2004
OKLAHOMA
MEAT BUCK PERFORMANCE TEST
FINAL REPORT
(8th Annual)

May 8 - August 21, 2004

Sponsored by the
Oklahoma Meat Goat Association
and
Agricultural Research and Extension
Program at
Langston University

Introduction

Meat goat production represents the most rapidly growing animal industry in the US today, and is becoming a mainstream livestock enterprise. To further genetic progress through the identification of superior sires in the industry, Langston University and the Oklahoma Meat Goat Association established a meat goat performance test in 1997.

Entry

The eighth annual meat buck performance test started May 8, 2004 with 58 bucks enrolled from 17 different breeders. Fifty-six of the bucks were fullblood or high-percentage Boers and two Kiko bucks. Forty-two bucks were from Texas, 13 from Oklahoma, 2 from Mississippi and 1 from Kansas. The test was open to purebred and crossbred bucks born between December 1, 2003 and March 31, 2004.

Bucks were given a physical examination by Dr. Lionel Dawson, dewormed with Cydectin (moxidectin), deloused with Atroban De-Lice, given a preemptive injection of Nuflor for upper respiratory infections, and those bucks that needed booster or initial vaccinations for enterotoxemia and caseous lymphandinitis. Four weeks after check-in, all bucks were given a booster vaccination for enterotoxemia and caseous lymphandinitis.

Entrance weight for the 58 bucks averaged 24.3 kg (58.6 lbs) with a range of 13.0 to 41.0 kg (28.6 to 90.3 lbs).

Adjustment Period

The performance-testing facility only has 53 Calan feeders but 58 bucks enrolled. Therefore, we are able to use our new Feed Intake Recording Equipment (FIRE) system. The FIRE system was developed for swine but we have adapted it to goats. The new FIRE system was installed last summer under the supervision of my colleague, Dr. Art Goetsch, who is our research leader. The FIRE system is a completely automated electronic feeding system. Animals wear an electronic eartag, which is read by an antenna in the feeder. The FIRE system automatically records body weight and feed intake. After installation and a trail period for modifications, Dr. Goetsch determined the appropriate stocking density per FIRE feeder. As many as 10 young goats can share a FIRE feeder without adverse effects. At my suggestion,

the second experiment with the FIRE system involved the Calan feeders. We found no significant differences in average daily gain or feed intake of growing goats on the FIRE system and the Calan feeders. This year, half of the bucks are on the FIRE system and half are in the Calan feeders. For producers, who have enrolled more than one buck in the Buck Performance Test, I have randomly assigned half of their bucks to the FIRE system and half to the Calan feeders. The adjustment/training period is much shorter for the FIRE system than for the Calan feeders. However, the bucks on the Calan feeders mastered the Calan feeders and did quite well. With the combined FIRE system and Calan feeders, the Oklahoma Buck Performance Test Buck has a capacity of 100 bucks. All bucks underwent an adjustment period of two weeks immediately after check-in. During the adjustment period, bucks were acclimated to the test ration and to the Calan feeders or to the FIRE system. For the Calan feeders, each buck wears a collar with an electronic "key" encased in hard plastic. The key unlocks the door to only one Calan feeder, thus enabling the buck to eat out of his individual feeder. Each morning, yesterday's feed that remains in the Calan feeder is weighed and removed from the Calan feeder. Fresh feed is weighted and placed into the Calan feeder. The difference in weights between the fresh feed place in the Calan feeder one morning and the remaining feed the next morning is the amount consumed. Because only one goat is capable of opening the Calan door and eating, it is possible to calculate the feed intake of the individual bucks. For the FIRE system, feed intake is automatically recorded every time a buck enters into the FIRE system to eat. The area immediately around the Calan and FIRE feeders and waterers is concrete, however, the large majority of the inside pen is earth and is covered by pine shavings. Pine shavings were periodically added as needed to maintain fresh bedding. Bucks had free access to water provided by float-valve raised waterers.

We had the most virulent soremouth work through the bucks in 2004. On average, we have one to three mild cases of soremouth per year. However, we had eight cases of severe soremouth early in the performance test. Some animals are only mildly affected but others are severely affected. Dr. Lionel Dawson, veterinarian from Oklahoma State University and I monitored the bucks closely and aggressively treated the soremouth. However, Buck #1117 had an exceptional case of soremouth combined with possibly polioencephalomalacia, went off-feed and became very weak. He was taken to the Oklahoma State University, College of Veterinary Medicine for intravenous fluids. Unfortunately, the buck died the next day (5/20/04) while still at the College of Veterinary Medicine. The body was transported to Oklahoma State University's Diagnostic Laboratory. The post mortem report indicated that the animal had died of acidosis. In addition, Bucks #1111 and #1140 developed severe soremouth early in the performance test (during the adjustment period) and had to be

isolated. After they recovered, several attempts were made to reintroduce the two bucks back into the performance test. However, on each occasion, both bucks became severely depressed, went off-feed and developed cases of polioencephalomalacia. The decision was made to remove these two bucks from the performance test and manage them separately. On 7/13/04, Buck #1145 succumbed without any apparent symptoms. The body was transported to Oklahoma State University's Diagnostic Laboratory where the diagnosis was an acute case of pasturella pneumonia. On 7/25/04, Buck #1131 also succumbed without any apparent symptoms. The body was transported to Oklahoma State University's Diagnostic Laboratory where the diagnosis was urinary calculi. No other animal has shown any sign of major illness and the health problems of the bucks on-test have been minimal.

It is always difficult to find summer labor for the Buck Performance Test and this year I was fortunate to hire a second year veterinary student from Oklahoma State University. Unfortunately, after working for three weeks, she had an unexpected death in the family and has decided to stay with her family this summer to help them through this difficult time. My student worker, Ms. Nicole Singleton, filled in and assisted me with the bucks this summer. However, Ms. Singleton left for graduate school at Oklahoma State University the first of August. Since then, I have supervised and provided day-to-day activities of the performance test with the help of another part-time student.

At the time of the midpoint report, I was returning from the 8th International Conference in Pretoria, South Africa. I had left Langston on June 15th for a three-week trip to Ethiopia. Langston University has collaborative research and training projects with two Ethiopian universities. On July 2, I left Ethiopia and traveled to the 8th International Conference on Goats, where I presented a poster. The International Conference on Goats is held every four years and is attended by some of the best goat researchers in the world. The poster that I present at the 8th International Conference on Goats was on the effect of age at entry and weight at entry on final rankings on our buck performance test. In my absence, Dr. Mario Villaquiran and Ms. Nicole Singleton conducted the mid-point report.

Ration

Nutritionists at Langston University formulated the following ration. In 1999, the amount of salt and ammonium chloride was doubled due to problems with urinary calculi the previous year. Except for the increase in salt and ammonium chloride, the ration was unchanged from that which was used in the first two meat buck

performance tests. The ration was fed free-choice during the adjustment period and during the 12-week test.

Ingredient	Percentage (as fed)
Cottonseed hulls	29.07%
Alfalfa meal	19.98%
Cottonseed meal	15.99%
Ground corn	15.99%
Wheat midds	9.99%
Pellet Partner (binder)	5.00%
Ammonium chloride	1.00%
Yeast	1.00%
Calcium Carbonate	0.95%
Salt	0.50%
Trace mineral salt	0.50%
Vitamin A	0.02%
Rumensin	0.01%
TOTAL	**100.00%**

The crude protein content of the ration is 16% with 2.5% fat, 20.4% fiber and 60.6% TDN. Calcium phosphorus and sodium levels are .74%, .37% and 1.07%, respectively. Zinc concentration is 33.04 ppm, copper is 17.15 ppm and selenium is .21 ppm. In 2003, competitive bids were sought for the buck-test feed and Bluebonnet Feeds of Ardmore, OK was awarded the contract to supply feed for the buck performance test for 2003 and 2004.

ABGA Approved Performance Test

In early 2000, the Oklahoma performance test was designated by the American Boer Goat Association Board of Directors as an ABGA Approved Performance Test. Qualified fullblood or purebred Boer bucks will be eligible to earn points towards entry into the "Ennobled Herd Book". Candidate bucks must pass a pre-performance test inspection conducted by one (1) or more ABGA approved breeders. Ten (10) points will be awarded a Boer buck who shows an average daily weight gain (ADG) in the top five percent (5%) of the animals on test. Five (5) points will be awarded a Boer buck who shows an average daily weight gain (ADG) in the next fifteen percent (15%) of the animals on test. All bucks must gain at least three-tenths (.3) pounds per day to be awarded any points.

International Boer Goat Association, Inc. Sanctioned Test

In 2003, the Oklahoma buck performance test was sanctioned by the International Boer Goat Association, Inc.

The Oklahoma performance test continues to grow and to serve the meat goat industry.

Gain

The official performance test started on May 26 after the adjustment period was finished. Weights at the beginning of the test averaged 29.7 kg (65.4 lbs) with a range of 17.0 to 47.0 kg (37.4 to 103.5 lbs). Weights at mid-point averaged 42.5 kg (93.6 lbs) with a range of 28.0 to 60.0 kg (61.7 to 132.2 lbs). Weight at the end of the test averaged 54.2 kg (119.4 lbs) with a range of 32.5 to 72.5 kg (71.6 to 159.7 lbs). At mid-point, weight gain averaged 12.4 kg (27.3 lbs) with a range of 4.0 to 17.5 kg (8.8 to 38.5 lbs). **Weight gain for the test averaged 24.1 kg (53.1 lbs) with a range of 12.5 to 31.0 kg (27.5 to 68.3 lbs)**.

The type of feeder (Calan or FIRE) had no significant effect upon gain. Bucks on the Calan system averaged 23.5 kg (51.8 lbs) gain and bucks on the FIRE system averaged 24.8 kg (54.6 lbs) gain, which is a difference of 1.3 kg (2.9 lbs). Figure 1 shows the weekly body weight gains for both feeder types over the course of the performance test.

Figure 1. Calan vs. FIRE - weekly body weight gains

Average Daily Gain (ADG)

At mid-point, the bucks gained on averaged 295.9 grams/day (0.65 lbs/day) with a range of 95.2 to 416.7 grams/day (0.21 to 0.92 lbs/day). **For the test, the bucks gained on averaged 287.3 grams/day (0.63 lbs/day) with a range of 148.8 to 369.0 grams/day (0.33 lbs/day to 0.81 lbs/day).**

The type of feeder (Calan or FIRE) had no significant effect upon average daily gain. Bucks on the Calan system averaged 279.8 grams/day (0.62 lbs/day) and bucks on the FIRE system averaged 295.7 grams/day (0.65 lbs/day) gain, which is a difference of 15.9 grams/day (0.04 lbs/day).

Feed Efficiency (Feed Conversion Ratio)

For the test, the bucks consumed an average of 163.2 kg (359.5 lbs) of feed with a range of 97.4 to 216.7 kg (214.5 to 477.3 lbs).

The type of feeder (Calan or FIRE) had no significant effect upon intake. Bucks

on the Calan system averaged 160.3 kg (353.1 lbs) intake and bucks on the FIRE system averaged 165.0 kg (363.4 lbs), which is a difference of 4.7 kg (10.4 lbs). Figure 2 shows the average daily intake for both feeder types over the course of the performance test.

For the test, the bucks averaged a feed efficiency of 6.8 (feed efficiency is defined as the number of lbs. of feed needed for one lbs. of gain), with a range of 5.1 to 9.3.

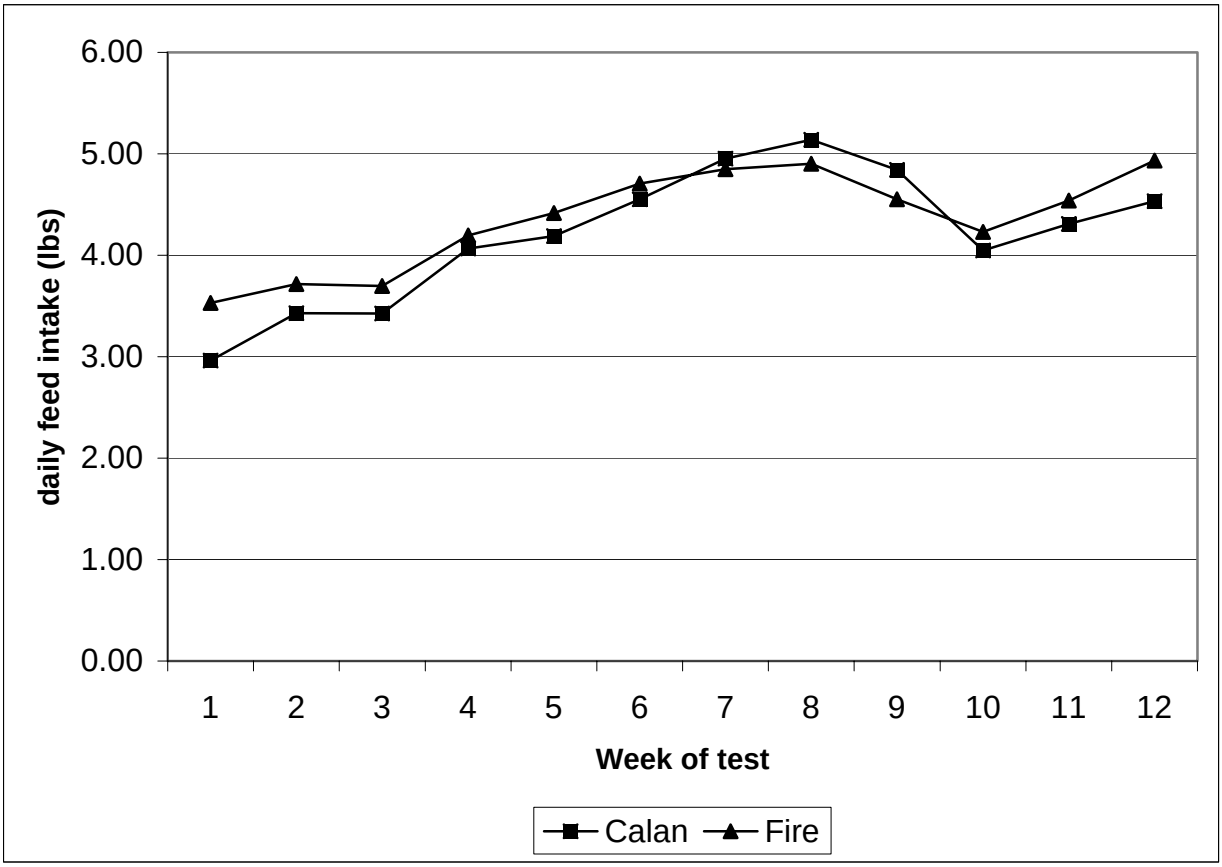

Figure 2. Calan vs. FIRE - daily feed intake

Muscling

The average loin eye area as determined by ultrasonography was 1.95 square inches with a range of 1.29 to 2.54 square inches and the average right rear leg circumference was 15.7 inches with a range of 11.0 to 19.5 inches.

Index

For 2004, the index was calculated using the following parameters:

30% on efficiency (units of feed per units of gain)

30% on average daily gain

20% on area of longissimus muscle (loin) at the first lumbar site as measured by real time ultrasound adjusted by the goat's metabolic body weight:

$$\frac{\text{area of longissimus muscle (loin)}}{BW^{0.75}}$$

20% circumference around the widest part of the hind right leg as measured with a tailor's tape adjusted by the goat's metabolic body weight:

$$\frac{\text{circumference of hind left leg}}{BW^{0.75}}$$

The adjustment to metabolic body weight gives lighter weight goats a fair comparison of muscling to heavier goats.

The deviation from the average of the parameters measured from the goats in the performance test was used in the index calculation. Thus, the average index score for bucks on-test was 100%. Bucks that are above average have indices above 100% and those below average have index scores below 100%.

Congratulations

The Oklahoma Meat Goat Association and the Agricultural Research and Extension Program at Langston University congratulate:

- Mr. Marvin Shurley of Sonora, TX
  for having the Top-Indexing buck
  in the 2004 Oklahoma Meat Buck Performance Test

Also, deserving congratulations are:

- Mr. Marvin Shurley of Sonora, TX
  for having the #1 Fastest-Gaining buck

- Mr. Marvin Shurley of Sonora, TX
  for having the #2 Fastest-Gaining buck

- Mr./Mrs. Jim and Lynn Farmer of Mullin, TX
  for having the #3 (tie) Fastest-Gaining buck

- Ms. Paula Lane of Shady Point, OK
  for having the #3 (tie) Fastest-Gaining buck

- Mr. Marvin Shurley of Sonora, TX
  for having the #3 (tie) Fastest-Gaining buck

- Mr./Mrs. Jim and Mary Daniel of Earlsboro, OK
  for having the Most-Feed-Efficient buck

- Ms. Paula Lane of Shady Point, OK
  for having the Most-Heavily-Muscled buck (tie)

- Ms. Tamara Hilger & Mr. Ralph Webb of Monroe, OK
  for having the Most-Heavily-Muscled buck (tie)

- Mr. A.L. Paul of Aubrey, TX
  for having the Most-Heavily-Muscled buck (tie)

Acknowledgments

The Buck Test supervisor wishes to acknowledge Dr. Lionel Dawson of Oklahoma State University for his contributions as the admitting and on-call veterinarian, Ms. Barbara, Musgrove, Ms. Nicole Singleton, and Mr. Yonas Seid for their management and oversight of the day-to-day activities, Mr. Jerry Hayes of Langston University for aid and supervision, Mr. Les Hutchens and his associates at Reproductive Enterprises, Inc. for conducting the ultrasound measurements for the loin eye area and the breeding soundness exams, and Bluebonnet Feeds of Ardmore, OK for custom mixing the feed.

Report prepared by Dr. Terry A. Gipson
Goat Extension Specialist
Langston University

Table 1. Bucks sorted by Index score.

ID	Breed	Birth date	Weights (lbs)			Gain (lbs)	ADG (lb/d)	Intake (lb)	FE*	LEA (in^2)	RLC (in)	Index
			Entry	Start	End							
1114	15/16 Boer	01/21/04	48.5	57.3	117.8	60.6	0.72	341.8	5.64	2.12	17.00	100.99
1108	Boer	02/29/04	58.4	59.5	117.8	58.4	0.69	295.5	5.06	1.92	15.50	100.92
1149	Boer	02/16/04	47.4	58.4	122.2	63.9	0.76	396.3	6.20	2.23	17.00	100.91
1156	Boer	01/26/04	47.4	60.6	118.9	58.4	0.69	369.3	6.33	2.45	19.00	100.90
1155	Boer	01/19/04	45.2	57.3	121.1	63.9	0.76	353.8	5.54	1.77	14.00	100.77
1142	Boer	01/24/04	28.6	45.2	110.1	65.0	0.77	361.9	5.57	1.53	13.00	100.75
1138	31/32 Boer	01/24/04	43.0	43.0	96.9	54.0	0.64	277.8	5.15	1.66	14.00	100.73
1121	63/64 Boer	02/13/04	37.4	49.6	113.4	63.9	0.76	363.5	5.69	1.57	13.00	100.63
1128	Boer	02/11/04	47.4	63.9	122.2	58.4	0.69	370.2	6.34	2.20	17.50	100.63
1144	Boer	01/18/04	34.1	37.4	90.3	52.9	0.63	279.4	5.29	1.61	13.00	100.63
1132	Boer	03/03/04	47.4	65.0	125.6	60.6	0.72	404.8	6.68	2.23	17.50	100.57
1143	Boer	02/07/04	61.7	80.4	139.9	59.5	0.71	403.7	6.79	2.54	19.50	100.56
1130	Boer	02/07/04	59.5	72.7	132.2	59.5	0.71	392.2	6.59	2.36	18.00	100.55
1136	Boer	02/13/04	51.8	45.2	92.5	47.4	0.56	249.9	5.28	1.75	14.00	100.50
1120	Boer	01/25/04	49.6	63.9	126.7	62.8	0.75	388.6	6.19	1.81	15.00	100.49
1139	Boer	02/25/04	48.5	52.9	106.8	54.0	0.64	321.7	5.96	1.84	15.00	100.44
1137	Boer	02/12/04	56.2	69.4	127.8	58.4	0.69	428.5	7.34	2.53	19.50	100.44
1116	63/64 Boer	01/25/04	43.0	59.5	120.0	60.6	0.72	371.6	6.13	1.71	14.50	100.41
1101	Boer	01/10/04	66.1	85.9	147.6	61.7	0.73	435.7	7.07	2.39	18.50	100.34
1104	Boer	01/24/04	48.5	67.2	135.5	68.3	0.81	456.3	6.68	1.64	14.00	100.33
1102	Boer	01/18/04	40.7	55.1	110.1	55.1	0.66	355.2	6.45	1.86	15.00	100.26
1151	Kiko	02/08/04	37.4	48.5	102.4	54.0	0.64	310.0	5.74	1.49	13.00	100.25
1158	Boer	01/01/04	61.7	66.1	114.5	48.5	0.58	282.5	5.83	1.92	16.00	100.24
1119	Boer	02/15/04	48.5	68.3	125.6	57.3	0.68	389.1	6.80	2.08	16.50	100.23
1141	Boer	01/12/04	60.6	77.1	134.4	57.3	0.68	375.3	6.55	2.08	16.50	100.23
1146	Boer	03/02/04	44.1	51.8	96.9	45.2	0.54	274.8	6.09	1.89	15.00	100.17
1127	Boer	02/08/04	44.1	54.0	114.5	60.6	0.72	403.9	6.67	1.52	13.00	100.06
1115	31/32 Boer	01/25/04	39.6	56.2	109.0	52.9	0.63	346.9	6.56	1.72	14.50	100.02
1122	Boer	12/13/03	71.6	84.8	146.5	61.7	0.73	463.6	7.52	2.15	17.00	99.99
1113	31/32 Boer	01/26/04	52.9	63.9	116.7	52.9	0.63	384.4	7.27	2.09	16.50	99.97
1129	31/32 Boer	01/24/04	57.3	68.3	125.6	57.3	0.68	380.7	6.65	1.67	14.00	99.94
1112	Boer	02/05/04	50.7	54.0	98.0	44.1	0.52	275.3	6.25	1.78	14.50	99.93
1154	Boer	01/25/04	61.7	73.8	128.9	55.1	0.66	429.2	7.79	2.39	18.00	99.93
1148	31/32 Boer	01/25/04	46.3	56.2	101.3	45.2	0.54	273.0	6.05	1.63	13.50	99.85
1123	Boer	12/12/03	62.8	72.7	126.7	54.0	0.64	403.4	7.48	2.11	16.50	99.82
1124	Boer	02/14/04	45.2	62.8	117.8	55.1	0.66	384.9	6.99	1.71	14.00	99.81
1150	Boer	02/05/04	68.3	79.3	126.7	47.4	0.56	312.6	6.60	1.97	16.00	99.76
1109	Boer	01/02/04	90.3	103.5	159.7	56.2	0.67	447.6	7.97	2.54	19.50	99.73
1125	Boer	01/24/04	73.8	96.9	156.4	59.5	0.71	477.4	8.03	2.29	17.50	99.68
1105	Boer	01/24/04	50.7	66.1	121.1	55.1	0.66	430.0	7.81	1.91	15.50	99.64
1107	Boer	02/06/04	71.6	82.6	136.6	54.0	0.64	430.2	7.97	2.28	17.50	99.64
1134	Boer	02/15/04	45.2	63.9	107.9	44.1	0.52	316.9	7.19	1.75	14.50	99.40
1147	Boer	01/19/04	68.3	82.6	126.7	44.1	0.52	367.3	8.34	2.42	18.50	99.29
1135	Boer	02/24/04	45.2	52.9	89.2	36.3	0.43	214.6	5.91	1.29	11.00	99.28
1106	Boer	12/08/03	59.5	72.7	120.0	47.4	0.56	364.6	7.70	1.83	15.00	99.27
1103	Boer	01/13/04	76.0	95.8	147.6	51.8	0.62	435.6	8.42	2.06	16.50	99.11
1152	Boer	02/26/04	55.1	67.2	111.2	44.1	0.52	341.0	7.74	1.66	14.00	99.06
1126	Boer	02/02/04	65.0	81.5	125.6	44.1	0.52	352.1	7.99	1.94	15.50	99.03
1118	Boer	01/04/04	73.8	92.5	139.9	47.4	0.56	436.5	9.22	2.48	19.00	98.99
1153	Boer	12/22/03	78.2	84.8	125.6	40.7	0.49	322.6	7.92	2.02	16.00	98.97
1157	Boer	01/01/04	46.3	51.8	84.8	33.0	0.39	241.1	7.30	1.47	12.50	98.90
1133	Kiko	02/08/04	38.5	44.1	71.6	27.5	0.33	221.6	8.05	1.46	12.00	98.56
1110	Boer	01/05/04	73.8	82.6	120.0	37.4	0.45	348.6	9.31	2.14	17.00	98.47

* lbs of feed for one lb. of gain.

Table 2. Bucks sorted by Gain (ADG).

ID	Breed	Birth date	Weights (lbs)			Gain (lbs)	ADG (lb/d)	Intake (lb)	FE*	LEA (in^2)	RLC (in)	Index
			Entry	Start	End							
1104	Boer	01/24/04	48.5	67.2	135.5	68.3	0.81	456.3	6.68	1.64	14.00	100.33
1142	Boer	01/24/04	28.6	45.2	110.1	65.0	0.77	361.9	5.57	1.53	13.00	100.75
1149	Boer	02/16/04	47.4	58.4	122.2	63.9	0.76	396.3	6.20	2.23	17.00	100.91
1155	Boer	01/19/04	45.2	57.3	121.1	63.9	0.76	353.8	5.54	1.77	14.00	100.77
1121	63/64 Boer	02/13/04	37.4	49.6	113.4	63.9	0.76	363.5	5.69	1.57	13.00	100.63
1120	Boer	01/25/04	49.6	63.9	126.7	62.8	0.75	388.6	6.19	1.81	15.00	100.49
1122	Boer	12/13/03	71.6	84.8	146.5	61.7	0.73	463.6	7.52	2.15	17.00	99.99
1101	Boer	01/10/04	66.1	85.9	147.6	61.7	0.73	435.7	7.07	2.39	18.50	100.34
1114	15/16 Boer	01/21/04	48.5	57.3	117.8	60.6	0.72	341.8	5.64	2.12	17.00	100.99
1132	Boer	03/03/04	47.4	65.0	125.6	60.6	0.72	404.8	6.68	2.23	17.50	100.57
1116	63/64 Boer	01/25/04	43.0	59.5	120.0	60.6	0.72	371.6	6.13	1.71	14.50	100.41
1127	Boer	02/08/04	44.1	54.0	114.5	60.6	0.72	403.9	6.67	1.52	13.00	100.06
1143	Boer	02/07/04	61.7	80.4	139.9	59.5	0.71	403.7	6.79	2.54	19.50	100.56
1130	Boer	02/07/04	59.5	72.7	132.2	59.5	0.71	392.2	6.59	2.36	18.00	100.55
1125	Boer	01/24/04	73.8	96.9	156.4	59.5	0.71	477.4	8.03	2.29	17.50	99.68
1156	Boer	01/26/04	47.4	60.6	118.9	58.4	0.69	369.3	6.33	2.45	19.00	100.90
1137	Boer	02/12/04	56.2	69.4	127.8	58.4	0.69	428.5	7.34	2.53	19.50	100.44
1108	Boer	02/29/04	58.4	59.5	117.8	58.4	0.69	295.5	5.06	1.92	15.50	100.92
1128	Boer	02/11/04	47.4	63.9	122.2	58.4	0.69	370.2	6.34	2.20	17.50	100.63
1119	Boer	02/15/04	48.5	68.3	125.6	57.3	0.68	389.1	6.80	2.08	16.50	100.23
1141	Boer	01/12/04	60.6	77.1	134.4	57.3	0.68	375.3	6.55	2.08	16.50	100.23
1129	31/32 Boer	01/24/04	57.3	68.3	125.6	57.3	0.68	380.7	6.65	1.67	14.00	99.94
1109	Boer	01/02/04	90.3	103.5	159.7	56.2	0.67	447.6	7.97	2.54	19.50	99.73
1102	Boer	01/18/04	40.7	55.1	110.1	55.1	0.66	355.2	6.45	1.86	15.00	100.26
1154	Boer	01/25/04	61.7	73.8	128.9	55.1	0.66	429.2	7.79	2.39	18.00	99.93
1124	Boer	02/14/04	45.2	62.8	117.8	55.1	0.66	384.9	6.99	1.71	14.00	99.81
1105	Boer	01/24/04	50.7	66.1	121.1	55.1	0.66	430.0	7.81	1.91	15.50	99.64
1138	31/32 Boer	01/24/04	43.0	43.0	96.9	54.0	0.64	277.8	5.15	1.66	14.00	100.73
1123	Boer	12/12/03	62.8	72.7	126.7	54.0	0.64	403.4	7.48	2.11	16.50	99.82
1107	Boer	02/06/04	71.6	82.6	136.6	54.0	0.64	430.2	7.97	2.28	17.50	99.64
1139	Boer	02/25/04	48.5	52.9	106.8	54.0	0.64	321.7	5.96	1.84	15.00	100.44
1151	Kiko	02/08/04	37.4	48.5	102.4	54.0	0.64	310.0	5.74	1.49	13.00	100.25
1144	Boer	01/18/04	34.1	37.4	90.3	52.9	0.63	279.4	5.29	1.61	13.00	100.63
1115	31/32 Boer	01/25/04	39.6	56.2	109.0	52.9	0.63	346.9	6.56	1.72	14.50	100.02
1113	31/32 Boer	01/26/04	52.9	63.9	116.7	52.9	0.63	384.4	7.27	2.09	16.50	99.97
1103	Boer	01/13/04	76.0	95.8	147.6	51.8	0.62	435.6	8.42	2.06	16.50	99.11
1158	Boer	01/01/04	61.7	66.1	114.5	48.5	0.58	282.5	5.83	1.92	16.00	100.24
1118	Boer	01/04/04	73.8	92.5	139.9	47.4	0.56	436.5	9.22	2.48	19.00	98.99
1136	Boer	02/13/04	51.8	45.2	92.5	47.4	0.56	249.9	5.28	1.75	14.00	100.50
1150	Boer	02/05/04	68.3	79.3	126.7	47.4	0.56	312.6	6.60	1.97	16.00	99.76
1106	Boer	12/08/03	59.5	72.7	120.0	47.4	0.56	364.6	7.70	1.83	15.00	99.27
1146	Boer	03/02/04	44.1	51.8	96.9	45.2	0.54	274.8	6.09	1.89	15.00	100.17
1148	31/32 Boer	01/25/04	46.3	56.2	101.3	45.2	0.54	273.0	6.05	1.63	13.50	99.85
1134	Boer	02/15/04	45.2	63.9	107.9	44.1	0.52	316.9	7.19	1.75	14.50	99.40
1112	Boer	02/05/04	50.7	54.0	98.0	44.1	0.52	275.3	6.25	1.78	14.50	99.93
1147	Boer	01/19/04	68.3	82.6	126.7	44.1	0.52	367.3	8.34	2.42	18.50	99.29
1152	Boer	02/26/04	55.1	67.2	111.2	44.1	0.52	341.0	7.74	1.66	14.00	99.06
1126	Boer	02/02/04	65.0	81.5	125.6	44.1	0.52	352.1	7.99	1.94	15.50	99.03
1153	Boer	12/22/03	78.2	84.8	125.6	40.7	0.49	322.6	7.92	2.02	16.00	98.97
1110	Boer	01/05/04	73.8	82.6	120.0	37.4	0.45	348.6	9.31	2.14	17.00	98.47
1135	Boer	02/24/04	45.2	52.9	89.2	36.3	0.43	214.6	5.91	1.29	11.00	99.28
1157	Boer	01/01/04	46.3	51.8	84.8	33.0	0.39	241.1	7.30	1.47	12.50	98.90
1133	Kiko	02/08/04	38.5	44.1	71.6	27.5	0.33	221.6	8.05	1.46	12.00	98.56

* lbs of feed for one lb. of gain.

Table 3. Bucks sorted by Feed Efficiency.

ID	Breed	Birth date	Weights (lbs)			Gain (lbs)	ADG (lb/d)	Intake (lb)	FE*	LEA (in^2)	RLC (in)	Index
			Entry	Start	End							
1108	Boer	02/29/04	58.4	59.5	117.8	58.4	0.69	295.5	5.06	1.92	15.50	100.92
1138	31/32 Boer	01/24/04	43.0	43.0	96.9	54.0	0.64	277.8	5.15	1.66	14.00	100.73
1136	Boer	02/13/04	51.8	45.2	92.5	47.4	0.56	249.9	5.28	1.75	14.00	100.50
1144	Boer	01/18/04	34.1	37.4	90.3	52.9	0.63	279.4	5.29	1.61	13.00	100.63
1155	Boer	01/19/04	45.2	57.3	121.1	63.9	0.76	353.8	5.54	1.77	14.00	100.77
1142	Boer	01/24/04	28.6	45.2	110.1	65.0	0.77	361.9	5.57	1.53	13.00	100.75
1114	15/16 Boer	01/21/04	48.5	57.3	117.8	60.6	0.72	341.8	5.64	2.12	17.00	100.99
1121	63/64 Boer	02/13/04	37.4	49.6	113.4	63.9	0.76	363.5	5.69	1.57	13.00	100.63
1151	Kiko	02/08/04	37.4	48.5	102.4	54.0	0.64	310.0	5.74	1.49	13.00	100.25
1158	Boer	01/01/04	61.7	66.1	114.5	48.5	0.58	282.5	5.83	1.92	16.00	100.24
1135	Boer	02/24/04	45.2	52.9	89.2	36.3	0.43	214.6	5.91	1.29	11.00	99.28
1139	Boer	02/25/04	48.5	52.9	106.8	54.0	0.64	321.7	5.96	1.84	15.00	100.44
1148	31/32 Boer	01/25/04	46.3	56.2	101.3	45.2	0.54	273.0	6.05	1.63	13.50	99.85
1146	Boer	03/02/04	44.1	51.8	96.9	45.2	0.54	274.8	6.09	1.89	15.00	100.17
1116	63/64 Boer	01/25/04	43.0	59.5	120.0	60.6	0.72	371.6	6.13	1.71	14.50	100.41
1120	Boer	01/25/04	49.6	63.9	126.7	62.8	0.75	388.6	6.19	1.81	15.00	100.49
1149	Boer	02/16/04	47.4	58.4	122.2	63.9	0.76	396.3	6.20	2.23	17.00	100.91
1112	Boer	02/05/04	50.7	54.0	98.0	44.1	0.52	275.3	6.25	1.78	14.50	99.93
1156	Boer	01/26/04	47.4	60.6	118.9	58.4	0.69	369.3	6.33	2.45	19.00	100.90
1128	Boer	02/11/04	47.4	63.9	122.2	58.4	0.69	370.2	6.34	2.20	17.50	100.63
1102	Boer	01/18/04	40.7	55.1	110.1	55.1	0.66	355.2	6.45	1.86	15.00	100.26
1141	Boer	01/12/04	60.6	77.1	134.4	57.3	0.68	375.3	6.55	2.08	16.50	100.23
1115	31/32 Boer	01/25/04	39.6	56.2	109.0	52.9	0.63	346.9	6.56	1.72	14.50	100.02
1130	Boer	02/07/04	59.5	72.7	132.2	59.5	0.71	392.2	6.59	2.36	18.00	100.55
1150	Boer	02/05/04	68.3	79.3	126.7	47.4	0.56	312.6	6.60	1.97	16.00	99.76
1129	31/32 Boer	01/24/04	57.3	68.3	125.6	57.3	0.68	380.7	6.65	1.67	14.00	99.94
1127	Boer	02/08/04	44.1	54.0	114.5	60.6	0.72	403.9	6.67	1.52	13.00	100.06
1104	Boer	01/24/04	48.5	67.2	135.5	68.3	0.81	456.3	6.68	1.64	14.00	100.33
1132	Boer	03/03/04	47.4	65.0	125.6	60.6	0.72	404.8	6.68	2.23	17.50	100.57
1143	Boer	02/07/04	61.7	80.4	139.9	59.5	0.71	403.7	6.79	2.54	19.50	100.56
1119	Boer	02/15/04	48.5	68.3	125.6	57.3	0.68	389.1	6.80	2.08	16.50	100.23
1124	Boer	02/14/04	45.2	62.8	117.8	55.1	0.66	384.9	6.99	1.71	14.00	99.81
1101	Boer	01/10/04	66.1	85.9	147.6	61.7	0.73	435.7	7.07	2.39	18.50	100.34
1134	Boer	02/15/04	45.2	63.9	107.9	44.1	0.52	316.9	7.19	1.75	14.50	99.40
1113	31/32 Boer	01/26/04	52.9	63.9	116.7	52.9	0.63	384.4	7.27	2.09	16.50	99.97
1157	Boer	01/01/04	46.3	51.8	84.8	33.0	0.39	241.1	7.30	1.47	12.50	98.90
1137	Boer	02/12/04	56.2	69.4	127.8	58.4	0.69	428.5	7.34	2.53	19.50	100.44
1123	Boer	12/12/03	62.8	72.7	126.7	54.0	0.64	403.4	7.48	2.11	16.50	99.82
1122	Boer	12/13/03	71.6	84.8	146.5	61.7	0.73	463.6	7.52	2.15	17.00	99.99
1106	Boer	12/08/03	59.5	72.7	120.0	47.4	0.56	364.6	7.70	1.83	15.00	99.27
1152	Boer	02/26/04	55.1	67.2	111.2	44.1	0.52	341.0	7.74	1.66	14.00	99.06
1154	Boer	01/25/04	61.7	73.8	128.9	55.1	0.66	429.2	7.79	2.39	18.00	99.93
1105	Boer	01/24/04	50.7	66.1	121.1	55.1	0.66	430.0	7.81	1.91	15.50	99.64
1153	Boer	12/22/03	78.2	84.8	125.6	40.7	0.49	322.6	7.92	2.02	16.00	98.97
1109	Boer	01/02/04	90.3	103.5	159.7	56.2	0.67	447.6	7.97	2.54	19.50	99.73
1107	Boer	02/06/04	71.6	82.6	136.6	54.0	0.64	430.2	7.97	2.28	17.50	99.64
1126	Boer	02/02/04	65.0	81.5	125.6	44.1	0.52	352.1	7.99	1.94	15.50	99.03
1125	Boer	01/24/04	73.8	96.9	156.4	59.5	0.71	477.4	8.03	2.29	17.50	99.68
1133	Kiko	02/08/04	38.5	44.1	71.6	27.5	0.33	221.6	8.05	1.46	12.00	98.56
1147	Boer	01/19/04	68.3	82.6	126.7	44.1	0.52	367.3	8.34	2.42	18.50	99.29
1103	Boer	01/13/04	76.0	95.8	147.6	51.8	0.62	435.6	8.42	2.06	16.50	99.11
1118	Boer	01/04/04	73.8	92.5	139.9	47.4	0.56	436.5	9.22	2.48	19.00	98.99
1110	Boer	01/05/04	73.8	82.6	120.0	37.4	0.45	348.6	9.31	2.14	17.00	98.47

* lbs of feed for one lb. of gain.

Table 4. Mid-point results.

ID	Breed	Birth date	Weights (lbs)			Gain (lbs)	ADG (lb/d)	Intake (lb)	FE*
			Entry	Start	Midpoint				
1101	Boer	01/10/04	66.1	85.9	123.3	37.4	0.89	212.1	5.66
1102	Boer	01/18/04	40.7	55.1	82.6	27.5	0.66	152.6	5.54
1103	Boer	01/13/04	76.0	95.8	115.6	19.8	0.47	184.9	9.33
1104	Boer	01/24/04	48.5	67.2	101.3	34.1	0.81	221.5	6.49
1105	Boer	01/24/04	50.7	66.1	99.1	33.0	0.79	221.1	6.69
1106	Boer	12/08/03	59.5	72.7	101.3	28.6	0.68	185.8	6.49
1107	Boer	02/06/04	71.6	82.6	114.5	31.9	0.76	200.2	6.27
1108	Boer	02/29/04	58.4	59.5	92.5	33.0	0.79	121.6	3.68
1109	Boer	01/02/04	90.3	103.5	132.2	28.6	0.68	214.2	7.48
1110	Boer	01/05/04	73.8	82.6	100.2	17.6	0.42	167.5	9.50
1112	Boer	02/05/04	50.7	54.0	73.8	19.8	0.47	97.8	4.94
1113	31/32 Boer	01/26/04	52.9	63.9	95.8	31.9	0.76	185.8	5.82
1114	15/16 Boer	01/21/04	48.5	57.3	85.9	28.6	0.68	143.0	5.00
1115	31/32 Boer	01/25/04	39.6	56.2	85.9	29.7	0.71	170.3	5.73
1116	63/64 Boer	01/25/04	43.0	59.5	89.2	29.7	0.71	187.2	6.30
1118	Boer	01/04/04	73.8	92.5	123.3	30.8	0.73	221.6	7.19
1119	Boer	02/15/04	48.5	68.3	98.0	29.7	0.71	183.9	6.19
1120	Boer	01/25/04	49.6	63.9	96.9	33.0	0.79	186.8	5.65
1121	63/64 Boer	02/13/04	37.4	49.6	88.1	38.5	0.92	165.9	4.30
1122	Boer	12/13/03	71.6	84.8	114.5	29.7	0.71	196.8	6.62
1123	Boer	12/12/03	62.8	72.7	101.3	28.6	0.68	197.4	6.89
1124	Boer	02/14/04	45.2	62.8	89.2	26.4	0.63	169.9	6.43
1125	Boer	01/24/04	73.8	96.9	127.8	30.8	0.73	221.0	7.17
1126	Boer	02/02/04	65.0	81.5	96.9	15.4	0.37	127.4	8.26
1127	Boer	02/08/04	44.1	54.0	83.7	29.7	0.71	166.3	5.59
1128	Boer	02/11/04	47.4	63.9	96.9	33.0	0.79	194.5	5.89
1129	31/32 Boer	01/24/04	57.3	68.3	102.4	34.1	0.81	182.8	5.35
1130	Boer	02/07/04	59.5	72.7	103.5	30.8	0.73	181.4	5.88
1132	Boer	03/03/04	47.4	65.0	96.9	31.9	0.76	192.8	6.04
1133	Kiko	02/08/04	38.5	44.1	61.7	17.6	0.42	106.2	6.03
1134	Boer	02/15/04	45.2	63.9	88.1	24.2	0.58	156.4	6.46
1135	Boer	02/24/04	45.2	52.9	61.7	8.8	0.21	71.8	8.15
1136	Boer	02/13/04	51.8	45.2	63.9	18.7	0.45	73.1	3.91
1137	Boer	02/12/04	56.2	69.4	103.5	34.1	0.81	188.5	5.52
1138	31/32 Boer	01/24/04	43.0	43.0	68.3	25.3	0.60	94.1	3.72
1139	Boer	02/25/04	48.5	52.9	77.1	24.2	0.58	128.7	5.31
1141	Boer	01/12/04	60.6	77.1	106.8	29.7	0.71	175.5	5.90
1142	Boer	01/24/04	28.6	45.2	78.2	33.0	0.79	172.1	5.21
1143	Boer	02/07/04	61.7	80.4	114.5	34.1	0.81	204.2	5.98
1144	Boer	01/18/04	34.1	37.4	61.7	24.2	0.58	118.7	4.90
1146	Boer	03/02/04	44.1	51.8	77.1	25.3	0.60	142.7	5.63
1147	Boer	01/19/04	68.3	82.6	111.2	28.6	0.68	185.9	6.49
1148	31/32 Boer	01/25/04	46.3	56.2	76.0	19.8	0.47	78.3	3.95
1149	Boer	02/16/04	47.4	58.4	90.3	31.9	0.76	166.0	5.20
1150	Boer	02/05/04	68.3	79.3	99.1	19.8	0.47	133.4	6.73
1151	Kiko	02/08/04	37.4	48.5	74.9	26.4	0.63	140.8	5.33
1152	Boer	02/26/04	55.1	67.2	89.2	22.0	0.52	170.3	7.73
1153	Boer	12/22/03	78.2	84.8	109.0	24.2	0.58	162.9	6.72
1154	Boer	01/25/04	61.7	73.8	109.0	35.2	0.84	222.5	6.31
1155	Boer	01/19/04	45.2	57.3	90.3	33.0	0.79	156.7	4.74
1156	Boer	01/26/04	47.4	60.6	89.2	28.6	0.68	164.5	5.75
1157	Boer	01/01/04	46.3	51.8	65.0	13.2	0.31	92.4	6.99
1158	Boer	01/01/04	61.7	66.1	82.6	16.5	0.39	113.1	6.84

* lbs of feed for one lb. of gain.