

1998-99 Dakota Performance Ram Test

The ram testing consignors would like to thank Dave Pearson, Ram Test Manager, for the excellent care and assistance provided to the program. Thanks to Tim Faller, Hettinger Research and Extension Center Superintendent, for the opportunity to conduct this worthy project on the station. Also, a big thank you to consignors and interested parties for their time and effort throughout the test.

The Dakota Performance Ram Testing program was established primarily to identify differences in wool traits for rams managed under the same environmental conditions and plane of nutrition. Secondly, to measure post-weaning growth rate as indicated by weight gain. An added feature is evaluation of animal carcass merit using real-time ultrasound technology.

The 1998-1999 Performance Ram Test included 38 rams. Four breeds of sheep were represented: Rambouillet, Columbia, Corriedale, and Targhee.

The ram test calendar, which follows, summarizes the dates on which specific activities were conducted during the test.

1998-99 RAM TEST CALENDAR

- September 17-25 - Rams to be delivered to the station
- October 7 - Rams shorn, weighed, ultrasound and started on test
- November 4 - 28 day weighing
- December 2 - 56 day weighing
- December 30 - 84 day weighing
- January 27 - 112 day weighing
- February 24 - 140 day - End of growth test period
- March 6 - Rams to be shorn, ultrasound, field day, rams to be picked up by owner

TEST PROCEDURES

Fleece weight and staple length were calculated on a 365-day basis although the test period for fleece weight and staple length was 154 days. Side and britch samples were sent to the Yocum-McColl Testing Laboratory to determine fiber diameter and variability, and clean wool yield. Average daily gain was

calculated based on the total weight gain (including fleece) during a period of 139 days.

Fiber Diameter: determined for each sample using laser scan technology method. The diameter is estimated by measuring four hundred clean fibers to determine an average (mean). In addition, the variation within a sample is determined. For each individual ram and type of sample you will find a histogram which illustrates the variation. The horizontal axis indicates microns and the vertical axis shows the number of fibers from the total fibers measured which was a specific diameter. A narrow distribution pattern indicates relative fleece uniformity. The standard deviation (std.dev.) and coefficient of variation (C.V.) are given to provide numerical indications of the variation. A fleece sample with a small C.V. should be considered more uniform than one with a large C.V. (C.V.= std.dev/mean fiber dia.).

Staple length: determined by measuring with a ruler at the shoulder, side and britch. Values were adjusted (less 1/8") for the stubble remaining after the initial shearing and an average calculated from these three sites.

Clean wool: determined from the laboratory scoured clean yield estimates on side samples. Analytical procedures meet ASTM standards.

Face cover and body skin fold scores: determined by averaging subjective scores from a three person committee selected by the ram test committee. Scores were assigned from 1 to 4 for each trait. The lower the value the more open faced or freedom from skin folds.

Average daily gain: calculated by dividing the total gain by the number of days in the test period (140 days).

Index: utilized the following formula established by the Texas and Wyoming Ram tests and the approved index for the American Rambouillet Sheep Association's register of merit program (ROM). (Revised July 8, 1993.)

Index = 60 (average daily gain in pounds) + 4.0 (365-day adjusted staple length in inches up to 5.5 inches) + 4.0 (365-day adjusted clean wool in pounds) fiber diameter and variability points according to the following schedule:

Fiber diameter (micron) of side

3 (22-actual microns) = +points up to 9

3 (actual microns -22) = -points up to -6

Variability-Britch compared to side

2.5 deduction for each micron the britch is coarser than the side. No points given if britch is finer than

side.

Index ratios: To compare one ram with another an index ratio was calculated by the following formula. The average index ratio for all rams is 100; an individual with an index ratio of 130 would be 30 percent higher than the average and so on.

Actual Ram Index

$$\text{Ram Index Ratio} = \text{Average Ram Index Value} \times 100$$

The top 30% of the registered Rambouillet rams as indicated by index are eligible for the Certified Ram Classification. In addition to the above requirement, a ram must meet acceptable standards from the standpoint of body type, amount of body skin folds, freedom from anatomical weaknesses and wool defects, including extremely hairy britch or excessive amount of belly type wool. All certified rams must have a minimum of 4.0 inches staple length, 9 pounds clean wool, a wool grade of 60s or finer on the side and 56's or finer on the britch, a maximum of 2.7 face cover score, and must have gained at least 0.55 pounds per day on test.

Carcass Merit: at the beginning and end of the test fat cover and ribeye area were measured at the 12-13th rib by real-time ultrasound. This information is not included in the index. However, these measures may help producers identify rams with superior carcass merit. Ribeye area is a good indicator of overall muscling, rams with larger ribeyes would be expected to be more muscular compared to those with smaller ribeyes. More muscular individuals would be expected to exhibit high growth rated relative to those with less muscularity. Fat cover is an indicator of maturity pattern i.e. frame-size. Those rams carrying less fat (finish) would likely be later maturing, or perhaps younger than those with greater amounts of fat cover. For fat cover, the only valid comparison for this set of rams is the final measurement.

American Grade	Spinning Count Grade	Micron Diameter
Fine	Finer than 80s	Under 17.70
Fine	80s	17.71 - 19.14
Fine	70s	19.15 - 20.59
Fine	64s	20.60 - 22.04
1/2	62s	22.05 - 23.49
1/2	60s	23.50 - 24.94
3/8	58s	24.95 - 26.39
3/8	56s	26.40 - 27.84
1/4	54s	27.85 - 29.29

1/4	50s	29.30 - 30.99
Low 1/4	48s	31.00 - 32.69
Low 1/4	46s	32.70 - 24.39

1998-99 DAKOTA PERFORMANCE RAM TEST

	Consignor/Ram ID
Hetzel	Doug and Lindi Peterson
Ram #1	HCR 82 Box 209 Lemmon SD 57638 Ram #102, 103, 104 701-376-3115 H. Osborne
John Gupman	2345 94 th Ave SE
HCR 82 Box 15	Wimbledon ND 58492
Lemmon SD 57638	Ram #105
Ram #2, 3, 4, 5, 6	D. Osborne
701-584-3335 Cook Sisters	9555 22 nd St. SE
Box 7	Wimbledon ND 58492
Glad Valley, SD 57629	Ram #106
Ram #7, 8, 9	Rud Wasson
605-466-2170 Justin Benz and Darold Benz	SDSU Sheep Unit
PO Box 26	PO Box 2170
Beulah ND 58520	Brookings SD 57007
Ram #10, !!	Ram #107, 108, 109 605-693-3808
701-873-5124 or 5219	

Lenard Chapman

HCR 66 Box 87A

Bison SD 57620

Ram #12, 13, 14, 15, 16, 17, 18

605-244-5469

Burton Anderson

Box 55

Highmore SD 57345

Ram #19, 20

605-852-2233

Erk Brothers

HC 66 Box 61

Newell SD 57760

Ram #21, 22

605-456-2709

Dave Pearson

Hettinger Research/Extension Center

Box 1377

Hettinger ND 58639

Ram #100, 101

701-567-4323

Gene & Scott Bredahl

HCR 2 Box 99

Berthold ND 58718

Ram #110, 111

H. Lewis

RT 1 Box 141-D

Reedpoint MT 59069

Ram #201, 202, 203

Loris Megali

M & M Livestock

310 South J Highway

Lamar MO 64759

Ram #300

417-682-5931

Jim Crouch

Box 613

Aurora MO 65605

Ram #301

Table of Abbreviations: 1997-98 Dakota Performance Ram Test-Final Reports

TID = Test identification number

FID = Flock identification number

H/P = Horned or polled

B Date = Birth date

B WT = Beginning weight

F WT = Final weight

GAIN = Pounds gained over 140 test days

ADG = Average daily gain

GR 365-d = Pounds of grease fleece weight, adjusted to 365 days

YIELD CWFP = Clean wool fibers present, % fleece yield calculation

CL FL 365-d = Pounds of clean fleece weight, adjusted to 365 days

SIDE and Britch

GRADE = Spin count

AFD = Actual fiber diameter, expressed in microns

SD = Standard deviation from the mean (average)

CV = Coefficient of variation, expression to describe the variation from the mean value

STL ADJ = Staple length, adjusted to 365 days

FS = Face score, range from 1 to 4

BSF = Body skin folds, range from 1 to 4

BW = Belly wool, range from 1 to 3

SC CIR = Scrotal circumference, taken at final shearing

INDEX = Multiple trait composite index score, developed for the Rambouillet-Certificate of Merit Program

RATIOS = Simple method to mathematically compare animals for a given trait(s)

Top Rams

TOP 30% OF RAMBOUILLET RAMS

ID #	Producer	Flock ID	Index	Index Ratio	Certification Status
11	Benz, Darrell	921	129.38	114.90	Yes
1	Hetzel, Ben	1053	128.47	114.09	Yes
7	Cook Sisters	4165	124.85	110.88	Yes
9	Cook Sisters	4148	122.99	109.23	No (Grade)
6	Gupman, John	1092	121.37	107.79	No (Grade)
10	Benz, Justin	1721	120.54	107.06	No (Grade)
16	Chapman, Lenard	886	119.10	105.78	Yes
21	Erk Brothers	8002	116.43	103.40	Yes

1998-99 Dakota Performance Ram Test-Final Report

Sorted by Average Daily Gain

T ID	Producer	F ID	H/P	BT	B Date	B Wt	F Wt	Gain	ADG
RAMBOUILLETS									
6	Gupman, J.	1092	P	S	2/21/98	134	283	149	1.07
7	Cook Sisters	4165	H	TW	2/24/98	129	273	144	1.04
9	Cook Sisters	4148	H	TW	2/19/98	133	276	143	1.03
16	Chapman, L.	886	P	S	3/19/98	117	255	138	0.99
1	Hetzel, Ben	1053	P	S	2/11/98	160	297	137	0.99
15	Chapman, L.	579	P	S	3/20/98	107	244	137	0.99
8	Cook Sisters	4199	H	TW	2/19/98	133	267	134	0.96
10	Benz, Justin	1721	P	TW	3/7/98	123	253	130	0.94
17	Chapman, L.	4697	H	S	4/10/98	104	234	130	0.94
20	Anderson, B.	570	P	TW	3/3/98	136	261	125	0.90
18	Chapman, L.	577	P	S	3/19/98	107	231	124	0.89
12	Chapman, L.	4695	H	S	4/8/98	85	209	124	0.89
11	Benz, Darrell	921	P	S	3/18/98	150	272	122	0.88
13	Chapman, L.	585	P	S	3/21/98	119	239	120	0.86
5	Gupman, J.	1065	P	S	2/14/98	124	242	118	0.85
21	Erk Brothers	8002	P	S	4/10/98	93	210	117	0.84
4	Gupman, J.	1077	P	S	2/21/98	144	260	116	0.83
2	Gupman, J.	1042	P	S	2/21/98	133	246	113	0.81
22	Erk Brothers	22	P	TW	4/19/98	79	166	87	0.63
	Average					122	248	127	0.91
COLUMBIA									
108	Wasson, Rud	7583	P	TW	3/27/98	131	278	147	1.06
107	Wasson, Rud	7588	P	TW	3/30/98	116	258	142	1.02
110	Bredahl, G/S	9804	P			158	283	125	0.90
106	Osborne, Don	2412	P			142	265	123	0.88
111	Bredahl, G/S	9800	P			136	252	116	0.83
105	Osborne, H.	3932	P			114	223	109	0.78
104	Peterson, Doug	8647	P	TW	3/29/98	185	289	104	0.75
101	HRC	8-0438	P	TW	1/21/98	152	253	101	0.73
102	Peterson, Doug	8623	P	TW	3/10/98	157	239	82	0.59

Average						143	260	117	0.84
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TARGEE

203	Lewis, H	53	P	TW	2/13/98	135	251	116	0.83
201	Lewis, H	011-2	P	TW	5/13/98	94	213	119	0.86
202	Lewis, H	36	P	TW	2/11/98	140	207	67	0.48

Average						123	224	101	.072
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CORRIEDALE

301	Crouch, Jim	253	P	TW	3/23/98	119	243	124	0.89
300	Megali, Loris	8047	P			118	224	106	0.76

Average						119	234	115	0.83
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Test Average						111	248	121	0.87
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1998-99 Dakota Performance Ram Test - Carcass Merit

T ID	Producer	B Date	Int.	Final	ADG	Int.	Ft (in)	Final	FT (in)	REA/CWT
			WT	WT		REA		REA		
<i>Rambouillets</i>										
9	Cook Sisters	2/19/98	133	276	1.03	2.6	0.24	4.2	0.39	1.52
13	Chapman, L	3/21/98	119	239	0.86	3.3	0.16	4.2	0.24	1.76
16	Chapman, L	3/19/98	117	255	0.99	2.2	0.20	4.2	0.31	1.65
17	Chapman, L	4/10/98	104	234	0.94	2.1	0.16	3.9	0.43	1.67
20	Anderson, B	3/3/98	136	261	0.90	2.7	0.20	3.9	0.35	1.49
5	Gupman, J	2/14/98	124	242	0.85	1.8	0.12	3.8	0.31	1.57
12	Chapman, L	4/8/98	85	209	0.89	2.3	0.12	3.7	0.24	1.77
15	Chapman, L	3/20/98	107	244	0.99	1.9	0.20	3.7	0.35	1.52
6	Gupman, J	2/21/98	134	283	1.07	2.8	0.20	3.6	0.39	1.27
18	Chapman, L	3/19/98	107	231	0.89	2.0	0.16	3.6	0.35	1.56
11	Benz, D	3/18/98	150	272	0.88	3.0	0.24	3.5	0.35	1.29
22	Erk Bros	4/19/98	79	166	0.63	1.5	0.08	3.5	0.31	2.11
2	Gupman, J	2/21/98	133	246	0.81	2.8	0.20	3.4	0.37	1.38
7	Cook Sisters	2/24/98	129	273	1.04	2.0	0.20	3.4	0.31	1.25
8	Cook Sisters	2/19/98	133	267	0.96	1.9	0.20	3.3	0.35	1.24
4	Gupman, J	2/21/98	144	260	0.83	2.4	0.16	3.2	0.47	1.23
10	Benz, J	3/7/98	123	253	0.94	2.3	0.24	3.2	0.35	1.26
21	Erk Bros	4/10/98	93	210	0.84	2.0	0.08	3.0	0.31	1.43
1	Hetzel, Ben	2/11/98	160	297	0.99	2.4	0.20	2.9	0.55	0.98
3	Gupman, J	OUT								
19	Anderson, B	OUT								
	Average		122	248	0.91	2.3	0.16	3.6	0.35	1.46
<i>COLUMBIA</i>										
102	Peterson, D	3/10/98	157	239	0.59	3.2	0.31	4.6	0.35	1.92
101	HRC	1/21/98	152	253	0.73	3.0	0.16	4.4	0.35	1.74
104	Peterson, D	3/29/98	185	289	0.75	2.4	0.28	4.4	0.39	1.52
110	Bredahl, G/S		158	283	0.90	2.6	0.20	4.4	0.35	1.55
105	Osborne, H		114	223	0.78	2.4	0.20	4.3	0.28	1.93
108	Wasson, R	3/27/98	131	278	1.06	2.4	0.20	3.7	0.24	1.33
107	Wasson, R	3/30/98	116	258	1.02	2.2	0.12	3.6	0.31	1.40

106	Osborne, H		142	265	0.88	2.1	0.31	3.4	0.35	1.28
111	Bredahl, G/S		136	252	0.83	2.7	0.16	3.4	0.31	1.35
100	HRC	Out								
103	Peterson, D	Out								
109	SDSU	Out								
	Average		142	263	0.84	2.4	0.21	4.0	0.32	1.50

TARGEE

203	Lewis, H	2/13/98	135	251	0.83	2.4	0.20	4.3	0.39	1.71
201	Lewis, H	5/13/98	94	213	0.86	2.0	0.16	4.2	0.35	1.97
202	Lewis, H	2/11/98	140	207	0.48	2.2	0.20	3.4	0.35	1.64
	Average		123	224	0.724	2.3	0.16	4.0	0.36	1.77

CORRIEDALE

301	Crouch, J	3/23/98	119	243	0.89	2.3	0.16	4.0	0.39	1.65
300	Megali, L		118	224	0.76	2.3	0.20	3.4	0.39	1.52
	Average		118.5	234	0.83	2.3	0.16	3.4	0.39	1.46
	Test Average		111	248	0.87	2.3	0.16	3.4	0.39	1.49

Abbreviations:

TID = Test Identification

B Date = Birth Date

ADG = Average Daily Gain

Fat Depth = External Fat at 12-13th rib

REA (sq in.)/CWT = REA expressed per 100 pounds of Final Weight

**Weight Measurements = pounds

Ribeye Area = square inches

1998-99 Dakota Performance Ram Test-Final Report

Sorted by Clean Fleece 365 days

T ID	Producer	F ID	H/P	BT	B Date	B Wt	F Wt	Gain	ADG
RAMBOUILLETS									
11	Benz, Darrell	921	P	S	3/18/98	150	272	122	0.88
1	Hetzel, Ben	1053	P	S	2/11/98	160	297	137	0.99
10	Benz, Justin	1721	P	TW	3/7/98	123	253	130	0.94
17	Chapman, L.	4697	H	S	4/10/98	104	234	130	0.94
9	Cook Sisters	4148	H	TW	2/19/98	133	276	143	1.03
20	Anderson, B.	570	P	TW	3/3/98	136	261	125	0.90
16	Chapman, L.	886	P	S	3/19/98	117	255	138	0.99
6	Gupman, J.	1092	P	S	2/21/98	134	283	149	1.07
18	Chapman, L.	577	P	S	3/19/98	107	231	124	0.89
13	Chapman, L.	585	P	S	3/21/98	119	239	120	0.86
2	Gupman, J.	1042	P	S	2/21/98	133	246	113	0.81
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21	Erk Brothers	8002	P	S	4/10/98	93	210	117	0.84
15	Chapman, L.	579	P	S	3/20/98	107	244	137	0.99
7	Cook Sisters	4165	H	TW	2/24/98	129	273	144	1.04
5	Gupman, J.	1065	P	S	2/14/98	124	242	118	0.85
12	Chapman, L.	4695	H	S	4/8/98	85	209	124	0.89
22	Erk Brothers	22	P	TW	4/19/98	79	166	87	0.63
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105	Osborne, H.	3932	P			114	223	109	0.78
111	Bredahl, G/S	9800	P			136	252	116	0.83
108	Wasson, Rud	7583	P	TW	3/27/98	131	278	147	1.06
106	Osborne, Don	2412	P			142	265	123	0.88
104	Peterson, Doug	8647	P	TW	3/29/98	185	289	104	0.75
101	HRC	8-0438	P	TW	1/21/98	152	253	101	0.73
102	Peterson, Doug	8623	P	TW	3/10/98	157	239	82	0.59

Average						143	260	117	0.84
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TARGEE

202	Lewis, H	36	P	TW	2/11/98	140	207	67	0.48
203	Lewis, H	53	P	TW	2/13/98	135	251	116	0.83
201	Lewis, H	011-2	P	TW	5/13/98	94	213	119	0.86

Average						123	224	101	.072
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CORRIEDALE

301	Crouch, Jim	253	P	TW	3/23/98	119	243	124	0.89
300	Megali, Loris	8047	P			118	224	106	0.76

Average						119	234	115	0.83
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Test Average						111	248	121	0.87
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Ram Test Overview

March 24, 1999

Dear Dakota Ram Test Consignor:

Enclosed is the complete data and support information for the 1998-99 Dakota Ram Test. There are four methods used to rank the rams: index, average daily gain, pounds of clean wool and carcass merit. The rankings are made within breed in all cases. Each consignor should receive a summary on structural soundness and fleece characteristics. Breeders consigned an excellent set of rams; the data demonstrates the strength of the genetics evaluated in each breed.

Overview of Ram Test

Introduction

The Dakota Ram Test program has now completed a second cycle at the Hettinger Research and Extension Center. The key component in the success of this program is the level of care, Dave Pearson deserves high praise for his management skill and genuine concern for the rams while on test. Consignors do recognize and appreciate the unique opportunity to utilize the excellent facilities and management expertise at the Hettinger station for the ram test. Thanks to Tim Faller, HREC Superintendent, for his cooperation and to help facilitate this program.

The success of this program is driven by consignor input and interest in evaluating top stud prospects using this central test concept. I have been very pleased with these aspects again this year, perhaps even a greater enthusiasm for the program. The quality of the rams on test clearly indicates to me seedstock producers have a keen interest in genetic progress and have confidence in the level of care offered over the 5-month test period.

Four breeds were represented on test, 38 rams were placed on test in early-October and 33 rams completed the test in March. Five rams died three due to urinary calculi and two unconfirmed cause of death. The incidence of urinary calculi (waterbelly) is greatly reduced in male lambs by designing rations, which maintain calcium to phosphorus ratio at 2:1 and include 0.5 percent ammonium chloride. These steps were taken and confirmed by laboratory results in regard to the calcium and phosphorus content of the diet, The same ration formulation was used for the past four years with excellent ram growth performance and health. However the manufacturing steps for ration formulation were different this year.

In September 1998 I was told the feed supplier for the ram test would be unable to service our needs due to pending ownership changes. Arrangements were made to put together the same ration and delivered in bulk to the test station. Although the ration ingredients were held constant, a customized commercial

protein concentrate pellet, alfalfa pellets and whole shelled corn, the procedural changes added no less than 3 drops on the ration compared to other years. With each drop the damage to pellets will increase. The level of fines in the ration increased compared to other years. The fine particulate material is not very palatable therefore ration sorting by the rams would likely have increased. Nutritional imbalance's can result under these conditions since the ration specifications assume animal intake will represent the proportion of the feed ingredients in the ration. In regard to the key nutrient in reducing the incidence of water belly, calcium, limited intake for either pellet could significantly reduce calcium intake. In contrast to last year the overall health status required more monitoring and treatment.

Ram Test Open House - March 6

Discussion during the morning program at the ram test open house centered on ways to reduce cost. The fee was \$165 per ram this year, an increase of \$15 over past years. This increase was necessary to make up for the cost over run experienced each of the past 4 years. Preliminary financial information would indicate a break-even when all ram consignment fees are made current. Doug Peterson and myself, along with Tim Faller will evaluate changes in ration formulation to better serve the ram test function and to reduce costs. Post-test conversations have already yielded progress for both objectives.

Our goal is to reduce the consignment fee next year to no more than \$150, hopefully lower. This program has always been very effective at controlling costs. The actual cost per ram is lower than similar programs elsewhere when all services are calculated into the total cost. We will continue to work at the cost centers in this ram test program.

Ram growth performance was the highest in the history of the test at 0.87 pounds per day. The growth performance in the past has been closer to 0.80 pounds per day on test. These are excellent gains reflective of the superior rams consigned to the test again this year. Yet significantly higher performance compared to the expected performance support earlier statements that rams were sorting to the most palatable ration components, namely the whole, shelled corn. Consuming a greater proportion of corn than expected would increase the rams daily energy intake subsequently we would expect to see increased gain. The higher than expected growth performance provides indirect evidence to help explain the nutritional imbalance responsible for waterbelly.

Media Opportunities

Western Dakota Sheep Day-February 10

We have excellent visibility to the public at the station, many sheep producers viewed the rams during the 5 month test period. During the Western Dakota Sheep Day held on February 10th numerous producers braved the strong wind to look over the rams, several have requested final data packets. I presented an overview of the 1997-98 Dakota Ram Test during the sheep day program and a final report summary was published in the sheep day proceedings.

Newsprint and the web

The test results will be going out to media outlets this next week and to others that have requested final reports. All breeds will be featured in the media release, hopefully they will report data tables along with written text. If you would like more copies of the final report or have interested parties, contact me. Also the final report will be put on the web pages at the SDSU Animal and Range Science Department and the Hettinger Extension and Research Center.

Closing Comments

I'd like to thank those who donated their time and skills to serve on the ram test evaluation committee: Doug Peterson and Steve Kitzen, both from North Dakota. Also to the volunteer workers, both consignors and interested parties who helped throughout the test. Without their effort and commitment the testing program would be nearly impossible to conduct.

Again it has been a pleasure to work with all of you during the past year, if you have any questions on the data please contact me!

Thanks,
SDSU Extension Sheep Specialist

FIBER DIAMETER UNIFORMITY GUIDE

UNIFORMITY LEVELS BASED ON COEFFICIENT OF VARIATION IN FIBER DIAMETER

Limits for Avg. Grade Fiber Diameter		"EU"	"VU"	"AU"	"RV"	"EV"	Maximum Standard Deviation
	Microns	Percent	Percent	Percent	Percent	Percent	Microns
<80's	Under 17.70	15.3 & under	15.4-17.9	18.0-21.00	21.1-23.6	23.7 & over	3.59
80's	17.70-19.14	15.3 & under	15.4-17.9	18.0-21.0	21.1-23.6	23.7 & over	4.09
70's	19.15-20.59	16.3 & under	16.4-18.9	19.0-22.0	22.1-24.6	24.7 & over	4.59
64's	20.60-22.04	17.3 & under	17.4-19.9	20.0-23.0	23.1-25.6	25.7 & over	5.19
62's	22.05-23.49	18.8 & under	18.9-21.4	21.5-24.5	24.6-27.1	27.2 & over	5.89
60's	23.50-24.94	19.8 & under	19.9-22.4	22.5-25.5	25.6-28.1	28.2 & over	6.49
58's	24.95-26.39	20.8 & under	20.9-23.4	23.5-26.5	26.6-29.1	29.2 & over	7.09
56's	26.40-27.84	21.3 & under	21.4-23.9	24.0-27.0	27.1-29.6	29.7 & over	7.59
54's	27.85-29.29	21.8 & under	21.9-24.4	24.5-27.5	27.6-30.1	30.2 & over	8.19
50's	29.30-30.99	21.8 & under	21.9-24.4	24.5-27.5	27.6-30.1	30.2 & over	8.69
48's	31.00-32.69	21.8 & under	21.9-24.4	24.5-27.5	27.6-30.1	30.2 & over	9.09
46's	32.70-34.39	21.8 & under	21.9-24.4	24.5-27.5	27.6-30.1	30.2 & over	9.59
44's	34.40-36.19	21.8 & under	21.9-24.4	24.5-27.5	27.6-30.1	30.2 & over	10.09
40's	36.20-38.09	21.8 & under	21.9-24.4	24.5-27.5	27.6-30.1	30.2 & over	10.69
36's	38.10-40.20	21.8 & under	21.9-24.4	24.5-27.5	27.6-30.1	30.2 & over	11.19
>36's	41.21& under	21.8 & under	21.9-24.4	24.5-27.5	27.6-30.1	30.2 & over	---

"EU" = Exceptionally Uniform

"VU" = Very Uniform

"AU" = Average Uniformity

"RV" = Rather Variable

"EV" = Extremely Variable

Adapted from USDA Wool laboratory Standards

1998-99 Dakota Performance Ram Test-Final Report

Sorted by Index Rank

T ID	Producer	F ID	H/P	BT	B Date	B Wt	F Wt	Gain	ADG
RAMBOUILLETS									
11	Benz, Darrell	921	P	S	3/18/98	150	272	122	0.88
1	Hetzel, Ben	1053	P	S	2/11/98	160	297	137	0.99
7	Cook Sisters	4165	H	TW	2/24/98	129	273	144	1.04
9	Cook Sisters	4148	H	TW	2/19/98	133	276	143	1.03
6	Gupman, J.	1092	P	S	2/21/98	134	283	149	1.07
10	Benz, Justin	1721	P	TW	3/7/98	123	253	130	0.94
16	Chapman, L.	886	P	S	3/19/98	117	255	138	0.99
21	Erk Brothers	8002	P	S	4/10/98	93	210	117	0.84
17	Chapman, L.	4697	H	S	4/10/98	104	234	130	0.94
13	Chapman, L.	585	P	S	3/21/98	119	239	120	0.86
20	Anderson, B.	570	P	TW	3/3/98	136	261	125	0.90
15	Chapman, L.	579	P	S	3/20/98	107	244	137	0.99
18	Chapman, L.	577	P	S	3/19/98	107	231	124	0.89
8	Cook Sisters	4199	H	TW	2/19/98	133	267	134	0.96
2	Gupman, J.	1042	P	S	2/21/98	133	246	113	0.81
12	Chapman, L.	4695	H	S	4/8/98	85	209	124	0.89
5	Gupman, J.	1065	P	S	2/14/98	124	242	118	0.85
22	Erk Brothers	22	P	TW	4/19/98	79	166	87	0.63
4	Gupman, J.	1077	P	S	2/21/98	144	260	116	0.83
	Average					122	248	127	0.91
COLUMBIA									
107	Wasson, Rud	7588	P	TW	3/30/98	116	258	142	1.02
110	Bredahl, G/S	9804	P			158	283	125	0.90
108	Wasson, Rud	7583	P	TW	3/27/98	131	278	147	1.06
106	Osborne, D.	2412	P			142	265	123	0.88
105	Osborne, H.	3932	P			114	223	109	0.78
111	Bredahl, G/S	9800	P			136	252	116	0.83
104	Peterson, D.	8647	P	TW	3/29/98	185	289	104	0.75
101	HRC	8-0438	P	TW	1/21/98	152	253	101	0.73

102	Peterson, D.	8623	P	TW	3/10/98	157	239	82	0.59
	Average					143	260	117	0.84
	TARGEE								
203	Lewis, H	53	P	TW	2/13/98	135	251	116	0.83
201	Lewis, H	011-2	P	TW	5/13/98	94	213	119	0.86
202	Lewis, H	36	P	TW	2/11/98	140	207	67	0.48
	Average					123	224	101	.072
	CORRIEDALE								
301	Crouch, Jim	253	P	TW	3/23/98	119	243	124	0.89
300	Megali, Loris	8047	P			118	224	106	0.76
	Average					119	234	115	0.83
	Test Average					111	248	121	0.87