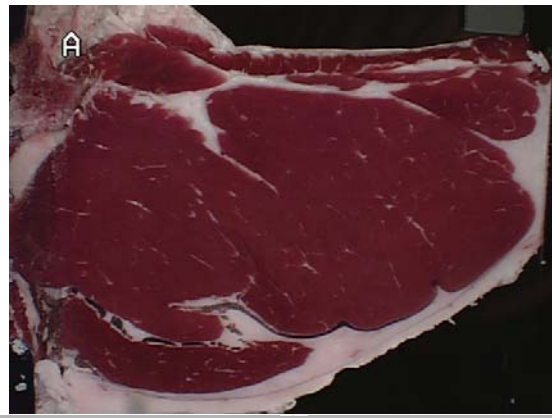


Initial Wt (lbs)	817	Carcass Price/cwt	\$116.00
Initial Price/cwt	\$108	Hot Carcass Weight (lbs)	882
Initial Value	\$882.36	Carcass Value	\$1,023.12
Final Weight (lbs)	1414	Ribeye Area	14.2
Average Daily Gain (lbs/day)	3.58	REA/HCW	1.61
Days On Feed	167	Backfat	0.52
Total Cost of Gain	\$0.50	Dressing %	62.4%
Feedlot Return	\$697.53	Quality Grade	Select
Calculated Return	\$-184.83	Plant Yield Grade	3.4

5. **Medicine Cost** - Healthy calves outperformed sick calves. A good preconditioning vaccination program will not guarantee a healthy feedyard calf, but it is the best management tool available. Healthy calves had a higher feedlot net return (\$703 vs. \$674 per head) than calves that were treated for illness. A higher percentage of healthy steers graded Choice than did the sick calves.



Initial Wt (lbs)	632	Carcass Price/cwt	\$134.00
Initial Price/cwt	\$108	Hot Carcass Weight (lbs)	786
Initial Value	\$682.56	Carcass Value	\$1,053.24
Final Weight (lbs)	1243	Ribeye Area	14.4
Average Daily Gain (lbs/day)	3.66	REA/HCW	1.83
Days On Feed	167	Backfat	0.44
Total Cost of Gain	\$0.45	Dressing %	63.2%
Feedlot Return	\$754.33	Quality Grade	Choice
Calculated Return	\$71.77	Plant Yield Grade	2.00



Initial Wt (lbs)	765	Carcass Price/cwt	\$108.00
Initial Price/cwt	\$100	Hot Carcass Weight (lbs)	858
Initial Value	\$765.00	Carcass Value	\$926.64
Final Weight (lbs)	1351	Ribeye Area	17.5
Average Daily Gain (lbs/day)	3.51	REA/HCW	2.04
Days On Feed	167	Backfat	0.36
Total Cost of Gain	\$0.54	Dressing %	63.5%
Feedlot Return	\$582.72	Quality Grade	No Roll
Calculated Return	\$-182.28	Plant Yield Grade	2.00

Summary

The purpose of the Arkansas Steer Feedout Program is to provide the opportunity for cow-calf producers to determine how their cattle fit the needs of the industry. With the large price spread between Choice and Select, it was very important to the “bottom line” that calves graded Choice. The program demonstrates that when cattle are sold on a grade and yield formula, it is very important that the cattle grade Choice and yield grade less than 3.5. Whether cattle are sold on a grade and yield formula or not, the industry wants cattle that do grade and yield. No matter the selling formula used (included live pricing), quality grade and yield are considered when determining the bidding price.

We want to congratulate the producers who participated in the 2005-2006 Steer Feedout Program. It takes courage to put calves in the feedyard and obtain this data. Hopefully, these cattle producers will take this information and make genetic changes to improve their cattle herds.

The University of Arkansas Cooperative Extension Service would like to thank Farm Credit Services of Western Arkansas for supporting the Steer Feedout Program, Farnam Livestock Tracking Systems for donating the electronic ear tags and Cargill Meat Solutions for providing the carcass pictures.

For information on the 2006-2007 Steer Feedout Program, contact your local county Extension office.

Sponsor credit or recognition does not imply the University of Arkansas' endorsement of the services or products named.

University of Arkansas, United States Department of Agriculture, and County Governments Cooperating

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