



Ram Selection and Management

Navajo Sustainable Agriculture Project

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EXTENSION 
UtahStateUniversity

[EXTENSION.USU.EDU](https://extension.usu.edu)

What is the Purpose of the Ram?



1. Successfully Breed Ewes
2. Produce Lambs with desirable traits
3. Improve Flock Genetics

Quality Traits by Breed Type



- Suffolk
 - Superior carcass
 - High average daily gain
 - Not as maternal or flock oriented
 - Very little wool value
 - Not rugged animal on range



- Rambouillet
 - Rugged breed
 - Very flock oriented
 - Commercial wool quality
 - Maternal breed, not known for carcass



- Churro
 - Well adapted
 - Heavy milker
 - Smaller carcass
 - Wool value depending on market

Importance of Data Collection for Selection

- Collecting simple records on the offspring of rams helps determine that rams true value (ADG of lambs, birth weights, weaning weights)
- Buying rams with records help you to focus on traits that might not easily be seen (reproduction vs. carcass vs wool)
- Genetic tests help seedstock producers further decide how to select the best sires



FLYING O SHEEP

18838 Ollila Rd., Newell, SD 57760

605-569-0224 flyingosheep@gmail.com

Lot 37 Registered Yearling Ewe 2 head

Tag # 770 Weight 175lbs Micron 19.1 Comfort Factor 99.4%

Tag # 847 Weight 170lbs Micron 19 Comfort Factor 99.3%

*Pictures and video can be found at Flying O Sheep on Facebook.

Lot 38 Registered Yearling Ewe 2 head

Tag # 504 Weight 165 lbs Micron 20.5 Comfort Factor 99.1%

Tag # 624 Weight 169 lbs Micron 20.4 Comfort Factor 99.3%

*Pictures and video can be found at Flying O Sheep on Facebook.

Lot 39 Yearling Range Ram 1 head

Certified Ram at Dakota Ram Test

Tag # 14 USDA # 0673 Polled, Single, **REA** 3.75 sq. in., **ADG** .91 lbs/day, **Wool** - 22.3 micron, staple length 5 inches, Yield 61%

Ram Test Results at <https://www.ndsu.edu/agriculture/ag-hub/research-extension-centersrecs/hettinger-rec/research/dakota-fall-ram-test>

*Pictures and video can be found at Flying O Sheep on Facebook

Lot 40 Yearling Range Ram 2 head

Tag#5 USDA #0760, Polled, Triplet, **REA** 2.7 sq. in., **ADG** .94 lbs/day

Wool- 22.73 micron, staple length 5.1 inches, Yield 53%

Tag# 12 USDA #0831, Polled, Single, **REA**3.43 sq.in. **ADG**.84 lbs/day

Wool-23 micron, staple length 5 inches, Yield 51%

Ram Test Results at <https://www.ndsu.edu/agriculture/ag-hub/research-extension-centersrecs/hettinger-rec/research/dakota-fall-ram-test>

*Pictures and video can be found at Flying O Sheep on Facebook

Lot 41 Yearling Range Ram 2 head

Tag # 6 USDA #0782 Polled, Twin, **REA** 3.36 sq. in. **ADG** .92 lbs/day

Wool-24 micron, staple length 5.2 inches, Yield 51%

Tag USDA #0812 Polled, Single, **REA** 3.08 sq. in.

Wool-22.6 micron, ranch raised

Ram Test Results at <https://www.ndsu.edu/agriculture/ag-hub/research-extension-centersrecs/hettinger-rec/research/dakota-fall-ram-test>

*Pictures and video can be found at Flying O Sheep on Facebook

Lot 42 Yearling Range Ram 2 head

Tag USDA # 0626 Polled, Twin, **REA** 3.06 sq. in.

Wool-22.9 micron, Ranch raised.

Tag USDA # 0706 Polled, Single, **REA** 3.08 sq. in.

Wool 23.5 micron, Ranch raised

*Pictures and video can be found at Flying O Sheep on Facebook

Looking at a ram sale catalog

Adding Value to your Flock Through Ram Selection



Setup (same for both groups)

- 100 ewes bred to rams of one breed (Rambouillet vs Suffolk)
- Same management, pasture, and nutrition
- Lamb crop: **150%** (≈ 1.5 lambs/ewe)
- Pre-weaning survival: **90%**
- Weaning age: **90 days**

This yields 135 weaned lambs per group ($100 \times 1.5 \times 0.90$).

Breed assumptions (typical averages)

- Suffolk-sired lambs: **~ 70 lb** average 90-day weaning weight
- Rambouillet-sired lambs: **~ 60 lb** average 90-day weaning weight

Results

Metric	Rambouillet-sired	Suffolk-sired	Difference (Suffolk – Rambouillet)
Lambs weaned	135	135	—
Avg. weaning wt/lamb (lb)	60	70	+10
Total weaning weight (lb)	8,100	9,450	+1,350
Weaning wt per ewe (lb/ewe exposed)	81.0	94.5	+13.5

Ram Mating Behavior and Management



- Size of the Harem
- The number of ewes per ram depends on:
 - Age
 - Well-matured ram lambs: 15 to 30 ewes
 - Yearlings and older: 25 to 50 ewes
- Ewe estrus synchronization
 - Well-matured ram lambs 15 ewes or less
 - Yearlings and older: 18 ewes or less
- Multi-sire groups
 - 3 rams per 100 ewes is recommended

The “Ram Effect”

- Introducing an intact ram, vasectomized ram, or androgenized wether to anestrus ewes can initiate cycling and synchronize estrus.
- More effective if ewes have been separated from ram for > 1 month and toward the end of anestrus
- Rams with higher libido have greater success initiating ovulation (95 vs 78%)

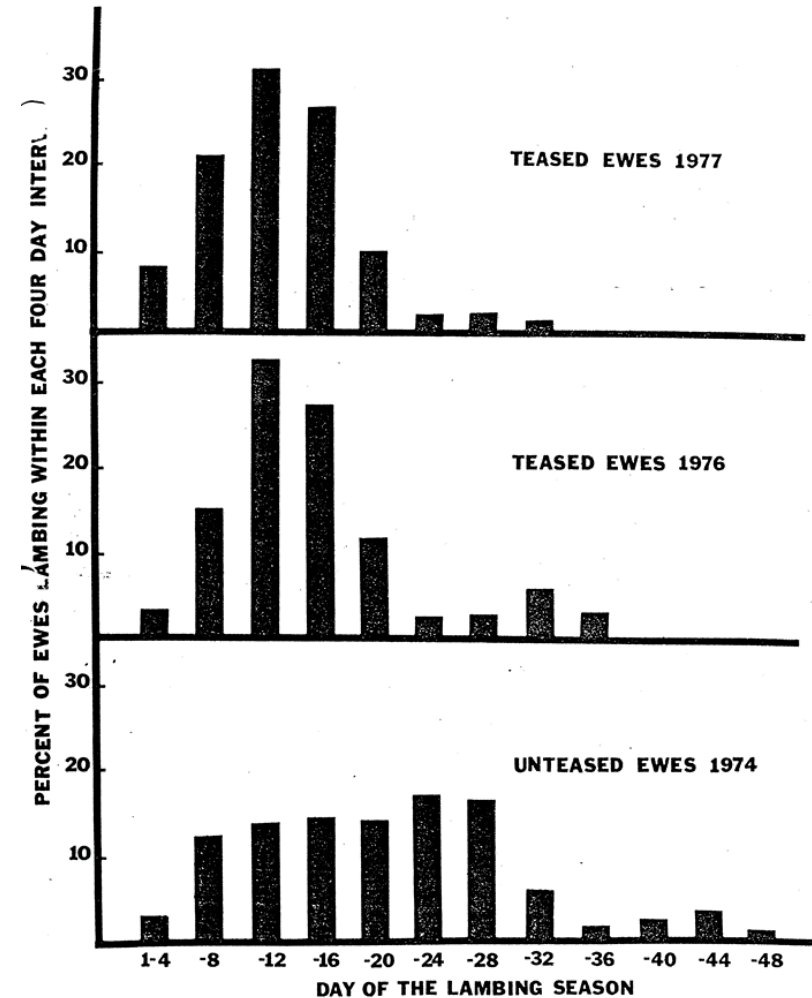


Figure 7. The effect of using vasectomized teaser rams (1976 and 1977) vs. not using vasectomized rams (1974) on distribution of ewes lambing within the lambing season.

Opportunistic Lambing

For the Producer:

- When conditions are desirable including: feed or market
- Ex.) fall born lambs for niche markets while keeping adequate BCS and still lambing in the spring

For the Animal:

- Rams are left in with ewes throughout the year.
- Replacements can be taken from lambs born during the least likely seasons from the most productive ewes.



Breeding Soundness Exams

- A breeding soundness exam (BSE) is an assessment of a ram's potential to impregnate ewes at one point in time

Three main components

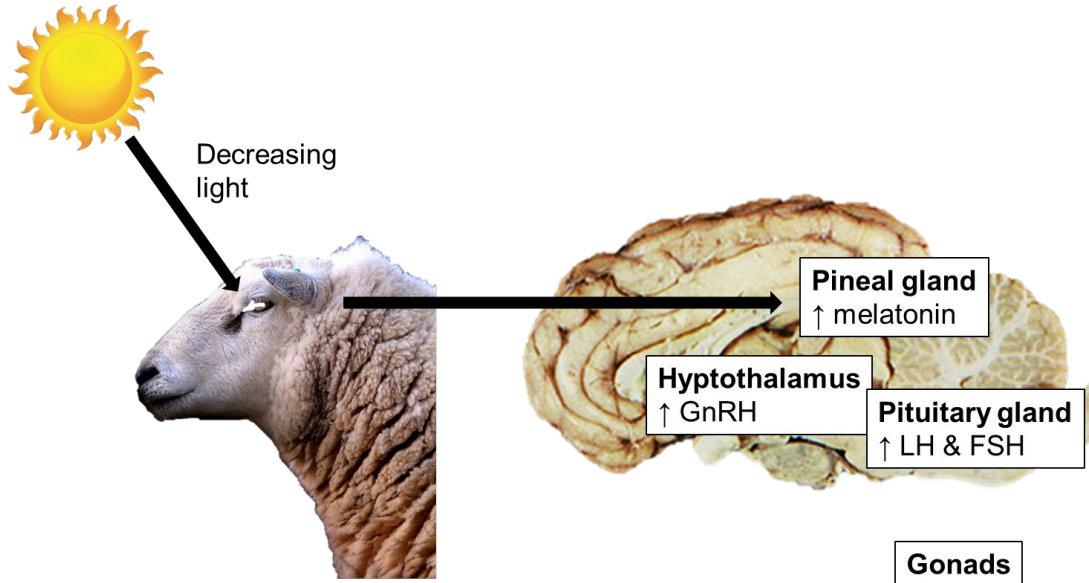
1. Physical evaluation
2. Scrotal evaluation
3. Semen evaluation

- Ultimately we will consider the ram exceptional, satisfactory, questionable, or unsatisfactory based on the results of the BSE



Breeding Soundness Exams

- When: approximately 60 days prior to the breeding season
 - Preferably close to the breeding season
 - Questionable rams can be testing 30 to 45 days later
 - General cost: varies \$18 to \$55



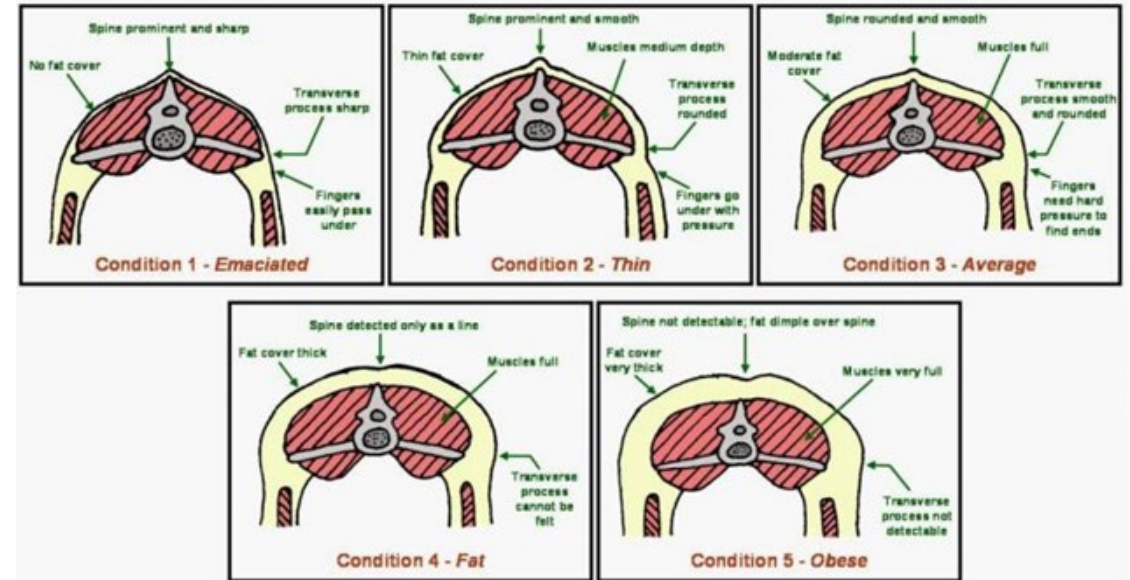
- By identifying satisfactory and exceptional rams we can increase our ewe to ram ratio

Physical Evaluation

- Body Condition Score
 - Ideal to start the breeding season at 3.5 or 4
- Rams may lose $\approx 15\%$ of their BW during the breeding season
- Emaciated Rams increase the likelihood of substandard semen parameters (motility, morphology)

Van Metre et al. 2012

Body Condition Scores – Sheep/Goats



Adapted from "Body Condition Scoring of Sheep" by J.M. Thompson and H. Meyer (Oregon State University)

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College of Agriculture
Department of Animal Sciences



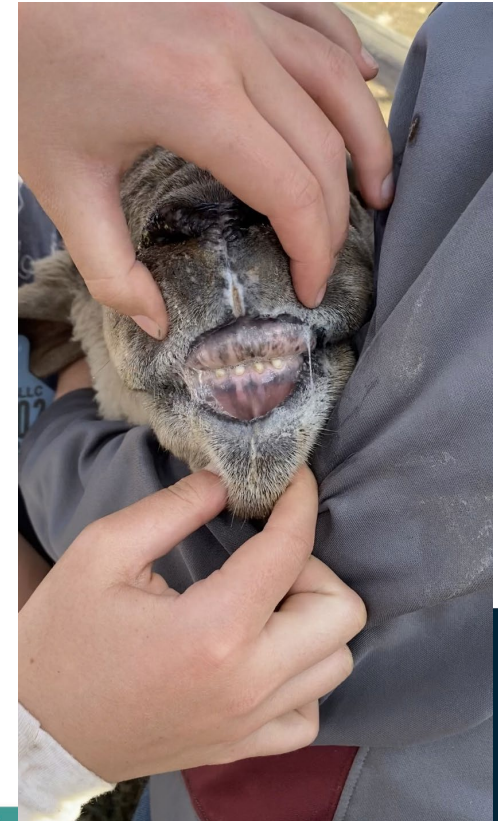
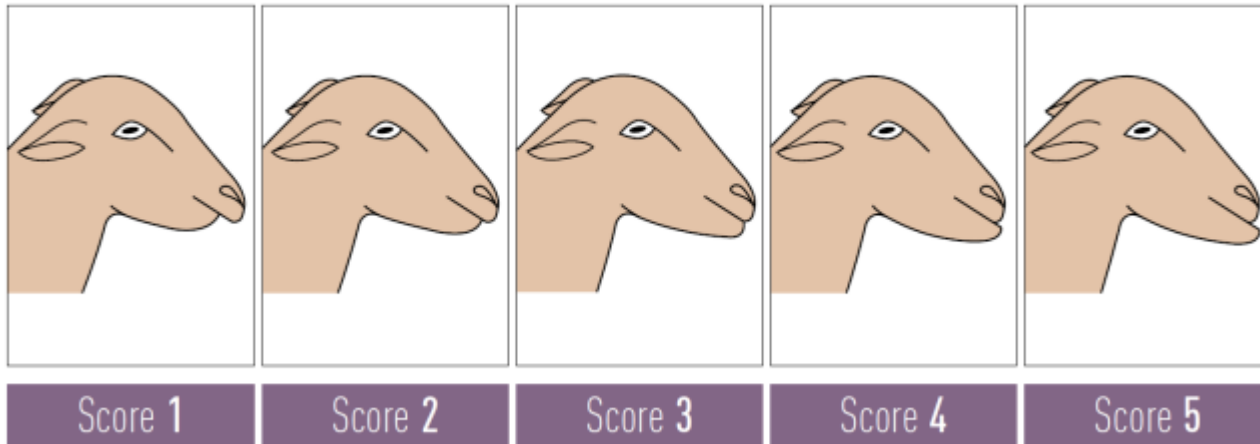
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Physical Evaluation

- Mouth
 - Evaluation of jaw alignment and teeth wear
 - Sheep may spend up to 8 hours/day chewing their cud



JAW (JAWR)



Physical Evaluation

- Feet
- Legs
- Eyes
- Gait
- Body temp.
- Foot rot
- Sore mouth
- Ring worm
- Pink eye

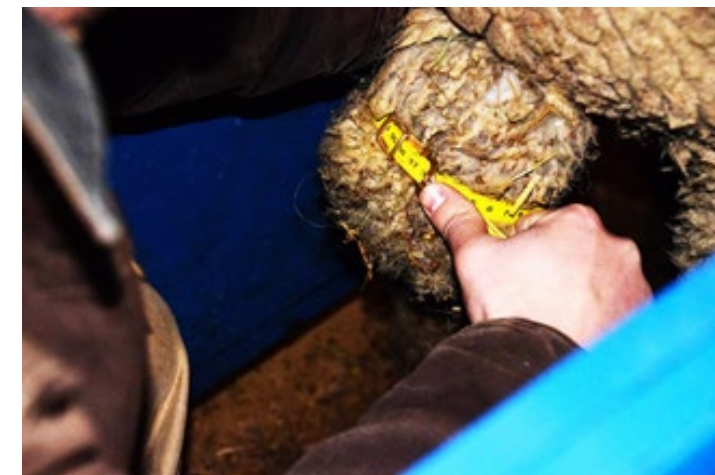
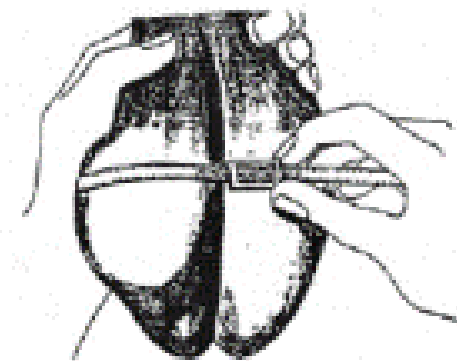


Scrotal Evaluation

- Scrotal Circumference (SC)

- Measurements for SC should be taken at the widest part of the scrotum with both testicles pulled down.
- Increased scrotal circumference is correlated with reproductive traits of the ewe and age of puberty in ewe lambs

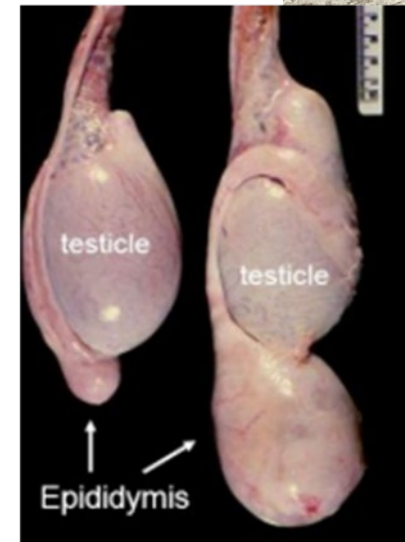
*Bucks should be > 25 cm when > 14 months old



Scrotal Circumference		
	Rams 8 months – 14 months old	Rams > 14 months old
Questionable	< 30 cm	< 32 cm
Satisfactory	30-36 cm	32-40 cm
Exceptional	> 36 cm	> 40 cm

Scrotal Evaluation

- Epididymitis is strongly associated with *Brucella ovis*
- Systematic culling of *B. ovis*
 - Cost: USU vet lab \$7.50 each sample or \$5.50 if more than 15 samples
- Importance of testing for *B. ovis*
 - Reduces fertility in rams or causes infertility
 - Reduction in number of lambs born
 - Increase in lamb death loss
 - Prolonged lambing season



Semen Collection

- Electro ejaculator

- Commonly used for semen collection
- Results in lower quality sample



- Artificial Vagina (AV)

- May take time to train rams
- May need ewes in heat
- Proper collection general increases the quality of sample

*Some semen parameters are better measured when collection is done with an artificial vagina
Example: volume



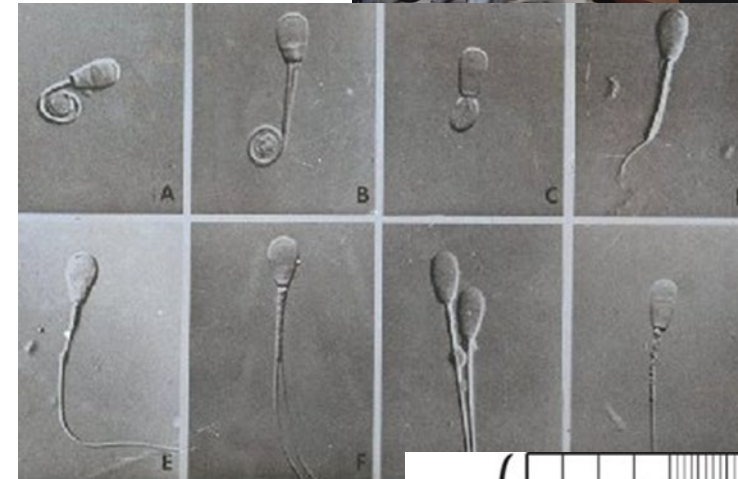
Sperm Production

- Testes are the site of testosterone (influencing ram libido) and sperm production
- The spermatogenesis cycle takes approx. 6-8 weeks

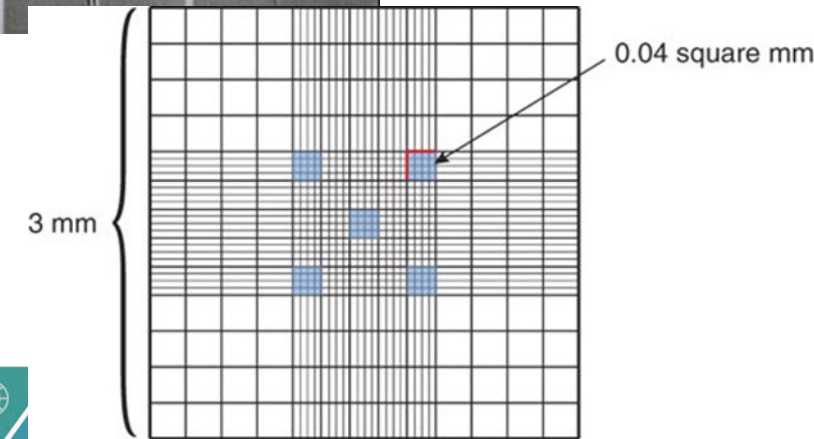
Species	Testes Weight BW ⁻¹ (%)	Ejaculate Volume (ml)	Sperm		
			Concentration (cells ml ⁻¹)	% Motility	% Normal
Ram	0.25	1.0	3 billion	95	95
Bull	0.05	8.0	1.5 billion	75	95
Boar	0.10	200	250 million	70	90

Semen Evaluation

- Semen handling and collection can affect sperm morphology and motility
 - Semen samples should be analyzed within 12 min after collection



Semen Examination		
	Motility	Morphology
Unsatisfactory	0%	< 30%
Questionable	10-30%	30-50%
Satisfactory	30-70%	50-80%
Exceptional	70-100%	> 80%



Summary

- Selecting quality rams can your best investment in your sheep operation
 - Invest in the 10% of animals that will make all the difference
 - Maximize maternal and terminal traits
- Getting data of ram performance can increase your ability to choose the right breeding sire
- Conducting Breeding Soundness Exams helps to ensure a more successful breeding season



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