

2025 Summer Dakota Ram Performance Test

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The Summer Dakota Ram Test is a multistate ram performance evaluation program designed to identify rams with superior genetic potential for economically important and heritable traits, including growth performance and carcass merit. Rams are evaluated under centralized management, and the test provides producers with objective performance data to support more informed genetic selection decisions. Rams are ranked using a weighted performance index that incorporates key measures of growth and carcass value, allowing producers to identify sires with the greatest potential to improve terminal productivity within their flocks.

Summary

Twenty-six Dorset, Hampshire and Suffolk/Hampshire cross ram lambs from six consignors participated in the 2025 Summer Dakota Ram Test at the NDSU Hettinger Research Extension Center (HREC) from June 24, 2025, to Sept. 4, 2025. Rams were evaluated over a 70-day centralized performance test for growth, feed efficiency and carcass merit. Growth performance was measured using average daily gain (ADG), feed efficiency (feed-to-gain) was evaluated during a 28-day SmartFeed Pro intake monitoring period, and carcass traits were assessed by ultrasound. Rams were ranked using a weighted performance index that emphasized growth (ADG), muscling (ribeye area) and lean composition (backfat). Across all breeds, rams averaged 0.75 lb/day ADG, gaining 52.8 lb to reach an average final weight of 156.3

lb. Hampshire rams exhibited the greatest average growth rate (0.78 lb/day), while Dorset and Suffolk/Hampshire cross rams averaged 0.75 and 0.72 lb/day, respectively. Twenty-two of the 26 rams successfully completed the feed efficiency evaluation, averaging 6.35 lb of feed per pound of gain, with individual feed-to-gain ratios ranging from 3.23 to 10.90. Average daily feed intake during the efficiency trial was 4.55 lb/day. Ultrasound evaluation showed an average ribeye area of 2.85 inches² and backfat thickness of 0.17 inch, with relatively small differences among breeds. Weighted performance index scores ranged from 62.3 to 135.3, demonstrating substantial variation in overall genetic merit for growth and carcass characteristics. Collectively, the results provide producers with objective data to identify superior ram lambs for improving flock growth performance, feed efficiency and carcass value.

Introduction

Sheep producers throughout the northern Great Plains utilize performance testing to collect objective data to identify superior rams that have the greatest potential to improve flock productivity. Centralized performance testing standardizes environmental and management factors, allowing observed differences in performance to more accurately reflect the genetic potential of individual rams and to allow comparison across flock origins. The Summer Dakota Ram Test is a centralized performance test that measures several economically important and/or heritable traits that producers can evaluate when selecting rams or genetic lineages to retain within their flocks for terminal productivity.

Procedures

Twenty-six ram lambs of three different breeds (Dorset, Hampshire and Suffolk/Hampshire cross), with birthdates ranging from Jan. 21 to April 2 of 2025, were consigned by six producers and received by the Hettinger Research Extension Center on June 24, 2025. To determine average daily gain (ADG), initial body weight was recorded at the start of the testing period on June 25, 2025, every 28 days and at the end of the growth testing period on Sept. 4, 2025. To estimate feed efficiency, rams were equipped with radio frequency identification (RFID) tags and adapted to a smart-feed intake monitoring system (SmartFeedPro, C-Lock Inc., Rapid City, South Dakota) to track individual ram feed

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intake. Rams were adapted to the smart-feed intake monitoring system for seven days and removed from the feed efficiency trial if they failed to acclimate to and/or utilize the smart system feed bunk. Feed efficiency was determined using total individual ram feed intake and ram body weight gain over a 28-day period to estimate feed-to-gain ratio or pounds of feed needed to gain one pound of body weight. At the beginning and the end of the growth testing period, a real-time carcass ultrasound was performed to estimate ribeye area, ribeye depth and back fat cover between the 12th and 13th rib. Ram lambs were ranked with a weighted performance index that combined growth rate, muscle development and fat thickness into a single score. Index scores were calculated by comparing each ram lamb's ADG, ribeye area and backfat thickness to the test average. Deviations from the test average were weighted according to their economic importance, with the greatest emphasis placed on growth (ADG weight = 75), additional credit assigned for greater ribeye area (weight = 20) and a penalty applied for excess backfat (weight = -90). An index score of 100 represents the test average, with scores above 100 indicating above-average combined growth and carcass merit.

Results and Discussion

Rams entered the 70-day performance test with an average body weight of 103.5 pounds, although expected breed differences were evident. Dorset rams averaged 84.4 pounds, Hampshire rams averaged 107.95 pounds and the Suffolk/Hampshire crossbred rams averaged 118.3 pounds at the start of the test. Across all three breeds, rams gained an average of 0.75 pounds per day (Table 1), resulting in a total average gain of 52.75 pounds and a final body weight of 156.25 pounds. Hampshire rams exhibited the greatest average growth rate (0.78 lb/day) and total weight gain (54.5 lb), finishing the test at 162.46 pounds. Dorset rams gained 0.75 pounds per day for a total gain of 52.19 pounds, reaching a final weight of 136.63 pounds, while Suffolk/Hampshire crossbred rams gained 0.72 pounds per day, averaging 50.64 pounds of total gain and a final body weight of 168.93 pounds.

Carcass and feed efficiency data (Table 1) provides producers with insight into ram efficiency and growth/maturity patterns. Carcass ultrasound evaluation at the conclusion of the test revealed an average ribeye area of 2.85 inches² and an average backfat thickness of 0.17 in across all rams. Dorset rams averaged 2.78 inches² of ribeye area and 0.18 inch of backfat, Hampshire rams averaged 2.83 inches² and 0.17 inch and Suffolk/Hampshire crossbred rams averaged the largest ribeye area at 2.97 inches² while also

averaging 0.17 inch of backfat. Rams with larger ribeye areas indicate greater muscling and increased growth patterns, while rams with greater fat cover may indicate a faster maturity pattern. Twenty-two of the 26 rams successfully adapted to the SmartFeed Pro intake monitoring system and completed the 28-day feed efficiency evaluation. Average daily feed intake during the feed efficiency trial was 4.55 pounds per day, with individual intakes ranging from 3.11 to 6.59 pounds per day. Dorset rams consumed an average of 4.26 pounds per day (range 3.35-5.02), Hampshire rams averaged 4.97 pounds per day (range 3.11-6.59) and Suffolk/Hampshire crossbred rams averaged 4.08 pounds per day (range 3.24-5.18). Across all breeds, rams averaged a feed-to-gain ratio of 6.35, with individual values ranging from 3.23 to 10.90 pounds of feed per pound of gain. Dorset rams were the most feed efficient on average (5.73; range 3.23-9.15), followed by Hampshire rams (6.59; range 4.09-10.25) and Suffolk/Hampshire crossbred rams (7.00; range 4.27-10.90). Rams with lower feed-to-gain ratios indicate greater feed efficiency and more productive use of available feed resources, requiring fewer pounds of feed for each pound of body weight gained. Weighted performance index scores ranged from 62.31 to 135.28, demonstrating substantial variation in overall growth and carcass merit among the consigned rams.

Table 1. Ram performance summary

Test ID	70-Day ADG (lb)	28-Day Avg. DMI (lb)	28-Day Feed:Gain (lb)	REA (sq. in)	Backfat (in)	Index (pts)
Dorset						
204439	0.92	3.35	5.60	2.81	0.21	117.48
204441	0.84	3.95	3.23	2.82	0.14	108.24
204444	0.76	3.40	5.45	2.96	0.16	103.83
204438	0.74	4.98	4.48	3.05	0.16	93.51
204442	0.70	5.02	9.15	2.74	0.19	92.43
204440	0.67	4.36	6.96	2.82	0.21	90.69
204437	0.68	4.56	4.93	2.54	0.21	90.62
204443	0.66	4.42	6.02	2.46	0.15	83.74
<i>Average</i>	<i>0.75</i>	<i>4.26</i>	<i>5.73</i>	<i>2.78</i>	<i>0.18</i>	<i>97.57</i>
Hampshire						
204447	1.09	5.03	6.68	3.41	0.21	135.28
203654	0.94	6.27	8.14	3.95	0.19	134.69
204446	1.24	3.11	6.53	2.46	0.12	134.54
204451	0.94	3.65	4.91	2.48	0.19	112.40
25008	0.65	5.75	5.51	3.21	0.14	100.46
204448	0.74	4.49	6.83	2.73	0.16	98.30
204445	0.72	6.59	10.3	2.59	0.19	94.42
204449	0.64	4.96	5.72	3.02	0.23	84.27
204452	0.59	6.59	7.20	2.88	0.19	81.69
25058	0.52	3.3	4.09	2.06	0.16	74.17
25106	0.51	.	.	2.28	0.12	66.57
<i>Average</i>	<i>0.78</i>	<i>4.97</i>	<i>6.59</i>	<i>2.83</i>	<i>0.17</i>	<i>101.53</i>
Suffolk Hampshire Crossbred						
204458	0.78	3.24	7.71	3.04	0.10	117.31
204457	0.89	5.18	4.27	3.22	0.19	116.90
204456	1.00	4.12	5.10	3.39	0.12	113.71
173925	0.84	3.76	.	3.29	0.23	110.17
204459	0.61	.	10.9	2.28	0.12	98.98
173939	0.61	.	.	2.71	0.21	83.30
174061	0.34	.	.	2.85	0.23	62.31
<i>Average</i>	<i>0.72</i>	<i>4.07</i>	<i>7.00</i>	<i>2.97</i>	<i>0.17</i>	<i>100.38</i>
Overall Avg.	0.75	4.55	6.35	2.85	0.17	100.00

ADG, average daily gain; DMI, dry-matter intake; REA, ribeye area;