



**2001  
OKLAHOMA  
MEAT BUCK PERFORMANCE TEST  
FINAL REPORT  
(5<sup>th</sup> Annual)**

*May 5 - August 18, 2001*

**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 the 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 fifth annual meat buck performance test started May 5, 2001 at the South Barn complex of Langston University with 50 bucks enrolled from eighteen different breeders. Forty-eight of the bucks were fullblood or crossbred Boer bucks and there were two Kiko bucks. Thirty-one bucks were from Texas, fourteen from Oklahoma and five from Illinois. The test was open to purebred and crossbred bucks born between December 1, 2000 and March 31, 2001.

Bucks were given a thorough physical examination by Dr. Lionel Dawson, dewormed with Valbazen (albendazole), foot bathed with Nolvasan 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. All bucks were retagged by Extension staff after admission to the performance test. Four weeks after check-in, all bucks were given a booster vaccination for enterotoxemia and caseous lymphandinitis. Bucks are routinely monitored for internal parasites using fecal egg counts.

Entrance weight for the 50 bucks averaged 53.1 lbs. with a range of 34.1 to 83.7 lbs. The average age was 92 days with a range from 50 to 158 days.

## **Adjustment Period**

All bucks underwent an adjustment period of eighteen days immediately after check-in. During the adjustment period, bucks were acclimated to the test ration and to the Calan feeders. Nine bucks were assigned to each 20' x 20' inside pen equipped with nine Calan feeders. Each pen also had a 20' x 20' outside run. The inside and outside pen space is separated by an overhead door which can be raised or lowered as the weather dictates. Every other pen was also equipped with a fan to circulate air in the barn complex whenever needed. The grass in the outside pens was mowed often, and grazing was negligible. Each buck wore 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. The area immediately around the Calan 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 a float-valve raised waterers.

Weights at the beginning of the test averaged 58.3 lbs. with a range of 29.7 to 98.0 lbs.

## Ration

The following ration was formulated by nutritionist at Langston University. 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 unchanged from that 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.

<b>Ingredient</b>	<b>Percentage (as fed)</b>
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%
<b>TOTAL</b>	<b>100.00%</b>

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.

## **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.

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

## **Gain**

Average weight at the end of the test was 108.4 lbs. with a range of 68.3 to 152.0 lbs. Average gain for the test was 50.1 lbs. with a range of 24.2 to 74.9 lbs.

## **Average Daily Gain (ADG)**

For the test, the bucks gained on averaged .60 lbs./day with a range from .29 lbs./day to .89 lbs./day.

## **Feed Efficiency**

For the test, the bucks consumed an average of 308.1 lbs. of feed with a range of 143.7 lbs. to 470.7 lbs. For the test, the bucks averaged a feed efficiency of 6.30 (feed efficiency is defined as the number of lbs. of feed needed for one lbs. of gain), with a range of 3.98 to 11.71.

## Muscling

The average loin eye area as determined by ultrasonography was 1.98 square inches with a range of 0.97 to 3.02 square inches and the average right rear leg circumference was 17.6 inches with a range of 13.0 to 22.5 inches.

## Index

For 2001, 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 indexes 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 2001 Oklahoma Meat Buck Performance Test

Also, deserving congratulations are:

- Mr. Tommy Morriss of Sonora, TX  
for having the #1 Fastest-Gaining buck
- Mr. Richard Williams of Stillwater, OK  
for having the #2 Fastest-Gaining buck
- Mr. Marvin Shurley of Sonora, TX  
for having the #3 Fastest-Gaining buck
- Mr. Marvin Shurley of Sonora, TX  
for having the #4 (tie) Fastest-Gaining buck
- Mr. Jim Rosenbaum of Gainesville, TX  
for having the #4 (tie) Fastest-Gaining buck
- Ms. Judy Hollis of Sonora, TX  
for having the Most-Feed-Efficient buck
- Mr. Marvin Shurley of Sonora, TX  
for having the Most-Heavily-Muscled buck
- Dr. Fred Homeyer of Robert Lee, TX  
for having the Best-Conformation-Boer 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. Barbarina Costello for her management and oversight of the day-to-day activities, Mr. Jerry Hayes of Langston University for aid and supervision, Dr. Fred Ray of Oklahoma State University for conducting the ultrasound measurements for the lion eye area, Mr. Les Hutchens and his associates at Reproductive Enterprises, Inc. for conducting the breeding soundness exams, and Stillwater Milling for custom mixing the feed.

Report prepared by Dr. Terry A. Gipson  
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Langston University

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Table 1. Bucks sorted by Index score.

LU ID	Breed	Beg Wt (lbs)	End Wt (lbs)	Gain (lbs)	ADG (lbs/day)	Intake (lbs)	FE*	LEA (in <sup>2</sup> )	Rear Leg (in)	index
585	Boer	63.9	135.5	71.6	0.85	378.7	5.29	2.44	16.5	100.83
608	Boer	66.1	139.9	73.8	0.88	470.7	6.38	1.78	19.5	100.77
598	Boer	49.6	124.4	74.9	0.89	370.7	4.95	1.95	15.5	100.68
580	Boer	54.0	114.5	60.6	0.72	338.5	5.59	2.46	18	100.66
592	Boer	61.7	118.9	57.3	0.68	309.8	5.41	2.53	18	100.63
605	Boer	65.0	122.2	57.3	0.68	392.8	6.86	2.34	21	100.62
610	Boer	37.4	93.6	56.2	0.67	251.8	4.48	2.35	17	100.59
613	Boer	46.3	100.2	54.0	0.64	294.1	5.45	2.07	20	100.58
604	Boer	55.1	106.8	51.8	0.62	254.3	4.91	2.52	18	100.57
594	Boer	69.4	130.0	60.6	0.72	377.8	6.24	2.49	18	100.55
596	Boer	87.0	146.5	59.5	0.71	426.0	7.16	2.46	19	100.44
581	Boer	67.2	122.2	55.1	0.66	355.8	6.46	2.08	19.5	100.37
593	Boer	61.7	116.7	55.1	0.66	321.1	5.83	2.18	18	100.36
614	Boer	98.0	147.6	49.6	0.59	424.8	8.57	2.61	22.5	100.35
582	Boer	47.4	102.4	55.1	0.66	321.1	5.83	2.31	17	100.29
588	Boer	65.0	122.2	57.3	0.68	363.2	6.34	1.66	19.5	100.28
597	Boer	60.6	118.9	58.4	0.69	334.3	5.73	2.12	16.5	100.27
577	Boer	52.9	106.8	54.0	0.64	318.9	5.91	2.35	17	100.26
584	Boer	66.1	117.8	51.8	0.62	329.5	6.37	2.41	18	100.25
623	Boer	54.0	104.6	50.7	0.60	260.9	5.15	1.83	18	100.23
587	Boer	43.0	91.4	48.5	0.58	193.0	3.98	1.69	17	100.22
579	Boer	73.8	132.2	58.4	0.69	363.9	6.23	1.65	18.5	100.22
619	Boer	46.3	104.6	58.4	0.69	367.1	6.29	2.07	17	100.20
576	Boer	56.2	98.0	41.9	0.50	291.1	6.96	2.84	19	100.15
599	Boer	94.7	152.0	57.3	0.68	450.5	7.87	2.27	18.5	100.12
617	Kiko	29.7	84.8	55.1	0.66	235.4	4.28	1.63	15	100.09
624	Boer	35.2	87.0	51.8	0.62	216.6	4.18	1.57	15.5	100.05
618	Boer	48.5	107.9	59.5	0.71	366.5	6.16	1.96	15.5	100.04
601	Boer	36.3	89.2	52.9	0.63	245.9	4.65	1.32	16.5	100.00
595	Boer	63.9	122.2	58.4	0.69	330.3	5.66	1.03	18	100.00
620	Boer	76.0	115.6	39.6	0.47	333.0	8.40	3.02	20	99.99
625	Boer	41.9	90.3	48.5	0.58	209.8	4.33	1.29	17	99.99
578	Boer	59.5	101.3	41.9	0.50	215.8	5.16	2.24	16.5	99.98
602	Boer	55.1	99.1	44.1	0.52	225.0	5.11	1.63	17.5	99.92
589	Boer	59.5	105.7	46.3	0.55	271.4	5.87	2.20	16	99.89
586	Boer	41.9	94.7	52.9	0.63	318.1	6.02	1.78	16	99.88
609	Boer	92.5	133.3	40.7	0.49	385.7	9.47	2.77	20	99.73
591	Boer	62.8	105.7	43.0	0.51	293.5	6.83	2.14	17	99.71
607	Boer	76.0	122.2	46.3	0.55	387.8	8.38	2.36	18	99.71
615	GeneMaster	57.3	102.4	45.2	0.54	319.2	7.07	1.46	18.5	99.62
606	Boer	31.9	83.7	51.8	0.62	211.3	4.08	1.13	13	99.58
590	Boer	46.3	88.1	41.9	0.50	236.7	5.65	1.46	16.5	99.57
622	Boer	63.9	104.6	40.7	0.49	316.3	7.76	2.24	17	99.52
612	Boer	79.3	118.9	39.6	0.47	355.3	8.96	2.00	20	99.50
621	Boer	37.4	70.5	33.0	0.39	159.2	4.82	1.11	15.5	99.23
611	Boer	60.6	84.8	24.2	0.29	197.3	8.14	1.83	17.5	98.90
603	Boer	41.9	68.3	26.4	0.31	143.7	5.44	0.97	15.5	98.87
583	Boer	60.6	91.4	30.8	0.37	246.6	8.00	1.19	17.5	98.83
616	Kiko	37.4	77.1	39.6	0.47	338.1	8.53	1.46	14.5	98.74
600	Boer	77.1	101.3	24.2	0.29	283.6	11.71	1.61	18	98.19
<b>Average</b>		<b>58.3</b>	<b>108.4</b>	<b>50.1</b>	<b>0.60</b>	<b>308.0</b>	<b>6.30</b>	<b>1.98</b>	<b>17.6</b>	<b>100.00</b>

\* lbs of feed for one lb. of gain.

Table 2. Bucks sorted by Gain (ADG).

LU ID	Beg Wt (lbs)	End Wt (lbs)	Gain (lbs)	ADG (lbs/day)	Intake (lbs)	FE*	LEA (in <sup>2</sup> )	Rear Leg (in)	index
598	49.6	124.4	74.9	0.89	370.7	4.95	1.95	15.5	100.68
608	66.1	139.9	73.8	0.88	470.7	6.38	1.78	19.5	100.77
585	63.9	135.5	71.6	0.85	378.7	5.29	2.44	16.5	100.83
580	54.0	114.5	60.6	0.72	338.5	5.59	2.46	18	100.66
594	69.4	130.0	60.6	0.72	377.8	6.24	2.49	18	100.55
596	87.0	146.5	59.5	0.71	426.0	7.16	2.46	19	100.44
618	48.5	107.9	59.5	0.71	366.5	6.16	1.96	15.5	100.04
597	60.6	118.9	58.4	0.69	334.3	5.73	2.12	16.5	100.27
579	73.8	132.2	58.4	0.69	363.9	6.23	1.65	18.5	100.22
619	46.3	104.6	58.4	0.69	367.1	6.29	2.07	17	100.20
595	63.9	122.2	58.4	0.69	330.3	5.66	1.03	18	100.00
592	61.7	118.9	57.3	0.68	309.8	5.41	2.53	18	100.63
605	65.0	122.2	57.3	0.68	392.8	6.86	2.34	21	100.62
588	65.0	122.2	57.3	0.68	363.2	6.34	1.66	19.5	100.28
599	94.7	152.0	57.3	0.68	450.5	7.87	2.27	18.5	100.12
610	37.4	93.6	56.2	0.67	251.8	4.48	2.35	17	100.59
581	67.2	122.2	55.1	0.66	355.8	6.46	2.08	19.5	100.37
593	61.7	116.7	55.1	0.66	321.1	5.83	2.18	18	100.36
582	47.4	102.4	55.1	0.66	321.1	5.83	2.31	17	100.29
617	29.7	84.8	55.1	0.66	235.4	4.28	1.63	15	100.09
613	46.3	100.2	54.0	0.64	294.1	5.45	2.07	20	100.58
577	52.9	106.8	54.0	0.64	318.9	5.91	2.35	17	100.26
601	36.3	89.2	52.9	0.63	245.9	4.65	1.32	16.5	100.00
586	41.9	94.7	52.9	0.63	318.1	6.02	1.78	16	99.88
604	55.1	106.8	51.8	0.62	254.3	4.91	2.52	18	100.57
584	66.1	117.8	51.8	0.62	329.5	6.37	2.41	18	100.25
624	35.2	87.0	51.8	0.62	216.6	4.18	1.57	15.5	100.05
606	31.9	83.7	51.8	0.62	211.3	4.08	1.13	13	99.58
623	54.0	104.6	50.7	0.60	260.9	5.15	1.83	18	100.23
614	98.0	147.6	49.6	0.59	424.8	8.57	2.61	22.5	100.35
587	43.0	91.4	48.5	0.58	193.0	3.98	1.69	17	100.22
625	41.9	90.3	48.5	0.58	209.8	4.33	1.29	17	99.99
589	59.5	105.7	46.3	0.55	271.4	5.87	2.20	16	99.89
607	76.0	122.2	46.3	0.55	387.8	8.38	2.36	18	99.71
615	57.3	102.4	45.2	0.54	319.2	7.07	1.46	18.5	99.62
602	55.1	99.1	44.1	0.52	225.0	5.11	1.63	17.5	99.92
591	62.8	105.7	43.0	0.51	293.5	6.83	2.14	17	99.71
576	56.2	98.0	41.9	0.50	291.1	6.96	2.84	19	100.15
578	59.5	101.3	41.9	0.50	215.8	5.16	2.24	16.5	99.98
590	46.3	88.1	41.9	0.50	236.7	5.65	1.46	16.5	99.57
609	92.5	133.3	40.7	0.49	385.7	9.47	2.77	20	99.73
622	63.9	104.6	40.7	0.49	316.3	7.76	2.24	17	99.52
620	76.0	115.6	39.6	0.47	333.0	8.40	3.02	20	99.99
612	79.3	118.9	39.6	0.47	355.3	8.96	2.00	20	99.50
616	37.4	77.1	39.6	0.47	338.1	8.53	1.46	14.5	98.74
621	37.4	70.5	33.0	0.39	159.2	4.82	1.11	15.5	99.23
583	60.6	91.4	30.8	0.37	246.6	8.00	1.19	17.5	98.83
603	41.9	68.3	26.4	0.31	143.7	5.44	0.97	15.5	98.87
611	60.6	84.8	24.2	0.29	197.3	8.14	1.83	17.5	98.90
600	77.1	101.3	24.2	0.29	283.6	11.71	1.61	18	98.19
Average	<b>58.3</b>	<b>108.4</b>	<b>50.1</b>	<b>0.60</b>	<b>308.0</b>	<b>6.30</b>	<b>1.98</b>	<b>17.6</b>	<b>100.00</b>

\* lbs of feed for one lb. of gain.

Table 3. Bucks sorted by Feed Efficiency.

LU ID	Beg Wt (lbs)	End Wt (lbs)	Gain (lbs)	ADG (lbs/day)	Intake (lbs)	FE*	LEA (in <sup>2</sup> )	Rear Leg (in)	index
587	43.0	91.4	48.5	0.58	193.0	3.98	1.69	17	100.22
606	31.9	83.7	51.8	0.62	211.3	4.08	1.13	13	99.58
624	35.2	87.0	51.8	0.62	216.6	4.18	1.57	15.5	100.05
617	29.7	84.8	55.1	0.66	235.4	4.28	1.63	15	100.09
625	41.9	90.3	48.5	0.58	209.8	4.33	1.29	17	99.99
610	37.4	93.6	56.2	0.67	251.8	4.48	2.35	17	100.59
601	36.3	89.2	52.9	0.63	245.9	4.65	1.32	16.5	100.00
621	37.4	70.5	33.0	0.39	159.2	4.82	1.11	15.5	99.23
604	55.1	106.8	51.8	0.62	254.3	4.91	2.52	18	100.57
598	49.6	124.4	74.9	0.89	370.7	4.95	1.95	15.5	100.68
602	55.1	99.1	44.1	0.52	225.0	5.11	1.63	17.5	99.92
623	54.0	104.6	50.7	0.60	260.9	5.15	1.83	18	100.23
578	59.5	101.3	41.9	0.50	215.8	5.16	2.24	16.5	99.98
585	63.9	135.5	71.6	0.85	378.7	5.29	2.44	16.5	100.83
592	61.7	118.9	57.3	0.68	309.8	5.41	2.53	18	100.63
603	41.9	68.3	26.4	0.31	143.7	5.44	0.97	15.5	98.87
613	46.3	100.2	54.0	0.64	294.1	5.45	2.07	20	100.58
580	54.0	114.5	60.6	0.72	338.5	5.59	2.46	18	100.66
590	46.3	88.1	41.9	0.50	236.7	5.65	1.46	16.5	99.57
595	63.9	122.2	58.4	0.69	330.3	5.66	1.03	18	100.00
597	60.6	118.9	58.4	0.69	334.3	5.73	2.12	16.5	100.27
593	61.7	116.7	55.1	0.66	321.1	5.83	2.18	18	100.36
582	47.4	102.4	55.1	0.66	321.1	5.83	2.31	17	100.29
589	59.5	105.7	46.3	0.55	271.4	5.87	2.20	16	99.89
577	52.9	106.8	54.0	0.64	318.9	5.91	2.35	17	100.26
586	41.9	94.7	52.9	0.63	318.1	6.02	1.78	16	99.88
618	48.5	107.9	59.5	0.71	366.5	6.16	1.96	15.5	100.04
579	73.8	132.2	58.4	0.69	363.9	6.23	1.65	18.5	100.22
594	69.4	130.0	60.6	0.72	377.8	6.24	2.49	18	100.55
619	46.3	104.6	58.4	0.69	367.1	6.29	2.07	17	100.20
588	65.0	122.2	57.3	0.68	363.2	6.34	1.66	19.5	100.28
584	66.1	117.8	51.8	0.62	329.5	6.37	2.41	18	100.25
608	66.1	139.9	73.8	0.88	470.7	6.38	1.78	19.5	100.77
581	67.2	122.2	55.1	0.66	355.8	6.46	2.08	19.5	100.37
591	62.8	105.7	43.0	0.51	293.5	6.83	2.14	17	99.71
605	65.0	122.2	57.3	0.68	392.8	6.86	2.34	21	100.62
576	56.2	98.0	41.9	0.50	291.1	6.96	2.84	19	100.15
615	57.3	102.4	45.2	0.54	319.2	7.07	1.46	18.5	99.62
596	87.0	146.5	59.5	0.71	426.0	7.16	2.46	19	100.44
622	63.9	104.6	40.7	0.49	316.3	7.76	2.24	17	99.52
599	94.7	152.0	57.3	0.68	450.5	7.87	2.27	18.5	100.12
583	60.6	91.4	30.8	0.37	246.6	8.00	1.19	17.5	98.83
611	60.6	84.8	24.2	0.29	197.3	8.14	1.83	17.5	98.90
607	76.0	122.2	46.3	0.55	387.8	8.38	2.36	18	99.71
620	76.0	115.6	39.6	0.47	333.0	8.40	3.02	20	99.99
616	37.4	77.1	39.6	0.47	338.1	8.53	1.46	14.5	98.74
614	98.0	147.6	49.6	0.59	424.8	8.57	2.61	22.5	100.35
612	79.3	118.9	39.6	0.47	355.3	8.96	2.00	20	99.50
609	92.5	133.3	40.7	0.49	385.7	9.47	2.77	20	99.73
600	77.1	101.3	24.2	0.29	283.6	11.71	1.61	18	98.19
Average	<b>58.3</b>	<b>108.4</b>	<b>50.1</b>	<b>0.60</b>	<b>308.0</b>	<b>6.30</b>	<b>1.98</b>	<b>17.6</b>	<b>100.00</b>

\* lbs of feed for one lb. of gain.