

SOUTHWEST FEEDERS PROJECT: BACKGROUNDING NORTH DAKOTA ANGUS ASSOCIATION'S STEER CALVES FOR THE 2006 NATIONAL ANGUS CARCASS CHALLENGE

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INTRODUCTION

Since 1991, Certified Angus Beef LLC has sponsored a feedlot gain and carcass contest for cattle producers in which calves were fed out to gain valuable finishing performance and carcass information. Since that time, the feedlot gain and carcass contest has evolved into the National Angus Carcass Challenge (NACC) feeding competition. According to Mark McCully, supply development director for CAB, the competition is “designed to find the highest value group of Angus-sired cattle and provide an opportunity for discovery and recognition in a competitive format”. The NACC ranks carcass values on enrolled pens of finished calves and winners are determined by placing harvest data on a fixed value contest grid. Individual carcass data (hot carcass weight, USDA quality and yield grade and CAB® certification status) is provided to each participant to discover the true economic value of each animal fed out in the competition. This information gives valuable insights regarding the genetics within the participating producer’s beef herds, enabling them to improve culling and selection focuses and to improve or maximize the genetic potentials of their animals. To be a Challenge participant, an individual or group of individuals must enroll a minimum 40 calves that are sired by a registered Angus bull; however, cow herd genetics can vary. The calves must be 51% black hided and can be either steers or heifers; calves are fed out as single sex groups at CAB approved feedlots. The enrolled calves must be slaughtered between January 1 and December 15, 2006 at a CAB licensed packing plant in a maximum of two slaughter dates in order to qualify for the 2006 contest. Producers earn premiums and/or are assessed discounts (specific dollar amounts) for quality grade, yield grade and carcass weight specifications that are within and out of specification for the Certified Angus Beef Brand (Table 1).

Table 1. Specifications to qualify for the CAB Brand

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| <ul style="list-style-type: none">▶ 51% black hide▶ Neck hump of less than 2 inches▶ “A” maturity (9-30 months)▶ Modest or higher degree of marbling▶ Medium or better marbling texture▶ USDA Yield Grade (YG) 3.9 or leaner▶ Moderately thick or thicker muscling▶ No internal hemorrhages (capillary ruptures)▶ No dark-cutting characteristics |
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The average carcass premium/cwt is calculated by processing the actual “pay” data (hot carcass weight, USDA quality and yield grade, CAB® certification status) for each animal’s carcass through the contest grid (Table 2). The contest grid is used as a means of ranking entered lots and is not offered by licensed packers as a marketing option. Contest winners are announced the following January at the National Western Stock Show in Denver, Colorado. More than \$25, 000 in cash and other prize packages are annually awarded to winning lots of Angus calves.

Table 2. NACC 2006 Contest Grid

Quality Grade Premiums/ Discounts	
Prime	+ \$12.00
<i>Certified Angus Beef®</i>	+ \$5.00
Choice	PAR
Select	- 8.00
Standard/Ungraded/No Roll	- \$20.00
Hardbones	- \$20.00
Dark Cutters	- \$20.00
Yield Grade Premiums/Discounts	
YG 1 & 2 Choice or Better	+ \$4.00
YG 1 & 2 Select	+ \$1.00
YG 3	PAR
YG 4	- \$20.00
YG 5	- \$25.00
Carcass Weight Premiums/Discounts	
549 lbs./down	- \$20.00
550-599 lbs.	- \$5.00
600-649 lbs.	PAR
650-749 lbs.	+ \$1.50
750-849 lbs.	+ \$3.00
850-949 lbs.	PAR
950-1,000 lbs.	- \$10.00
1,001 lbs./up	- \$30.00

2006 North Dakota Angus Association Carcass Challenge

This fall, the North Dakota Angus Association (NDAA) had twelve producers chose to participate for the first time in the 2006 NACC. Southwest Feeders was chosen as the backgrounding feedlot for the NDAA calves. Seventy spring born (February through May) Black Angus sired calves were brought to Hettinger, ND from October 24, 2005 through November 1, 2005 and assigned to ten head pens based on arrival dates at Southwest Feeders. Two Angus producers each submitted ten calves for this year’s Challenge which filled one pen respectively by themselves. As a result, these two producers’ calves did not share pen space with

any other participating producer's steers. The other ten participating producers submitted five steer calves and shared pen space with one other participating Angus producer. The Angus producers involved in the carcass challenge were located throughout the entire state of North Dakota.

MATERIALS AND METHODS

Calves were weighed and rectal body temperatures taken after a rest period to determine initial arrival weight at Southwest Feeders and the incidence of respiratory illness (BRD complex). This weight was used as the baseline for all performance and economic analysis for the entire backgrounding period. Steers having a rectal body temperature of 105 degrees F or greater were given a subcutaneous injection of Excede (Ceftiofur Crystalline Free Acid, Pfizer Animal Health) antibiotic in the middle one-third of the posterior aspect of the ear. Cattle were provided a fifteen day feed acclimation period before starting the backgrounding test.

Calves were weighed in two day intervals at the start (mid November), middle (day 28, mid December) and end (day 54, early January) of the backgrounding feed test following completion of the acclimation period. The middle weigh period was used to aid in tracking animal health and performance while providing report information back to participating Angus producers. The backgrounding test period ended January 9, 2006 and calves were shipped the morning of January 10, 2006 to Decatur County Feed Yard LLC in Oberlin, KS for the final finish feeding phase.

The backgrounding ration consisted of a barley haylage, 8 lbs rolled barley grain with a one pound inclusion of a locally produced protein/mineral supplement containing Rumensin at 450 grams/ton (Table 3). Target average daily gain (ADG) for the feeding ration was 2.60 lbs. Daily pen feed adjustments were made based on individual bunk calls made prior to cattle being fed once daily (9:00 AM). Custom feeding fees were charged back to the participating producers according to a signed custom feeding agreement. Deccox crumbles were fed throughout the entire feeding period for coccidiosis prevention.

Calves were implanted with a Ralgro implant on November 10, 2005 during the acclimation period. Animals were individually weighed prior to the morning feeding for on-test and off-test weights. Vaccines for the North Dakota Angus Association cattle were donated by Merial Animal Health and Boehringer Animal Health companies. A health protocol was established through a local veterinary clinic and included a monthly pen walk through by the attending veterinarian. Data collected and reported back to participating Angus producers included: individual starting weights, 28 day interim weight and end weights, ADG, dry matter intake, feed conversion, total cost of gain, and health status and illness treatments.

Table 3. North Dakota Angus Association Backgrounding Diet (% DM basis)

	Total Diet	Barley Silage	Barley Grain	Supplement
% of diet, As Fed	100	80.93	16.95	2.12
% DM	48.5	38.2	90.7	92.8
Crude Protein, %	14.8	13.1	15.8	34.8
Ne _m , Mcal/lb	0.8	0.61	0.93	0.74
Ne _g , Mcal/lb	0.44	0.35	0.63	0.46
Ca, %	0.85	0.53	0.08	10.77
P, %	0.36	0.31	0.45	0.54
Cu, ppm	19	4	15	279
Zn, ppm	74	24	56	984
Mn, ppm	69	28	28	1025
Deccox, mg	170			170
Rumensin, mg	213			213

RESULTS AND DISCUSSION

Calves enrolled in the Challenge came from various production management and feeding regimes prior to their arrival at Southwest Feeders. Initially, the calves ranged in weight from 468 lbs to 724 lbs, with an average body weight of 607 lbs. Four steers had to be treated with Excede antibiotic at the initial weighing due to having rectal body temperatures 105° or greater. Steers were fed 10 gram chlortetracycline crumbles at the 10 mg/lb bodyweight treatment level for treatment of bacterial pneumonia (shipping fever) for a period of six days after their arrival. The next two weeks post arrival, the weather was still erratic with extremes in daytime and nighttime temperatures. During this time, steers were kept on a lower level of chlortetracycline due to the presence of snotty noses.

Final weights on the Angus steers ranged from 608 lbs to 872 lbs with an overall group average of 768 lbs at the end of the backgrounding period. One steer was pulled from the carcass challenge and returned to the home ranch due to poor growth performance and health issues during the last period. Total weight gains on the steers ranged from 48 lbs (for the steer that was removed from the competition) to 225 lbs with an overall group average of 161 lbs. Average daily gain ranged from 0.76 to 3.62 lbs (Figure 1) with an overall group average of 2.52 lbs (Table 4). The 2.52 lb ADG is a bit lower than the target gain of 2.60 lbs; however, during the last three weeks of the feeding period, pen conditions deteriorated becoming extremely muddy due to thawing from warm environmental temperatures.

Total dry matter intake ranged from 17.31 lbs to 20.10 lbs with an overall group average of 19.16 lbs (approximately 2.49 % body weight; Table 4.). Dry matter feed conversion (feed:gain) ranged from 5.24 lbs to 11.46 lbs (Figure 2) with an overall group average of 8.67 lbs for the entire feeding period (Table 4). Dry matter feed conversions also increased due to pen conditions late in the feeding period and overall slower weight gains by the calves in the final feeding period.

Table 4. Feeding performance of all pens combined.

	Trial
DMI, lbs	19.16
DMI, % BW	2.49%
F:G (feed:gain)	8.67
ADG, lb/d	2.52

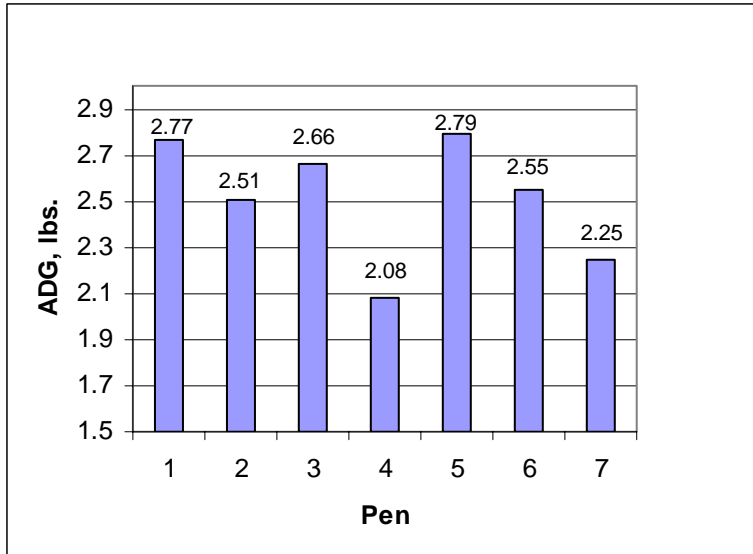
Total feed costs ranged from \$ 71.02 to \$ 82.61, with a group average of \$ 76.82. Total yardage costs ranged from \$ 17.50 to \$ 19.00 with a group average of \$18.15. Total costs of gain ranged from \$0.48/lb gained to \$1.48/lb gained with an overall group average of \$0.66/lb.

Calves that had to be treated for respiratory disease or high fevers using Excede or A180 (Danofloxacin mesylate, Pfizer Animal Health) antibiotics incurred treatment costs of \$18.52 to \$21.61 and \$9.725 per antibiotic shot (for Excede or A180 antibiotics respectively) which contributed to higher total costs of gain for the first 28 days of the feeding period as compared to their respective ranch mates or pen mates.

We were aggressive in our drug treatment of the carcass challenge steers. Death loss for the Angus steers was zero percent. A zero percent death loss tends to result in higher drug and treatment costs. If one steer had died, the expired steer costs would need to be absorbed by the other four or nine remaining steers owned by an individual producer. We feel the slightly higher total costs of gain during the backgrounding period, resulting from slightly higher drug costs, are worth the expense so as to maintain health of all the calves in the carcass challenge.

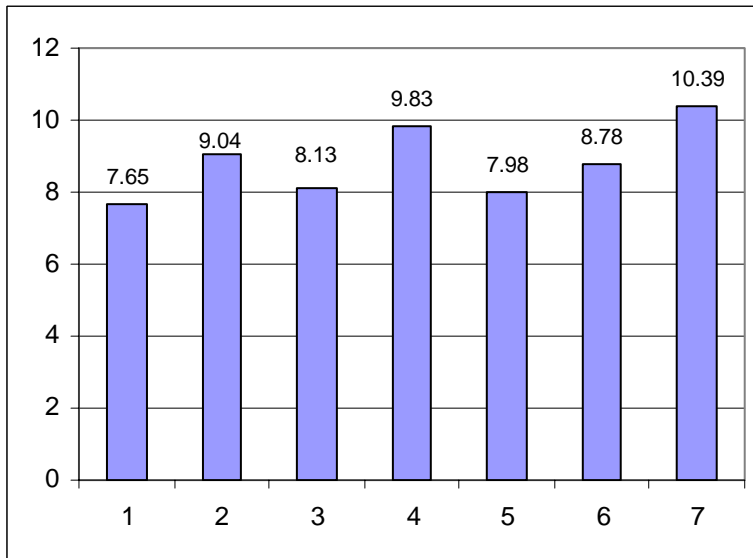
CONCLUSIONS

Results of the 2006 NDAA Calf Backgrounding Test for the 2006 NACC provided valuable information to the cooperating Angus producers involved in the Challenge. The weather throughout the entire backgrounding period provided above normal temperatures, causing deteriorating pen conditions late in the feeding period which impacted final weight gains and feed efficiencies of the Angus steers. Despite commingling animals and varying production management regimes, calf health was adequately maintained during the backgrounding period resulting in zero percent death loss.



Max Pen ADG = 2.79 lb/d, Min Pen ADG = 2.08 lb/d, Avg Pen ADG = 2.52 lb/d

Figure 1. Average Daily Gain by pen



Highest Pen F:G = 10.39, Lowest Pen F:G = 7.65, Avg Pen F:G = 8.67

Figure 2. Dry Matter feed required per pound of gain by pen