



**2007
OKLAHOMA
MEAT BUCK PERFORMANCE TEST
FINAL REPORT
(11th Annual)**

May 5 - August 18, 2007

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 eleventh annual meat buck performance test started May 5, 2007 with 23 bucks enrolled from 6 different breeders. Geographical distribution is given in the table below.

State	Bucks
MO	4
OK	3
TX	16
Total	23

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.

Average age in days and entry weight are detailed in the table below.

Data	Total
Average of Entry Weight (lbs)	59.7
Average of Entry Age (days)	92

Adjustment Period

The Feed Intake Recording Equipment (FIRE) system was used for all animals. The FIRE system is a completely automated electronic feeding system, which was developed for swine but we have adapted it to goats. Animals wear an electronic

ear tag, which is read by an antenna in the feeder. The FIRE system automatically records body weight and feed intake. 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 FIRE system.

The area immediately around 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. Whenever the weather was permitting, the bucks had access to the outside pens as well as the inside pens.

This year we were fortunate to hire a second year veterinary student from Oklahoma State University, Ms. Janelle Blaylock. Janelle has done a wonderful job with the bucks.

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, 2004, 2005, 2006, and 2007.

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 23 after the adjustment period was finished. Weights at the beginning of the test averaged 64 lbs with a range of 42 to 82 lbs. Weights at the end of the test averaged 116 lbs with a range of 85 to 140 lbs. **Weight gain for the test averaged 52 lbs with a range of 29 to 72 lbs.**

Average Daily Gain (ADG)

For the test, the bucks gained on averaged 0.62 lbs/day with a range of 0.35 lbs/day to 0.86 lbs/day.

Feed Efficiency (Feed Conversion Ratio)

For the test, the bucks consumed an average of 332 lbs of feed with a range of 223 to 400 lbs.

For the test, the bucks averaged a feed efficiency of 6.69 (feed efficiency is defined as the number of lbs. of feed needed for one lbs. of gain), with a range of 4.95 to 11.14.

Muscling

The average loin eye area as determined by ultrasonography was 1.79 square inches with a range of 1.18 to 2.12 square inches and the average left rear leg circumference was 14.9 inches with a range of 13.0 to 17.5 inches.

Index

For 2007, 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 left 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. Ralph Webb of Monroe, OK
for having the Top-Indexing buck
in the 2007 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. Ralph Webb of Monroe, OK
for having the #3 (tie) Fastest-Gaining buck
- Mr. AL Paul of Aubrey, TX
for having the #3 (tie) Fastest-Gaining buck
- Mr. AL Paul of Aubrey, TX
for having the #5 (tie) Fastest-Gaining buck
- Mr. AL Paul of Aubrey, TX
for having the #5 (tie) Fastest-Gaining buck
- Mr. Mr. AL Paul of Aubrey, TX
for having the Most-Feed-Efficient buck
- Mr. Mr. Ralph Webb of Monroe, OK
for having the Most-Heavily-Muscled buck

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. Janelle Blaylock for their management and oversight of the day-to-day activities, Mr. Jerry Hayes and Mr. Erick Loetz 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 Bluebonnet Feeds of Ardmore, OK for custom mixing the feed.

2007 Buck Performance Test supervised by Dr. Steve Hart
Report prepared by Dr. Terry A. Gipson
Goat Extension Specialists
Langston University

The Cooperative Extension Program at Langston University provides educational programs to individuals regardless of race, color, national origin, religion, sex, age, disability or status as a veteran. Issued in furtherance of Extension work, Act of September 29, 1977, in cooperation with the U.S. Department of Agriculture.

Table 1. Bucks sorted by Index score.

Owner	ID	Owner ID	Breed	Birth date	Weights (lbs)			Gain (lbs)	ADG (lb/d)	Intake (lb)	FE*	LEA (in2)	RLC (in)	Index
					Entry	Start	End							
Ralph Webb	66	648	Boer	02/26/07	52	60	121	61	0.73	322.4	5.29	2.09	17.5	101.01
Al Paul	48	21	Boer	03/03/07	47	63	123	60	0.71	318.3	5.30	2.03	16.5	100.79
Marvin Shurley	55	285	Boer	01/24/07	55	68	140	72	0.86	367.8	5.11	1.66	14.0	100.69
Al Paul	45	10	Boer	02/11/07	45	57	118	61	0.73	367.9	6.03	1.97	15.5	100.65
Al Paul	47	20	Boer	03/03/07	36	44	101	57	0.68	282.1	4.95	1.58	14.0	100.63
Al Paul	46	15	Boer	02/11/07	69	73	133	60	0.71	345.3	5.75	2.03	17.0	100.58
Martin Peters	49	07	Boer	02/15/07	32	42	89	47	0.56	238.8	5.08	1.52	13.5	100.35
Marvin Shurley	51	259	Boer	01/22/07	43	60	113	53	0.63	317.7	5.99	1.94	15.0	100.35
Marvin Shurley	57	296	Boer	01/27/07	59	72	128	56	0.67	344.6	6.15	2.02	16.0	100.34
Marvin Shurley	60	249	Boer	01/21/07	54	68	131	63	0.75	383.2	6.08	1.77	14.5	100.31
Carrie Carmen	67	4	Boer	03/01/07	62	65	121	56	0.67	400.1	7.14	2.03	17.0	100.30
Orlin Scrivener	62	93	Boer	01/22/07	65	82	135	53	0.63	359.0	6.77	2.12	17.5	100.13
Marvin Shurley	58	246	Boer	01/21/07	56	70	122	52	0.62	329.5	6.34	1.92	15.0	100.07
Marvin Shurley	53	299	Boer	01/26/07	57	60	105	45	0.54	223.2	4.96	1.47	13.5	99.97
Marvin Shurley	59	257	Boer	01/22/07	46	68	123	55	0.65	371.1	6.75	1.83	14.5	99.96
Orlin Scrivener	64	18	Boer	12/26/06	45	60	112	52	0.62	346.0	6.65	1.74	14.0	99.95
Marvin Shurley	52	294	Boer	01/24/07	52	67	121	54	0.64	340.7	6.31	1.72	14.0	99.95
Orlin Scrivener	61	92	Boer	01/22/07	58	74	123	49	0.58	366.9	7.49	1.89	15.0	99.64
Orlin Scrivener	63	92	Boer	12/20/06	58	76	120	44	0.52	320.9	7.29	1.92	15.0	99.55
Martin Peters	50	06	Boer	02/15/07	48	65	105	40	0.48	292.4	7.31	1.66	14.0	99.40
Marvin Shurley	56	416	Boer	02/15/07	57	56	96	40	0.48	351.2	8.78	1.60	14.0	99.18
Ralph Webb	65	637	Boer	02/22/07	55	62	92	30	0.36	334.3	11.14	1.53	13.5	98.20
Marvin Shurley	54	295	Boer	01/27/07	53	56	85	29	0.35	321.5	11.08	1.18	13.0	98.00
Average					52.3	63.8	115.5	51.7	0.62	332.4	6.69	1.79	14.9	100.0

* lbs of feed for one lb. of gain.

Table 2. Bucks sorted by Gain (ADG).

Owner	ID	Owner ID	Breed	Birth date	Weights (lbs)			Gain (lbs)	ADG (lb/d)	Intake (lb)	FE*	LEA (in2)	RLC (in)	Index
					Entry	Start	End							
Marvin Shurley	55	285	Boer	01/24/07	55	68	140	72	0.86	367.8	5.11	1.66	14.0	100.69
Marvin Shurley	60	249	Boer	01/21/07	54	68	131	63	0.75	383.2	6.08	1.77	14.5	100.31
Ralph Webb	66	648	Boer	02/26/07	52	60	121	61	0.73	322.4	5.29	2.09	17.5	101.01
Al Paul	45	10	Boer	02/11/07	45	57	118	61	0.73	367.9	6.03	1.97	15.5	100.65
Al Paul	48	21	Boer	03/03/07	47	63	123	60	0.71	318.3	5.30	2.03	16.5	100.79
Al Paul	46	15	Boer	02/11/07	69	73	133	60	0.71	345.3	5.75	2.03	17.0	100.58
Al Paul	47	20	Boer	03/03/07	36	44	101	57	0.68	282.1	4.95	1.58	14.0	100.63
Marvin Shurley	57	296	Boer	01/27/07	59	72	128	56	0.67	344.6	6.15	2.02	16.0	100.34
Carrie Carmen	67	4	Boer	03/01/07	62	65	121	56	0.67	400.1	7.14	2.03	17.0	100.30
Marvin Shurley	59	257	Boer	01/22/07	46	68	123	55	0.65	371.1	6.75	1.83	14.5	99.96
Marvin Shurley	52	294	Boer	01/24/07	52	67	121	54	0.64	340.7	6.31	1.72	14.0	99.95
Marvin Shurley	51	259	Boer	01/22/07	43	60	113	53	0.63	317.7	5.99	1.94	15.0	100.35
Orlin Scrivener	62	93	Boer	01/22/07	65	82	135	53	0.63	359.0	6.77	2.12	17.5	100.13
Marvin Shurley	58	246	Boer	01/21/07	56	70	122	52	0.62	329.5	6.34	1.92	15.0	100.07
Orlin Scrivener	64	18	Boer	12/26/06	45	60	112	52	0.62	346.0	6.65	1.74	14.0	99.95
Orlin Scrivener	61	92	Boer	01/22/07	58	74	123	49	0.58	366.9	7.49	1.89	15.0	99.64
Martin Peters	49	07	Boer	02/15/07	32	42	89	47	0.56	238.8	5.08	1.52	13.5	100.35
Marvin Shurley	53	299	Boer	01/26/07	57	60	105	45	0.54	223.2	4.96	1.47	13.5	99.97
Orlin Scrivener	63	92	Boer	12/20/06	58	76	120	44	0.52	320.9	7.29	1.92	15.0	99.55
Martin Peters	50	06	Boer	02/15/07	48	65	105	40	0.48	292.4	7.31	1.66	14.0	99.40
Marvin Shurley	56	416	Boer	02/15/07	57	56	96	40	0.48	351.2	8.78	1.60	14.0	99.18
Ralph Webb	65	637	Boer	02/22/07	55	62	92	30	0.36	334.3	11.14	1.53	13.5	98.20
Marvin Shurley	54	295	Boer	01/27/07	53	56	85	29	0.35	321.5	11.08	1.18	13.0	98.00
Average					52.3	63.8	115.5	51.7	0.62	332.4	6.69	1.79	14.9	100.0

* lbs of feed for one lb. of gain.

Table 3. Bucks sorted by Feed Efficiency.

Owner	ID	Owner ID	Breed	Birth date	Weights (lbs)			Gain (lbs)	ADG (lb/d)	Intake (lb)	FE*	LEA (in2)	RLC (in)	Index
					Entry	Start	End							
Al Paul	47	20	Boer	03/03/07	36	44	101	57	0.68	282.1	4.95	1.58	14.0	100.63
Marvin Shurley	53	299	Boer	01/26/07	57	60	105	45	0.54	223.2	4.96	1.47	13.5	99.97
Martin Peters	49	07	Boer	02/15/07	32	42	89	47	0.56	238.8	5.08	1.52	13.5	100.35
Marvin Shurley	55	285	Boer	01/24/07	55	68	140	72	0.86	367.8	5.11	1.66	14.0	100.69
Ralph Webb	66	648	Boer	02/26/07	52	60	121	61	0.73	322.4	5.29	2.09	17.5	101.01
Al Paul	48	21	Boer	03/03/07	47	63	123	60	0.71	318.3	5.30	2.03	16.5	100.79
Al Paul	46	15	Boer	02/11/07	69	73	133	60	0.71	345.3	5.75	2.03	17.0	100.58
Marvin Shurley	51	259	Boer	01/22/07	43	60	113	53	0.63	317.7	5.99	1.94	15.0	100.35
Al Paul	45	10	Boer	02/11/07	45	57	118	61	0.73	367.9	6.03	1.97	15.5	100.65
Marvin Shurley	60	249	Boer	01/21/07	54	68	131	63	0.75	383.2	6.08	1.77	14.5	100.31
Marvin Shurley	57	296	Boer	01/27/07	59	72	128	56	0.67	344.6	6.15	2.02	16.0	100.34
Marvin Shurley	52	294	Boer	01/24/07	52	67	121	54	0.64	340.7	6.31	1.72	14.0	99.95
Marvin Shurley	58	246	Boer	01/21/07	56	70	122	52	0.62	329.5	6.34	1.92	15.0	100.07
Orlin Scrivener	64	18	Boer	12/26/06	45	60	112	52	0.62	346.0	6.65	1.74	14.0	99.95
Marvin Shurley	59	257	Boer	01/22/07	46	68	123	55	0.65	371.1	6.75	1.83	14.5	99.96
Orlin Scrivener	62	93	Boer	01/22/07	65	82	135	53	0.63	359.0	6.77	2.12	17.5	100.13
Carrie Carmen	67	4	Boer	03/01/07	62	65	121	56	0.67	400.1	7.14	2.03	17.0	100.30
Orlin Scrivener	63	92	Boer	12/20/06	58	76	120	44	0.52	320.9	7.29	1.92	15.0	99.55
Martin Peters	50	06	Boer	02/15/07	48	65	105	40	0.48	292.4	7.31	1.66	14.0	99.40
Orlin Scrivener	61	92	Boer	01/22/07	58	74	123	49	0.58	366.9	7.49	1.89	15.0	99.64
Marvin Shurley	56	416	Boer	02/15/07	57	56	96	40	0.48	351.2	8.78	1.60	14.0	99.18
Marvin Shurley	54	295	Boer	01/27/07	53	56	85	29	0.35	321.5	11.08	1.18	13.0	98.00
Ralph Webb	65	637	Boer	02/22/07	55	62	92	30	0.36	334.3	11.14	1.53	13.5	98.20
Average					52.3	63.8	115.5	51.7	0.62	332.4	6.69	1.79	14.9	100.0

* lbs of feed for one lb. of gain.

Table 4. Estimated weights (at 120, 150, and 180 days of age) and age (at 60, 80, and 100 lbs).

ID	BREED	WT 120D	WT 150D	WT 180D	AGE 60W	AGE 80W	AGE 100	AGE	Beg wt	Mid wt	adg*
45	Boer	76	99	123	100	125	151	101	57	90	0.78
46	Boer	89	112	134	81	108	134	101	73	99	0.75
47	Boer	73	94	116	103	130	158	81	44	69	0.73
48	Boer	96	120	144	75	100	125	81	63	94	0.80
49	Boer	56	73	90	127	162	198	97	42	64	0.57
50	Boer	74	90	107	95	131	167	97	65	82	0.56
51	Boer	59	81	102	121	149	178	121	60	87	0.71
52	Boer	71	89	108	103	135	167	119	67	91	0.63
53	Boer	58	75	92	124	159	195	117	60	66	0.57
54	Boer	58	69	81	126	178	229	116	56	57	0.39
55	Boer	74	100	126	104	127	150	119	68	99	0.87
56	Boer	69	83	98	101	143	185	97	56	70	0.48
57	Boer	76	97	117	97	126	155	116	72	97	0.69
58	Boer	71	91	110	104	134	164	122	70	92	0.66
59	Boer	70	91	112	105	134	163	121	68	98	0.70
60	Boer	70	95	120	107	132	156	122	68	102	0.83
61	Boer	76	96	115	94	126	157	121	74	104	0.64
62	Boer	83	103	122	84	115	146	121	82	103	0.64
63	Boer	60	76	92	120	158	195	154	76	96	0.53
64	Boer	38	59	81	151	179	206	148	60	89	0.72
65	Boer	71	83	96	95	143	191	90	62	64	0.42
66	Boer	89	112	134	82	108	135	86	60	85	0.76
67	Boer	93	116	138	75	102	129	83	65	95	0.74

* adg estimated by regression analysis and therefore may differ from ADG in other tables.