

**JUNIOR EWE LAMB FUTURITY**

**STUDY GUIDE**

**SAN ANGELO STOCK SHOW**



7887 US Hwy. 87 N  
San Angelo, TX 76901-9714

## MEMORANDUM

TO: San Angelo Stock Show Junior Ewe Lamb Futurity Participants

FROM: Frank Craddock, General Sheep and Goat Superintendent *Frank Craddock*

SUBJECT: Additions to the Junior Ewe Lamb Futurity program

If you have read the rules for the Junior Ewe Lamb Futurity in the 2005 San Angelo Stock Show and Rodeo Catalogue you will notice under rule 8 that we have added two new items. This year you will be required to place a class of four fleeces and a class of four ewes and answer questions on the two classes. This portion, entitled "Placing and Evaluation", will account for 20% of your total score and will be conducted immediately after you finish the written test on Thursday morning. I am enclosing the two forms that you will be required to fill out. One is entitled "Wool Placing and Reasons Sheet" and the other is entitled "Finewool Sheep Placing and Reasons Sheet." On both sheets you will write your placing at the top of the sheet and then in the column on the right you will write one and only one number of the fleece or sheep that best answers each question. If you should have any questions concerning these changes please feel free to contact me at 325/653-4576 or [b-craddock@tamu.edu](mailto:b-craddock@tamu.edu).

NAME OR NO.

# WOOL PLACING AND REASONS SHEET

Class No. \_\_\_\_\_

Placing order 1st \_\_\_\_\_ 2nd \_\_\_\_\_ 3rd \_\_\_\_\_ 4th \_\_\_\_\_

Reasons: list the number of the fleece which matches the fleece description below

Fleece Description	Number
Longest staple fleece	
Shortest staple fleece	
Fleece most uniform in staple length	
Fleece most uniform in fineness (fiber diameter)	
Coarsest fleece in class	
Heaviest grease fleece weight	
Lightest grease fleece weight	
Fleece with most pounds of clean wool	
Fleece with least pounds of clean wool	
Highest yielding fleece	
Lowest yielding fleece	
Fleece with the most character (color, crimp, & condition)	
Fleece with the most vegetable matter	
Fleece with the most stained wool	
Fleece with the least fiber strength	
Fleece with no colored fibers	

Reasons scoring: 50 total points possible

PLACING SCORE \_\_\_\_\_

Deduct 3 points for each incorrect answer

REASON SCORE \_\_\_\_\_

No. \_\_\_\_\_

## FINEWOL SHEEP PLACING AND REASONS SHEET

Class No. \_\_\_\_\_

Placing Order: 1st \_\_\_\_\_ 2nd \_\_\_\_\_ 3rd \_\_\_\_\_ 4th \_\_\_\_\_

Reasons: list the number of sheep which matches the description below

Description	Number
<u>LARGEST BODIED, LARGEST SHEEP</u>	
<u>SMALLEST BODIED, SMALLEST SHEEP</u>	
<u>LONGEST BODIED SHEEP</u>	
<u>SHORTEST BODIED SHEEP</u>	
<u>SHEEP WITH THE STRONGEST MOST LEVEL TOP OR BACK</u>	
<u>SHEEP WITH THE WEAKEST SHOULDERS AND TOP OR BACK</u>	
<u>SHEEP WITH THE LONGEST RUMP</u>	
<u>SHEEP WITH THE THICKEST, HEAVIEST MUSCLED LEG</u>	
<u>SHEEP WITH THE MOST CORRECT FEET AND LEGS</u>	
<u>SHEEP WITH THE LONGEST STAPLE OF WOOL</u>	
<u>SHEEP WITH THE SHORTEST STAPLE OF WOOL</u>	
<u>SHEEP WITH THE MOST UNIFORMITY OF FINENESS OF FLEECE</u>	
<u>SHEEP WITH THE MOST DENSE COVERING OF WOOL</u>	
<u>SHEEP WITH THE MOST UNDESIRABLE AMOUNT OF BELLY WOOL</u>	
<u>SHEEP WITH GREATEST AMOUNT OF WOOL COVERING ON FACE</u>	
<u>SHEEP WHICH HAS THE MOST POUNDS OF CLEAN WOOL</u>	

Reasons scoring: 50 total points possible

PLACING SCORE \_\_\_\_\_

Deduct 3 points for each  
incorrect answer

REASON SCORE \_\_\_\_\_



**BREEDING  
AND  
SELECTION**



# BREEDING AND SELECTION

## INFORMATION SHEET

### I. Terms and definitions

- A. Heritability - Proportion of differences among animals for performance traits that are due to differences in the additive effects of their genes
- B. Selection - Practice of determining which individuals will be allowed to mate and produce offspring
- C. Selection Differential - How much better or worse the selected individuals are, compared to the entire group of individuals eligible for selection.
- D. Generation Interval - Average age of the reproducing adults in the flock at the time of lambing
- E. Single-trait Selection - Only selecting for one trait at a time (ie: 60-d wt or 120-d wt)
- F. Multiple-trait selection - Selecting for several traits at the same time (ie: fertility, milking ability and growth rate)
- G. Fertility - Proportion or percentage of ewes lambing that were exposed to rams
- H. Prolificacy - Number of lambs born per ewe lambing
- I. Total Ewe Productivity - Overall reproductive measure that is the pounds of lamb weaned per ewe exposed to rams
- J. USDA Yield grade - Estimate of percentage of trimmed and boned major retail cuts in the carcass
- K. Fleece weight - Weight of shorn wool from one animal
- L. Staple length - Length of wool fiber in fleece
- M. Defect - Characteristic which reduces the possibility of survival or impairs the producing ability of the animal
- N. Trait - Characteristic of animal

# INFORMATION SHEET

- D. Wool production - Includes both quality and quantity of wool  
(NOTE: Wool production may be more important in some operations depending on their production goals.)

## IV. Two types of selection

- A. Natural - Sheep that are best adapted to their environment produce off spring  
(NOTE: Also known as "survival of the fittest")
- B. Artificial - Imposed by man; results in genetic improvement of the economically important traits

## V. Factors affecting genetic improvement per year

- A. Accuracy of selection
- B. Intensity of selection
- C. Variation
- D. Generation interval

## VI. Methods of single-trait selection

- A. Individual selection - selecting potential parents on their own performance record or phenotype  
(NOTE: If heritability of trait is high, a breeder can make good genetic progress by using individual selection.)
- B. Family selection - selecting or rejecting entire families according to the average performance or phenotypic value of the family  
(NOTE: Family selection is most useful when heritability of trait is low)
- C. Pedigree selection - Consideration is given to the breeding value of the animal's ancestors  
(NOTE: Pedigree selection is useful for traits that are only expressed in one sex, for traits that will not be expressed until later in life, or for traits measurable only after slaughter.)

## INFORMATION SHEET

### B. National Sheep Improvement Program (NSIP)

1. Goal: Provide both purebred and commercial sheep producers with a performance recording and evaluation program
2. Benefits
  - a. Provides both the purebred and commercial sheep producer with a performance recording and genetic evaluation program
  - b. Minimizes amount of record keeping
  - c. Utilizes state-of-the-art genetic evaluation procedures

### C. Central ram test

1. Goal: Facilitate the use of performance records among different flocks and evaluate growth traits in rams
2. Benefits
  - a. Superior stud rams can be identified for use in seedstock flocks
  - b. Male traits emphasizing growth are primarily evaluated

(NOTE: Ewe productivity and non-growth traits are not evaluated.)

## IX. Traits to consider in reproductive selection

- A. Fertility
- B. Prolificacy
- C. Lamb survival
- D. Total ewe productivity

## X. Traits to consider when selecting for growth

- A. Pre-weaning growth rate
- B. Post-weaning weight or gain
- C. Post-weaning rate of gain

(NOTE: Pre- and post-weaning weights should be adjusted for age, sex, type of birth and weaning and age of dam.)



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**SHEEP HANDLING  
AND  
FACILITIES**

# **SHEEP HANDLING AND FACILITIES**

## **INFORMATION SHEET**

### **I. Terms and definitions**

- A. Flight zone - Minimum zone of comfort (security)**
- B. Guard dog - Dog that stays with and protects sheep**
- C. Working/herding dog - Dog that works with shepherd to move and gather sheep**

### **II. Reasons for maintaining good handling facilities**

- A. Work and physical exertion required to care for sheep are reduced**
- B. Management jobs can be performed in a more timely and routine manner**
- C. Management jobs can be performed in a more humane manner with less risk of injury to shepherd and sheep**
- D. Wool stays cleaner**

### **III. Factors that determine type of facility needed**

- A. Task to be performed**
- B. Time of year**
- C. Frequency task needs to be performed**
- D. Number of sheep handled at any one time**  
**(NOTE: This factor determines dimension of pens and chutes.)**

### **IV. Important sheep behavior and handling characteristics**

- A. Sheep have a wide field of vision**  
**(NOTE: Average sheep have a visual field of 270 degrees and can see behind themselves without turning their heads.)**

# INFORMATION SHEET

## VII. Job role of working dog

- A. Primary role is to respond to human commands when working sheep
- B. Common breeds include Border collies, Australian shepherds and Queensland heelers
- C. Superior intelligence and instinct
- D. Strong attachment to master with desire to please

## VIII. Principles of facilities layout and location

- A. Site  
(NOTE: Facility should be centrally located for both sheep and shepherd.)
- B. Existing facilities  
(NOTE: If it will be only a working unit, one may want to attach it to an existing outbuilding.)
- C. Topography of the site and land  
(NOTE: Slope and orientation of the facility must be considered.)
- D. Drainage  
(NOTE: If built on a slope, natural drainage will be sufficient. If not, a light porous soil with gravel type subsoil or concrete is necessary.)
- E. Shelter and/or shade  
(NOTE: Use hill, patch of scrubs or windbreak to break force of winds, dust and snow. Trees for shade during warmer seasons are most valuable.)
- F. Water supply  
(NOTE: Reliable water supply is necessary for dips, showers, water troughs and settling dust.)
- G. Accessibility to electricity  
(NOTE: Electricity may be needed for electrical dockers, scales, etc. as well as lights.)
- H. Economics/cost factor  
(NOTE: Economics is usually the limiting factor, therefore one should use high quality building materials to reduce repair and replacement costs.)

## HEALTH



# HEALTH

## INFORMATION SHEET

### I. Terms and definitions

- A. Hypothermia - Inability to keep warm, often caused by cold or wet weather
- B. Necropsy - Examination of dead lamb
- C. Fetus - Lamb during its development in the uterus
- D. Abortion - Fetus dies in the uterus and is expelled prematurely
- E. Stillborn - Fetus is fully developed but dead at birth
- F. Acute disease - A disease which develops rapidly and is short in duration
- G. Chronic disease - A disease which develops slowly and runs a prolonged course
- H. Clinical signs - Disease symptoms that you observe
- I. Infectious disease - Disease caused by bacteria and viruses
- J. Non-Infectious disease - Disease caused by nutritional or metabolic problem. Bacteria or viruses are not involved
- K. Colostrum - First milk of ewe which contains antibodies necessary to protect lambs from bacteria and viruses
- L. Vaccination - Injection, given to healthy animals, that is used to stimulate prolonged immunity to specific diseases
- M. Dystocia - Difficult birth
- N. Epididymitis - Inflammation of the epididymis
- O. Breeding Soundness Evaluation (BSE) - A physical examination with emphasis on the reproductive system of the ram
- P. Mastitis - Inflammation of the mammary gland caused by bacteria and results in reduced milk production
- Q. Parasite - An organism that lives off of a host

## INFORMATION SHEET

- H. **Pneumonia** - a respiratory complex caused by the *Pasteurella* organism. Most commonly occurs early in the feeding period when lambs have been subjected to the stress of weaning, shipping, crowding, dusty lots, shearing, extreme changes in daily temperatures and inclement weather
- I. **Rectal Prolapse** - found primarily in feedlot lambs and is associated with high concentrate feeding, short docking and coughing precipitated by dusty conditions or virus infections
- J. **Vaginal Prolapse** - usually occurs during the last month of pregnancy in first lambing ewes more frequently than in older ewes. The condition may be hereditary or may be caused by feeding too much low quality roughage to younger ewes that have not reached mature body size
- K. **Uterine Prolapse** - occurs most frequently immediately following lambing in first lambing ewes that have not attained mature body size. Forced extraction of the lamb causes disruption of connective tissue resulting in prolapse
- L. **Pregnancy Toxemia** (pregnancy disease, twin lamb disease, ketosis) - caused by a diet deficient in energy in late pregnancy when fetal growth is occurring very rapidly. The disease usually occurs in older ewes carrying multiple lambs and in extremely thin or over fat ewes
- M. **Bluetongue** - a viral disease transmitted to sheep by infected biting "no-see-ums" (biting midge), a night-flying insect found throughout the U.S. during warm weather. The disease is characterized by swelling of the ears, muzzle and coronary bands
- N. **Contagious Ecthyma** (soremouth) - a highly contagious viral infection of sheep and goats capable of transmission to man. The virus causes scab formation on the skin usually around the mouth, nostrils, and eyes or nonwooled areas near mammary gland and vulva.
- O. **Caseous Lymphadenitis** - an infectious, contagious, chronic disease of ruminants involving the lymphatic system primarily, though any organ can be infected. When external nodes are involved, slowly enlarging abscesses are observed involving lymph nodes on the side of head or beneath the jaw, the point of the shoulder or in the flank area. If internal nodes are affected, ewes slowly lose body weight and eventually become emaciated
- P. **Scrapie** - a slowly progressive disease of the central nervous system that becomes apparent in sheep one year of age or older. Clinical signs include rubbing as if itching, biting at wool and skin and incoordination

**MANAGEMENT**

# MANAGEMENT

## INFORMATION SHEET

### I. Terms and definitions

- A. **Integrated management** - Includes nutrition, health, genetics, reproduction, business and marketing knowledge in management decisions
- B. **Ewe lamb** - Female sheep that is less than one year and usually not bred
- C. **Yearling ewe** - One year old female sheep that should be bred
- D. **Mouthing** - Counting number of permanent incisor teeth to determine sheep's age
- E. **Extensive management system** - Sheep are grazed most (or all of) the year on pastures or range
- F. **Intensive management system** - Sheep are confined to drylots or buildings most of the year
- G. **Flushing** - Practice of increasing energy level of ewe flock two weeks prior to breeding in order to increase lambing rate
- H. **Teaser ram** - Surgically sterilized ram that is used to stimulate ewes to begin cycling
- I. **Crutching** - Shearing of wool from around the dock and udder
- J. **Lamb feeding** - General term related to developing weaned lambs to sufficient weight and finish to produce acceptable carcasses
- K. **Self feeding** - Lambs have free access to feed at all times
- L. **Hand feeding** - Lambs are fed predetermined amount of feed once or twice a day
- M. **Selection** - Identification of animals to be kept for breeding that are above the average level of production in the flock
- N. **Culling** - Process of removing animals that are below average in production or are unsound
- O. **Stocking rates** - Number of animal units that are grazed on a certain area of land for a specific period of time



# INFORMATION SHEET

- B. Sheep are at the height of sexual activity and fertility during October and November
- C. Sheep's sexual activity and fertility increases as days get shorter
- D. Long periods of high temperatures ( $> 90$ ) have detrimental effects on estrual activity and embryo survival

## V. Types of ram management systems

(NOTE: The type of system used depends upon location, season of year, labor availability and size of operation.)

- A. Single sire - Used in purebred production or small flocks that require only one ram  
(NOTE: To reduce the risk of a poor lamb crop, a clean-up ram should also be used.)
- B. Multiple sire - Used by large sheep operators who use more than one ram in a breeding group at a time  
(NOTE: Ram lambs should not be placed in the same breeding group with mature rams.)
- C. Rotational breeding - Placing rams with the breeding flock for a predetermined period of time
- D. Hand breeding - Monitored breeding of individual ewes to specific rams  
(NOTE: The major disadvantage of this system is the amount of labor required.)
- E. Night breeding - Producers remove rams from the ewe flock on warm days to keep them cool

## VI. Preparation for lambing

- A. Assemble 1 lambing pen for every 10 ewes
- B. Cover bare ground with limestone and fresh bedding
- C. Vaccinate ewes 4 weeks prior to lambing
- D. Increase feed 2 to 6 weeks prior to lambing
- E. Shear or crutch ewes prior to lambing

# INFORMATION SHEET

## **X. Factors to consider when weaning lambs**

- A. Milk production of the ewe declines rapidly after 40 days**
- B. Lambs can be weaned as early as 3-4 weeks of age  
(NOTE: Early weaning is economically feasible in many sheep enterprises but is essential in an accelerated program.)**
- C. Lambs can be weaned as late as 5-6 months  
(NOTE: Under western range conditions, lambs are allowed to graze with their mothers on summer range and are marketed as heavy feeders or grass-finished lambs.)**
- D. Lambs are usually weaned at 60 days or 45 pounds.**

## **XI. Types of lambing systems**

- A. Range lambing - Ewes are left alone during the fall, late winter and early spring lambing seasons**
- B. Drift lambing - Ewes that have not lambed are moved to a new pasture or area while the ewes with newborn lambs are left behind**
- C. Pasture lambing - Ewes are placed in fenced pastures where they are checked once or twice daily**
- D. Shed lambing - Ewes are placed in a barn where they are checked once or twice daily; ewes and newborn lambs are moved to lambing pens for 24-72 hours after birth**

## **XII. Components of proper grazing management**

- A. Grazing intensity - Number of animals grazing a certain area of rangeland or pasture  
(NOTE: A good rule of thumb is to remove only half of the current year's growth during the growing season.)**
- B. Distribution of livestock - How uniformly the different sections of the range are grazed  
(NOTE: Areas close to water are often overgrazed while areas far from water are lightly grazed. Ranchers can use water, salt, fences and herding to get more uniform grazing.)**

## **NUTRITION**

# NUTRITION

## INFORMATION SHEET

### I. Terms and definitions

- A. Gastro-intestinal tract - Responsible for the digestion and absorption of nutrients from the diet as well as the elimination of undigested dietary residues and excretion of waste products
- B. Urea - Source of protein synthesized from carbon dioxide and ammonia by ruminant
- C. Rumen (paunch) - Large first compartment of a ruminant's stomach
- D. Reticulum - Second stomach of a ruminant
- E. Omasum - The division between the reticulum and the abomasum in a ruminant's stomach
- F. Abomasum - The fourth or true digestive part of a ruminant's stomach
- G. Tetany - Condition of mineral imbalance marked by muscle spasms
- H. Rickets - Disease characterized by soft and deformed bones
- I. Dry matter - The portion of the feed that is not water
- J. As fed basis - Feed "as it is fed" containing both dry matter and water
- K. Crude protein (CP) - Includes both true protein and non-protein nitrogen content
- L. Bypass protein - Protein that passes through the rumen without being degraded by microorganisms
- M. Total Digestible Nutrients - Standard system for expressing the energy value of feeds
- N. Crude fiber - Measure of how digestible a feed is
- O. Trace minerals - Minerals that are required in very small amounts
- P. Net Energy - Energy that is needed for maintenance and growth



# INFORMATION SHEET

- C. Protein
- D. Minerals
- E. Vitamins

## V. Factors affecting water intake

- A. Food intake
- B. Nitrogen intake
- C. Excessive mineral intake
- D. Environmental temperature
- E. Water temperature

## VI. Major sources of energy

(NOTE: Energy is usually the most limiting nutrient for ewes.)

- A. Hay
- B. Silage
- C. Grains
- D. Pasture

## VII. Possible results of inadequate energy intake

- A. Slowing or cessation of growth
- B. Loss of weight
- C. Reproductive failure
- D. Decreased milk production
- E. Increased mortality
- F. Reduced resistance to disease and parasites

# INFORMATION SHEET

## **XI. Mineral elements that have been classified as nutritionally sound**

- |                |               |
|----------------|---------------|
| A. Sodium      | I. Copper     |
| B. Chlorine    | J. Iodine     |
| C. Calcium     | K. Iron       |
| D. Phosphorous | L. Manganese  |
| E. Magnesium   | M. Molybdenum |
| F. Potassium   | N. Selenium   |
| G. Sulfur      | O. Zinc       |
| H. Cobalt      |               |

## **XII. Factors that affect the mineral requirements of sheep**

- A. Breed
- B. Age, sex and growth rate
- C. Nature and rate of reproduction
- D. Lactation
- E. Level and chemical form ingested
- F. Overall balance and adequacy of diet
- G. Hormonal and other physiological activities
- H. Climate

## **XIII. Deficiency symptoms of essential minerals**

- A. Salt - Feed consumption, water intake, milk production and growth rate decrease; may chew on wood and/or lick dirt; may consume poisonous plants not normally eaten
- B. Calcium and phosphorous - May result in abnormal bone growth, tetany or urinary calculi problems; slow growth, depraved appetite, unthrifty appearance, listlessness
- C. Magnesium - Tetany is the classic deficiency sign; loss of appetite, hyperemia and calcification of soft tissue

## INFORMATION SHEET

- D. Vitamin B complex - Synthesized by microorganisms in rumen as long as cobalt is present
- E. Vitamin K<sub>1</sub> and K<sub>2</sub> - Green leafy materials of any kind are good sources of K<sub>1</sub> while K<sub>2</sub> is synthesized in rumen

### XV. Environmental and physiological factors influencing feed requirements of ewe

- A. Climate  
(NOTE: Nutritional requirements vary with temperature, humidity, wind velocity, fleece length, density and quality)
- B. Age
- C. Exercise  
(NOTE: Grazing sheep may have a 10-100% higher energy requirement than pen-fed sheep.)
- D. Body condition
- E. Reproduction potential  
(NOTE: Nutritional requirements vary with flushing, number of lambs born, and birth weight of lambs.)
- F. Lactation  
(NOTE: Nutritional requirements vary with number of lambs suckled, late gestation nutrition, dry period nutrition, postpartum interval to breeding and feeding during drought or severe winter weather.)

### XVI. Procedures for body condition scoring sheep

- A. Feel for fullness of muscle and fat cover
- B. Feel for the spine (spinous process) in the center of the sheep's back behind the last rib and anterior to the hipbone
- C. Feel for the tips of the transverse process

### XVII. Body condition scores

- A. Condition zero

## INFORMATION SHEET

B. Protein - cottonseed meal, soybean meal

(NOTE: Protein supplements increase digestibility of range forage and can be used for meeting both energy and protein requirements.)



# **REPRODUCTION**

# REPRODUCTION

## INFORMATION SHEET

### I. Terms and definitions

- A. Reproductive efficiency - Percent lamb crop raised and marketed
- B. Ovulation Rate - Number of ova shed from the ovary at a given estrus
- C. Estrus - Period of time when the female is sexually receptive to the male. Also known as "heat"
- D. Anestrus - Period in which female does not experience estrus or estrus cycles. During anestrus the female is not sexually receptive to the male
- E. Puberty - Stage of maturation when an animal first becomes capable of reproduction
- F. Estrous cycle - Period from the beginning of one heat to the beginning of the next heat
- G. Breeding season - Season of sexual activity
- H. Gestation - Period of pregnancy beginning at fertilization and ending with parturition
- I. Parturition - The act of giving birth
- J. Flushing - Practice of increasing the nutrient intake of ewes prior to mating in order to increase lambing rate
- K. Open - Not pregnant
- L. Ejaculate - Semen sample of ram
- M. Mating capacity - Number of ewes that a ram can mate and still achieve high fertility
- N. Ram effect - Use of males to stimulate ewes in anestrus to cycle
- O. Accelerated lambing - Ewes lambing more frequently than once per year
- P. Hormone - Chemical substance produced by the body (or can be artificially introduced ) which has a specific physiological effect

# INFORMATION SHEET

- D. Date of birth  
(NOTE: Older lambs will reach puberty at lighter weights.)

## VI. Characteristics of estrus (heat)

- A. Heat lasts 24 to 36 hours
- B. Estrous cycle is approximately 17 days long
- C. Minimum age for estrus is 5 to 9 months
- D. Minimum weight for estrus is 70 to 100 pounds

## VII. Characteristics of the ewe's breeding season

- A. Lasts approximately 5 to 7 months
- B. Begins in the fall as day length decreases  
(NOTE: Some breeds begin earlier in the summer while others cycle later in the winter or spring.)
- C. Affected by age  
(NOTE: Ewe lambs have shorter breeding seasons than mature ewes.)
- D. Affected by length and intensity of daylight  
(NOTE: Length of day appears to be the primary factor controlling breeding season.)

## VIII. Phenomena associated with gestation length

(NOTE: Average gestation length is 148 days.)

- A. Male lambs are carried longer than female lambs
- B. Spring born lambs are carried longer than fall born lambs
- C. Singles are carried longer than twins
- D. Older ewes carry their lambs longer than younger ones

# INFORMATION SHEET

## XII. Approaches to improve reproductive efficiency

- A. Maximize or optimize the lamb crop from the existing genetic resources
- B. Improve genetic potential through breed choices, mating systems, selection programs or use of hormones

## XIII. Breeds which are very prolific

- A. Finnsheep
- B. Booroola Merino
- C. Romanov

(NOTE: The Finn, Romanov and Booroola in pure form should not be used for commercial programs.)

- D. Polypay

(NOTE: A quarter or half of these breeds will usually result in lambing rates high enough for most producers.)

## XIV. Situations in which no crossbreeding (or only terminal sires) should be used

- A. Environmental conditions would not support larger lamb crop
- B. Only one breed or genotype is adapted to production conditions and produces a desirable fleece
- C. Management that would be required is more than an individual breeder wishes to undertake

(NOTE: Selection for reproductive efficiency can be done within breed or flock but response will be slow.)

## XV. Factors affecting age of first breeding in ewes

(NOTE: Ewes which are successfully bred to lamb as yearlings have been shown to have a greater lifetime production than ewes bred to lamb as two year olds.)



# INFORMATION SHEET

## **XIX. Effect of parturition and lactation on ewe reproductive performance**

- A. Uterus cannot support another pregnancy until approximately 30 days after lambing**
- B. Ewes which lamb in the spring are more difficult to rebreed in the fall**

**(NOTE: Since sheep are seasonal breeders this may be confounded with lactation.)**

## **XX. Effect of disease and parasites on ewe reproductive performance**

- A. Reduces body condition of breeding ewe  
(NOTE: Effect is similar to that of improper nutrition.)**
- B. Reduces lambing rate**

## **XXI. Benefits of accurate pregnancy testing**

- A. Allows selection of replacement ewes on ability to conceive  
(NOTE: Lambs that conceive their first winter are more productive the rest of their lives.)**
- B. Reduce costs be selling or managing the open ewes differently  
(NOTE: Sell cull ewes in late fall and early winter when supplies are low and prices are higher.)**
- C. Diagnoses reproductive failure earlier**
- D. Optimizes use of buildings, labor and equipment**
- E. Guarantees pregnant ewes for sale**
- F. Permits producers to feed ewes according to stage of production (pregnant or open)**

**(NOTE: Pregnancy testing may not be recommended in flocks with high fertility, because it isn't cost efficient.)**

## **XXII. Methods of pregnancy evaluation**

- A. Breeding marks**
  - 1. Earliest indicator of possible conception**
  - 2. Identifies ewes that have not been mated**

# INFORMATION SHEET

## XXV. Components of a ram's breeding soundness examination

- A. Examine genital organs
  - 1. Testicles should be firm
  - 2. Testicular circumference should be taken  
(NOTE: Rams with larger testes produce more sperm and daughters that mature earlier.)
  - 3. Epididymis should be slightly rounded and free of hard knots
- B. Evaluate physical condition  
(NOTE: Physical condition of the ram is very important to his desire to mate.)
- C. Consider environmental conditions or diseases ram has been exposed to  
(NOTE: Heat stress (elevated body temperatures) may affect sperm quality for as long as 6 weeks.)
- D. Evaluate semen sample  
(NOTE: Abnormal sperm in the ejaculate is the best predictor of infertility.)

## XXVI. Reasons that serving capacity affects conception

- A. Rams ejaculate fewer sperm than are needed for conception and therefore should breed ewes more than once
- B. Rams show preference to certain females and may not breed all ewes showing estrus
- C. Ovulation occurs after standing estrus and thus mating late in the estrus period is more likely to result in conception

## XXVII. Recommended number of ewes per ram according to age

- A. Well-matured ram lamb - 15 to 30 ewes
- B. Yearling to 5 years of age - 25 to 30 ewes  
(NOTE: Depends on temperature, sex drive, topography and area of pasture.)
- C. 6 years and older - variable depending on physical condition of ram

**WOOL**

# WOOL

## INFORMATION SHEET

### I. Terms and definitions

- A. Crimp - Degree of waviness found in fiber
- B. Yield - Percentage of clean wool fibers present in a greasy sample
- C. Grease wool - Wool in its natural state
- D. Clean Wool Fiber Present - That portion of the wool that consists exclusively of wool free of all vegetable and other foreign material
- E. Wool base - Oven dried scoured wool free from all impurities (vegetable matter, moisture, dirt, grease, etc.)
- F. Fiber diameter - Thickness of individual wool fibers
- G. Vegetable matter - Burrs, seeds, straw, chaff and small pieces of stick and bark
- H. Staple length - Length of wool fiber from tip to base
- I. Broken wool - Fiber pulls apart very easily in a specific position
- J. Tender wool - The overall strength of fiber is low and the staple breaks over a wider area than a "break"
- K. Core sample - Sample extracted from a bale of wool that is used to measure yield, mean fiber diameter, vegetable matter content and clean color
- L. Tags - Trade term for dung locks, floor sweepings or stained pieces of wool
- M. Tagging - Practice of shearing wool on udder and dock region
- N. Skirting - Practice of separating inferior wool from the bulk of the fleece at shearing
- O. Grading - Grouping fleeces according to measurable characteristics such as fineness, yield, vegetable matter, length, strength and color; also known as "classing"
- P. Sorting - Process in which individual fleeces are subdivided according to "grading" characteristics



# INFORMATION SHEET

J. Cotted or felted fleeces  
(NOTE: Cotted and matted fleeces are discounted because they are wasty.)

K. Crimp  
(NOTE: Low crimp wools tend to entangle and felt during the scouring process.)

## III. Wool traits that can be objectively measured

A. Yield  
(NOTE: Laboratory procedures involve scouring wool and then determining residual grease, inorganic ash and vegetable content of dried scoured wool.)

B. Diameter and Variability  
(NOTE: New airflow methods which measure the resistance to airflow of a plug of clean well-blended wool are much faster.)

C. Length and Variability  
(NOTE: Requires only a rule for measurement and a pencil for recording.)

D. Strength  
(NOTE: Current methods are not able to give an indication of where the weakness occurs in a staple.)

## IV. Terms associated with wool price quotes in market reports

A. Original bag wools - Wool of relatively uniform grade and length packaged in bags by the producer

B. Graded Wool - Wool that has been classified visually according to fiber diameter, length and other processing characteristics such as vegetable content and strength

(NOTE: Defective fleeces (excessive black fibers or vegetable material) will usually be discounted from published prices.)

## V. Methods of making wool improvement

A. Selection

1. Emphasize traits important to income  
(NOTE: Fleece weight is the most important wool trait.)

## INFORMATION SHEET

### VII. Sources of wool contamination

(NOTE: Fleece contamination either is acquired from the environment or occurs naturally. Acquired contaminants pose the most serious problem to the manufacturer.)

- A. Vegetable matter  
(NOTE: Material ranges from burrs and seeds picked up in pastures to hay from overhead feeders and straw used as bedding.)
- B. Paint brand  
(NOTE: Any colored substance which hardens (or dyes) the fiber and cannot be removed in the normal scouring process gives endless trouble to the processor. A scourable lanolin-based branding fluid is available in the U.S. and Australia.)
- C. Polypropylene (common hay baling twine)  
(NOTE: Small pieces that become entangled in wool cannot be removed mechanically or chemically. They must be removed from the fabric by hand and can ruin the fabric if exposed to heat.)
- D. Colored fibers  
(NOTE: Colored fibers can occur naturally, can be caused by natural (urine) or synthetic (ink) stains or can be transferred from other sheep or livestock.)

## RECORDS

# **JUNIOR EWE LAMB FUTURITY RECORD FORM**

Name \_\_\_\_\_ County or Chapter \_\_\_\_\_

Breeder \_\_\_\_\_ Birth Date of Lambs \_\_\_\_\_

Cost per Animal \_\_\_\_\_

Beginning Date \_\_\_\_\_ Beginning Weight \_\_\_\_\_

Ending Date \_\_\_\_\_ Ending Weight \_\_\_\_\_

Week	Feed Quantity and Cost	Health, Equipment and Other Costs	Activity and Labor (hrs.) Report
Example	500 lb. lamb grower \$55.00	Overeating vaccine 4 doses @ 25c/dose = \$1.00 Drench 4 doses @ 50c/dose = \$2.00 Water Bucket - \$7.50	Halter breaking - 3 hours Drenching and Hoof Trimming - ½ hour
10/20 - 10/26			
10/27 - 11/02			



11/03 - 11/09					
11/10 - 11/16					
11/17 - 11/23					
11/24 - 11/30					
12/01 - 12/07					
12/08 - 12/14					

12/15 - 12/21					
12/22 - 12/28					
12/29 - 01/04					
01/05 - 01/11					
01/12 - 01/18					
01/19 - 01/25					

01/26 - 02/01				
02/02 - 02/08				
02/09 - 02/15				
02/16 - 02/22				
02/23 - 03/04				

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