

Sheep Premier Exhibitor Study Guide

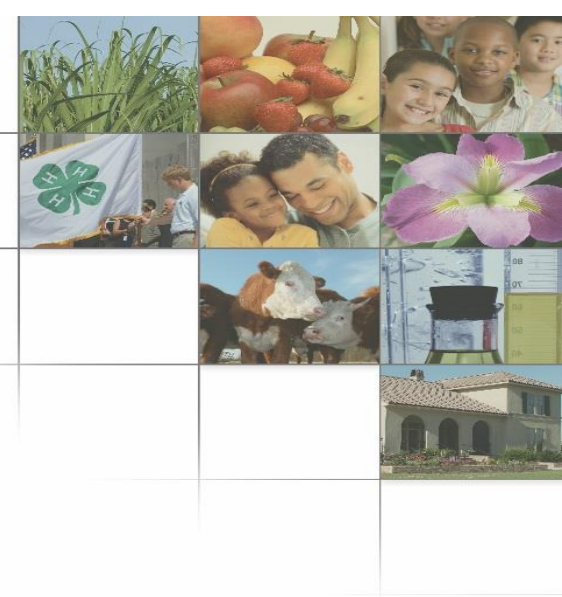
Prepared by Hannah Devall, St. Martin Parish 4-H Agent



LSUAgCenter.com

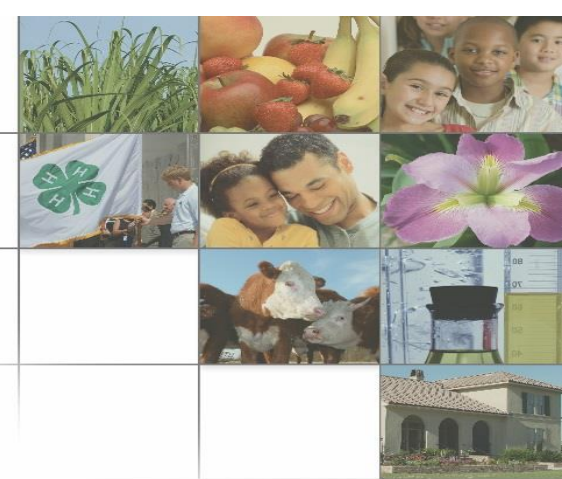
List of Resources:

- All current 4-H Sheep Project Books <https://shop4-h.org/products/sheep-curriculum-set-of-4>
 - Rams, Lambs, & You Level 1
 - Shear Delight Level 2
 - Leading the Flock Level 3
- Current year [LSU AgCenter Livestock Show Catalog](#)
- Sheep Premier Exhibitor Study Guide document (Livestock Show Office website)
- Sheep Premier Exhibitor Feed & Nutrition document (Livestock Show Office website)



Basic Sheep Terminology

- Dam
 - The female parent, the mother
- Ewe
 - A female sheep
- Ewe breeds
 - Breeds that excel in prolificacy, mothering, milk production, and often times wool production and quality. Usually white-faced breeds of fine-wool type.
- Ewe lamb
 - Female sheep that is less than one year-old and is usually not bred
- Flock
 - A small group of sheep
- Lamb
 - A sheep under one year of age or the meat from young sheep
- Ovine
 - A term that refers to sheep
- Ram
 - A male sheep, also known as a “buck”
- Ram breeds
 - Meat-type breeds used mainly as sires for market lamb production
- Sire
 - The male parent; the father
- Wether
 - A male sheep that has been castrated
- Yearling
 - An animal between one and two years of age

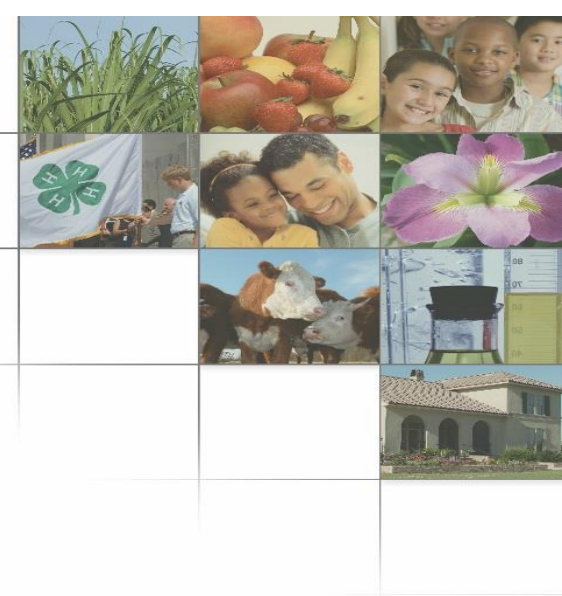


Breeds

- Cheviot
- Corriedale
- Columbia
- Cotswold
- Dorper
- Dorset
- Finnsheep
- Friesian
- Hampshire
- Icelandic
- Jacob
- Katahdin
- Leicester
- Lincoln
- Merino

- Montadale
- Navaja-Churro
- North Country Cheviot
- Oxford
- Panama
- Perendale
- Polypay
- Rambouillet
- Romney
- Shropshire
- Southdown
- Suffolk
- Targhee
- Texel
- Tunis

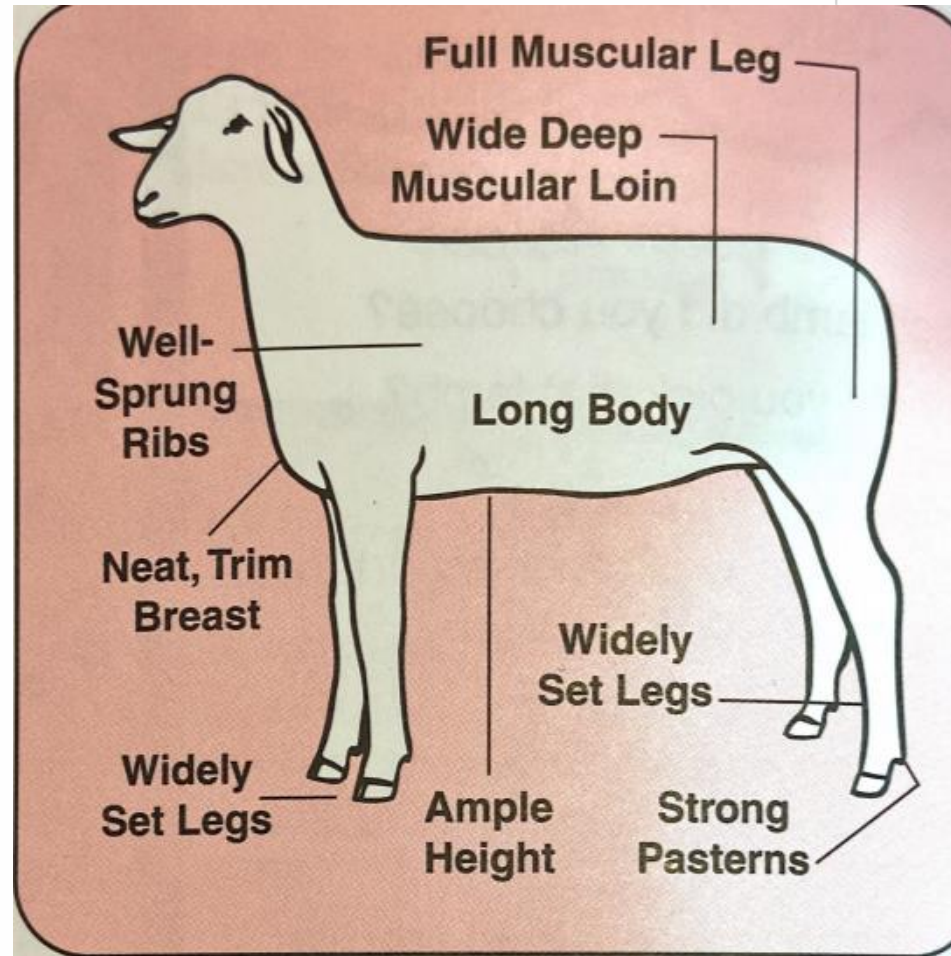
- For more information on breeds, visit this website: (<http://afs.okstate.edu/breeds/sheep/>)



Picking Your Market Lamb

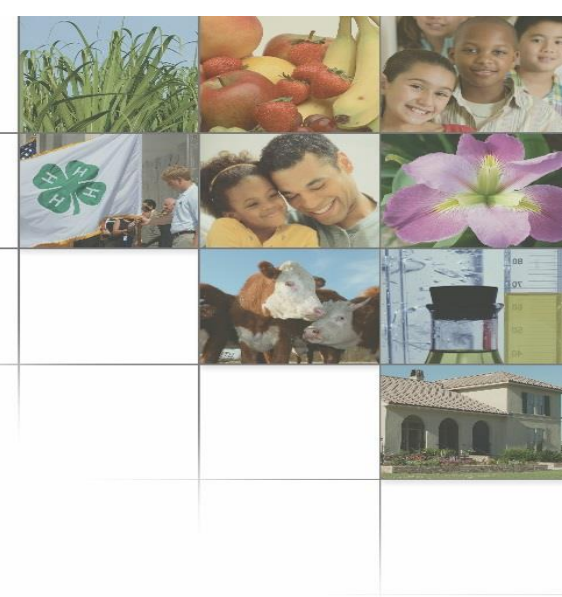
Things to look for in a market lamb:

- Desirable size (about 60 pounds at 60 days)
- Long, tall and not fat
- Strong, straight back, straight, level rump and trim middle
- Muscling through the hind legs and loin (top)
- Squarely set, muscular legs with strong pasterns
- Levelness over the rump and dock



Sheep Vital Signs

- Average Temperature
 - 102.3 degrees F
- Normal Pulse Rate
 - 70-80 rate/minute
- Normal Breathing Rate
 - 12-20 rate/minute



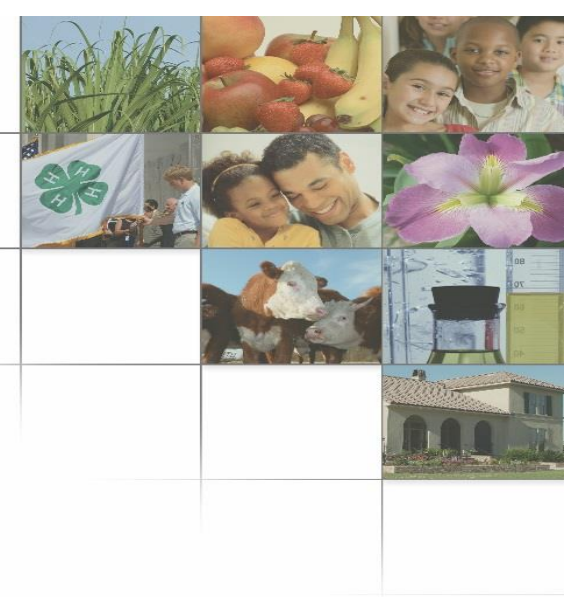
Sheep Management Practices

1. Introduce lambs to creep or grain
2. Water for maggot infestations
3. Watch for mastitis in ewes
4. Add grain to ewe ration
5. Cull ewes with problems (foot/udder/lambing)
6. Strip teats of ewes
7. Drench ewes for internal parasites
8. Provide fresh water and trace mineral salt
9. Keep ewes on maintenance-only diet
10. Castrate ram lambs at 2-3 days
11. Vaccinate lambs for enterotoxemia
12. Drench lambs that are not gaining
13. Feed rams more than maintenance
14. Vaccinate lambs for tetanus
15. Feed maintenance ration to ewes
16. Check ewes for health problems
17. Identify lambs with ear tags
18. Have plan to handle orphan lambs
19. Vaccinate ewes for vibriosis 2 weeks before breeding
20. Market lambs at 115-140 pounds
21. Dock tails at 2-3 days
22. Feed lambs on growing/finishing feed
23. Turn rams in with ewes
24. Observe lambs for coccidiosis
25. Feed ewes 2 pounds grain a day
26. Gradually reduce grain to ewes



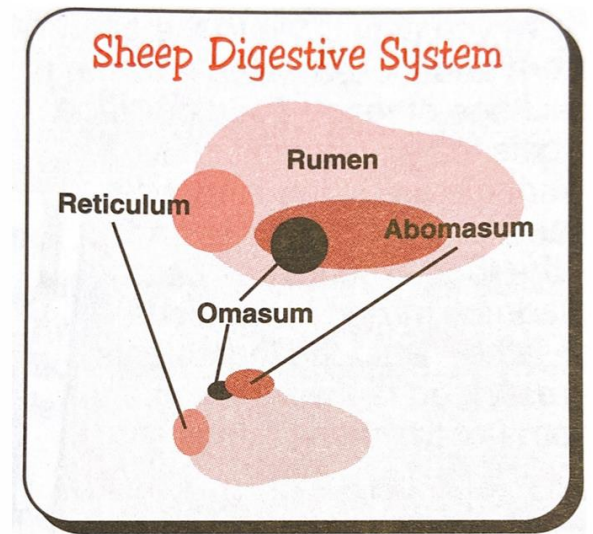
Digestive System

- Reticulo-rumen
 - A pouch found at the juncture of the small and large intestines where additional microbial fermentation can take place. Usually small in most domestic animals other than horses, and except for horses, is not believed to contribute very much to digestion
- Teeth
- Salivary Glands
 - glands located in the mouth cavity that secrete fluids to keep the mouth moist and aid in digesting and swallowing food
- Esophagus
 - The flexible tube that connects the mouth to the reticulo-rumen and has muscles that allow food to be swallowed and regurgitated
- Small Intestine
 - Connects the stomach and the large intestine.
- Cecum
 - A pouch found at the juncture of the small and large intestines where additional microbial fermentation can take place. Usually small in most domestic animals other than horses, and except for horses, is not believed to contribute very much to digestion
- Large Intestine
 - The last section of intestines, where water and water-soluble vitamins are absorbed
- Rectum



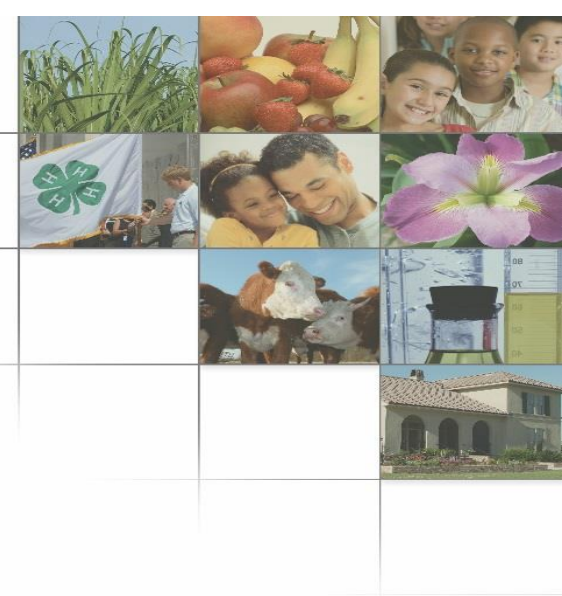
Digestive System

- Abomasum
 - The “true” or gastric stomach in a ruminant
- Omasum
 - The compartment of the ruminant stomach between the rumen and the abomasum. The omasum works like a filter, trapping undigested food in the rumen and letting small food particles pass to the abomasum
- Rumen
 - The largest compartment of the stomach of cattle, sheep, and goats
- Reticulum
 - The rumen compartment below the esophagus where food is collected and regurgitated back up the esophagus
- Ruminant
 - An animal with cloven hooves and a large microbial fermentation chamber that comes before the gastric stomach
- Rumination
 - A process in animals with a rumen in which the food is regurgitated as a bolus (cud), chewed, and reswallowed.
- Ferment
 - The digestive process, as it is called in bacteria
- Regurgitation
 - A process in which the contents of the stomach are carried through the esophagus back to the mouth



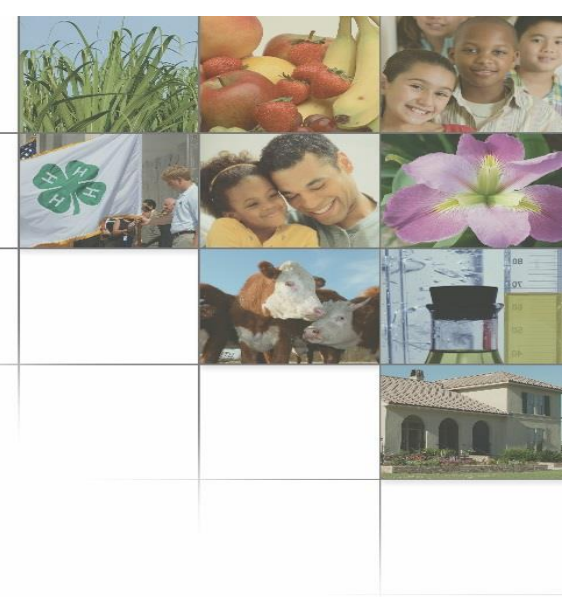
Sheep Feed Requirements Per Day

- Grain
 - Ewes in late gestation and lactation: 1-2 lbs/ewe as a supplement to a hay or silage ration
 - Feeder lambs: 2-3 lbs plus mineral supplement
- Hay
 - Ewes in maintenance and early gestation: 2-4 lbs/ewe
 - Ewes in late gestation and lactation: 4-7 lbs/ewe plus supplemental grain
- Corn Silage
 - Ewes in maintenance and early gestation: 7-9 lbs/ewe
 - Ewes in late gestation and lactation: 12-20 lbs/ewe
 - Feeder lambs: 4-6 lbs/lamb plus 1-2 lbs/day grain plus protein and mineral supplement
- Water
 - Feeder lambs: 2 gallons per lamb daily



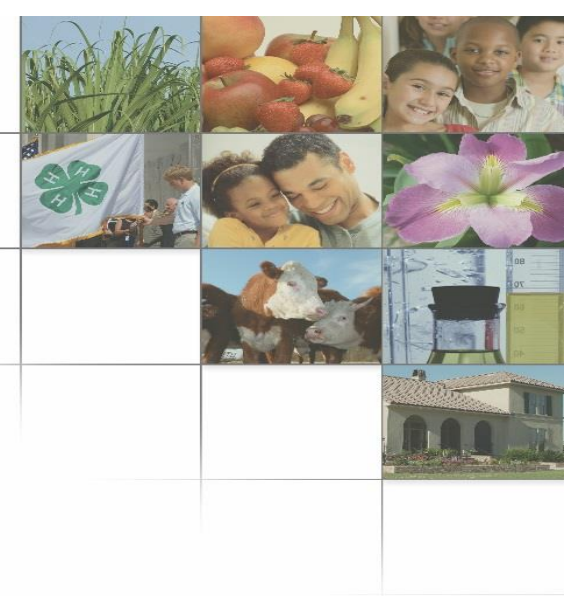
Feeding

- Growing diets 15-17% crude protein
- Finishing diets 12-14% crude protein
- Market ready when:
 - 115-135 pounds
 - 0.15-0.25 inches back fat
 - 2.5 square inches loin eye
- Lambs raised on pasture may gain 0.4-0.8 pounds per day



Stage of Growth & Crude Protein

Crop	Stage of Growth	Percent Crude Protein
Alfalfa	Early Bloom	18
	Full Bloom	14
Wheat	Boot	18
	Full Bloom	8.5
Sudan	Early Boot	17
	Full Bloom	8
Brome	Late Boot	17
	Full Bloom	12.5
Prairie Grass	Early Boot	13
	Mature	6



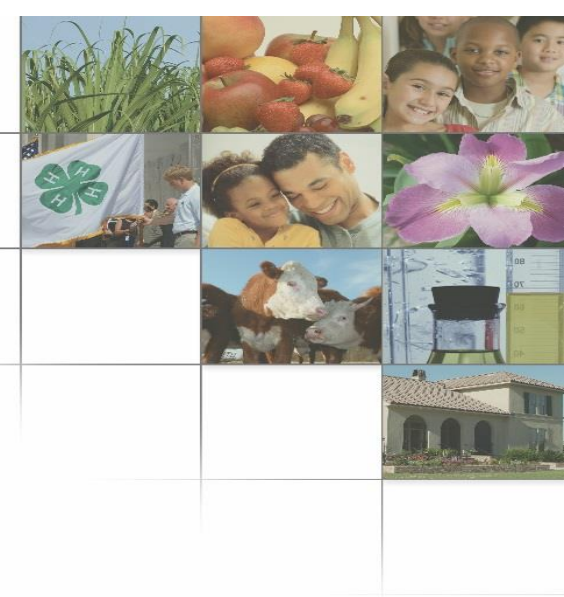
Nutrition Terminology

- **As-fed (AF)**
 - Feedstuff has not been dried to remove water. Nutrient values and feeding instructions do not need to be adjusted for moisture
- **Average Daily Gain (ADG)**
 - The amount of weight a lamb gains each day. Calculated by dividing the total weight gained in a period by the number of days in a period. Example: 60 lbs. gained in 90 days= $60/90 = 0.67$ lbs. per day
- **Balanced Ration**
 - A ration with feed ingredients combined in amounts and proportions that will meet an animal's daily nutritional requirements
- **Creep Feeding**
 - Giving lambs extra feed when they are still nursing
- **Crude Fiber (CF)**
 - An old measure of fiber content, but is still commonly included on feed tags. Usually expressed in percent or parts per 100
- **Crude Protein (CP)**
 - "crude" is an old expression meaning "total" and means the total protein in the feed. Usually expressed in percent or parts per 100
- **Diet**
 - What is fed to an animal daily; ration
- **Digestible Energy (DE)**
 - The amount of energy in a feed that an animal can digest (what energy disappears between the feed bunk and the manure). Usually expressed in Kcals or Mcals
- **Dry matter (DM)**
 - The proportion of completely dry material in a sample
- **Feed conversion**
 - A measurements of the amount of feed an animal must eat in order to gain a pound of weight
- **Feeder lamb**
 - A weaned lamb that has opportunity to grow for at least 30-60 days before being ready for market
- **Feedlot**
 - A facility where large numbers of feeder lambs are grown and finished for market



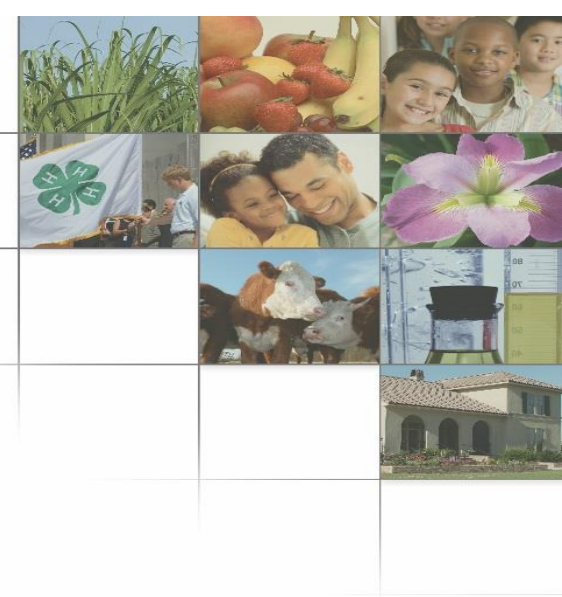
Nutrition Terminology continued

- Feedstuff
 - Material used for feed
- Forage
 - Roughage such as grasses and legumes used for animal feed; it may be fed as pasture, hay or silage
- Free choice
 - Providing all the feed the animal will eat throughout the day
- Hand Feeding
 - Giving lambs a measured amount of feed 2-3 times a day
- Net Energy (NE)
 - The amount of energy in a feed that actually does work in body cells. Usually expressed in Kcals or Mcals
- Nutrient
 - A chemical substance that nourishes, such as protein, carbohydrates, minerals, or vitamins.
- Nutrition
 - The process of providing, digesting and metabolizing nutrients.
- Protein
 - A large nitrogen containing molecule that is made of a chain of amino acids. Proteins come in many shapes and forms and are critical for most bodily functions. Enzymes and muscle tissue are made mostly or entirely of protein.
- Ration
 - The amount of feed eaten or provided within a 24-hour period
- Roughage
 - Bulky feeds like hay that are low in energy
- Self Feeding
 - Allowing lambs to eat as much as they want, whenever they want, from self feeders
- Silage
 - A forage crop that has been preserved by fermentation through a process that keeps out oxygen



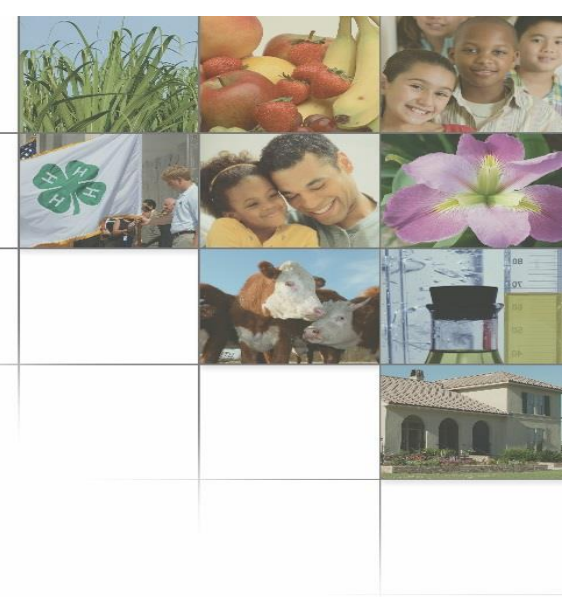
Medical Practices

- Bolus
 - A mass of chewed food; a pill
- Drenching
 - Oral administration of a liquid, usually a medicine for internal parasites
- Intramuscular Injection
 - An injection given in the neck muscle of an animal
- Intravenous Injection
 - An injection given directly into an animal's bloodstream
- Sharps
 - Term used to describe needles, scalpel blades, broken glass, and other items capable of breaking the skin that present a danger to humans if disposed of improperly
- Subcutaneous Injection
 - Means “under the skin.” Some injections are given just under the skin and not in the muscle



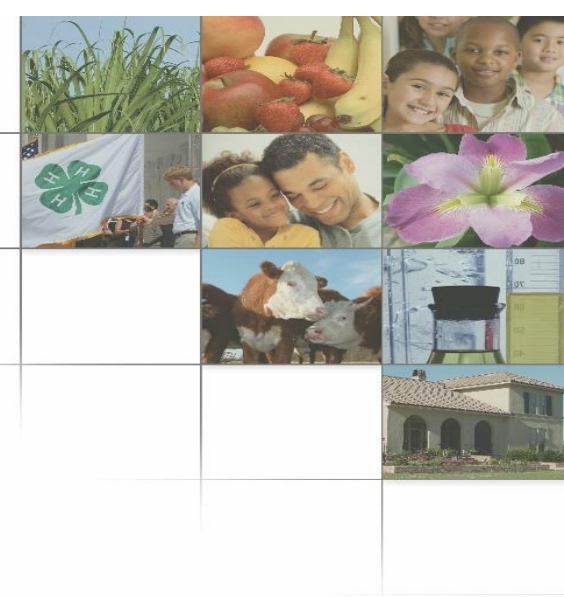
Sheep Diseases

- Navel Ill (Joint Ill)
 - Cause: bacteria enter via umbilical cord after birth
 - Symptoms: abscesses in the liver and leg joint. Lameness in the affected joint that will be hot, swollen and painful.
 - Prevention: 1.) immediately after birth, dip the navel stump in 7% tincture of iodine to dry the navel cord and kill any bacteria present. 2.) disinfect lambing pens between births
- Pneumonia
 - Cause: a virus, combined with stress, causes the initial damage. Bacteria invade secondarily.
 - Symptoms: Animal become lethargic, has a high fever and may have labored breathing and a nasal discharge.
 - Prevention: Provide adequate ventilation, prevent drafts and reduce stress.



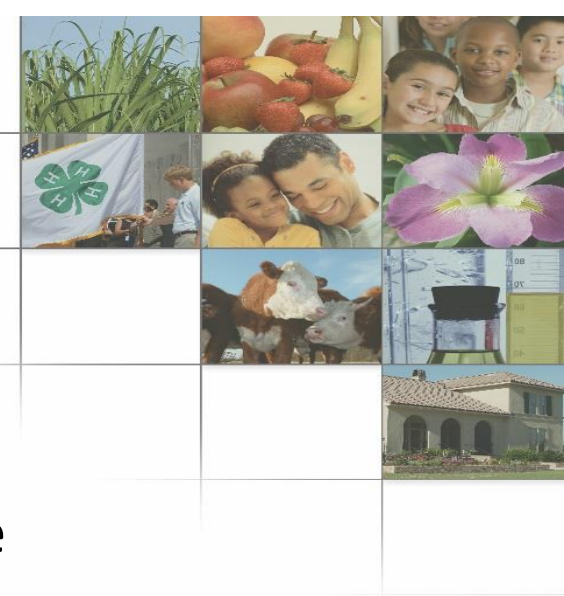
Sheep Diseases (continued)

- Scours
 - Cause: Bacteria (salmonella, Escherichia) or virus. The lining of the intestines becomes irritated and fluid is lost in the feces instead of being absorbed and fluid is lost in the feces instead of being absorbed from the intestines into the body.
 - Symptoms: Diarrhea (loose stool) leading to dehydration.
 - Treatment: Immediately separate from other animals and administer fluids. Clean and disinfect between births.
 - Prevention: Be sure lambs receive at least 4 ounces of colostrum immediately after birth.



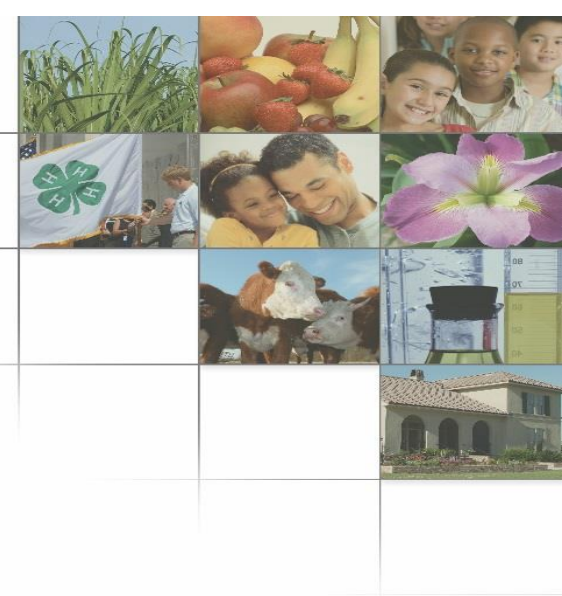
Sheep Diseases (continued)

- White Muscle
 - Cause: Lack of selenium and/or vitamin E in the diet
 - Prevention: Adequate selenium in the diet or an injection of BoSe given subcutaneously at birth
- Enterotoxemia (Overeating Disease)
 - Cause: increasing the energy level of feed too rapidly
 - Prevention: a series of vaccinations for *Clostridium perfringens*, types C and D and gradually increasing the energy levels of feeds
 - Symptom: Sudden death
- Scrapie
 - Biggest problem in the sheep industry today
 - Affects the central nervous system and progresses over a period of years from incoordination to convulsions and finally death



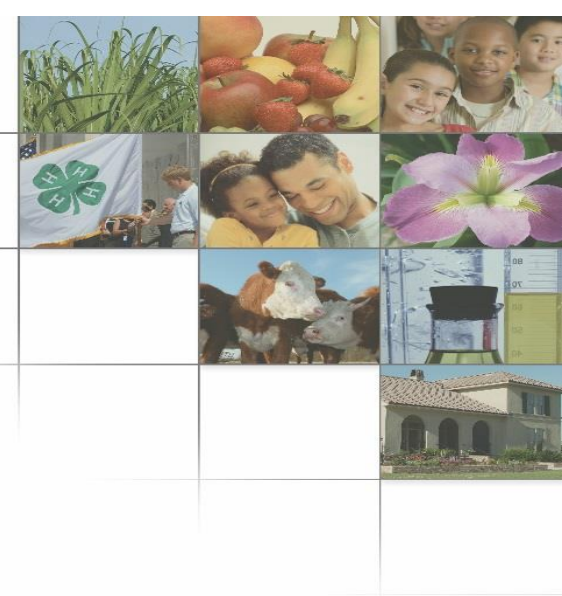
Sheep Parasites

- Parasite: an organism that lives on another organism
- Ked: an external parasite that affects sheep
- Pacific Coast Tick
 - Life Cycle: eggs, six-legged larvae, sexually immature nymph, male and female adults
 - Sheep raised on rangeland, particularly in brushy areas, are more exposed to this bloodsucking parasite than sheep kept in confinement
- Nose Bot Fly
 - Life Cycle: Larvae crawl p nasal passages, develop for 8-10 months in sinuses, mature larvae crawl or are sneezed out, female fly deposits larvae in nostrils
 - Sheep may try to protect themselves from this pest by standing in groups with their heads together, hiding their noses in the grass.



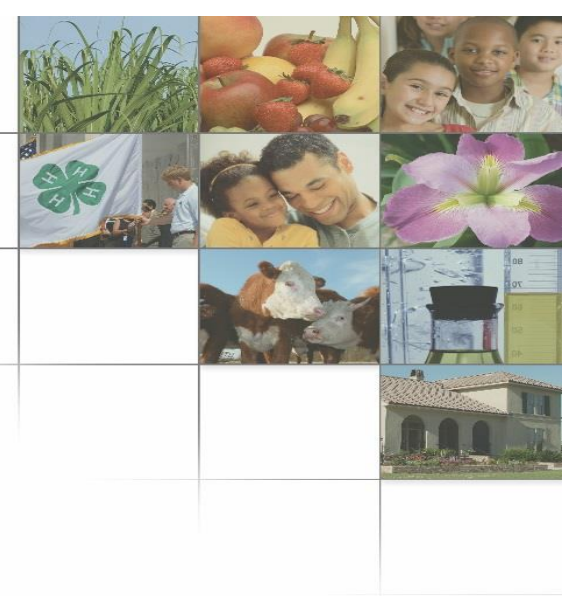
Sheep Parasites continued

- Tape Worm
 - Life cycle: sheep ingests mites infected with worm cysts, tapeworms in intestines, worm segments passed in feces, segments split open and release worm eggs
 - This long internal parasite may cause digestive upset in young sheep. Not affected by many common anthelmintics although Albendazole, Fenbendazole and Morantel Tartrate can be effective.
- Coccidiosis
 - Life cycle: mature coccidia in intestines, coccidia organism passed in feces, organisms mature in 3-5 days and are ingested by sheep
 - In lambs this parasite can cause bloody diarrhea, depression and weight loss. Discovery of oocytes in fecal samples and a history of diarrhea constitute a positive diagnosis



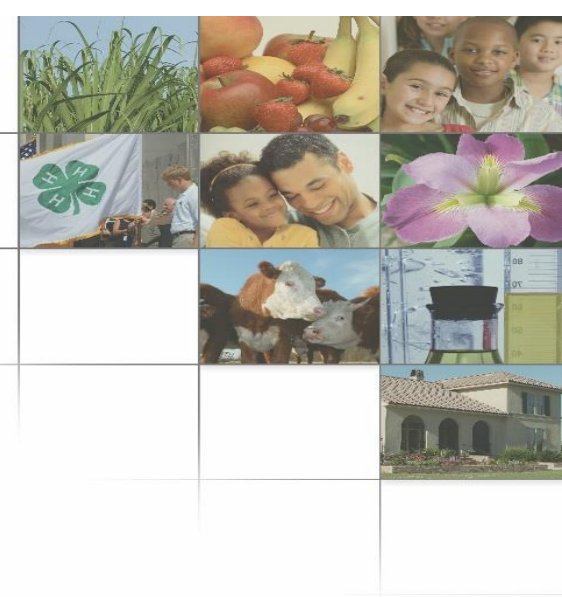
Sheep Parasites continued

- Liver Flukes
 - Requires a snail to serve as an intermediate host for part of its lifecycle
 - Life cycle: sheep ingests cyst stages, adult flukes in liver, fluke eggs in feces, free-swimming stages hatch from eggs, stages penetrate particular snail and multiple, new free-swimming stages emerge from snail



Sheep Parasites continued

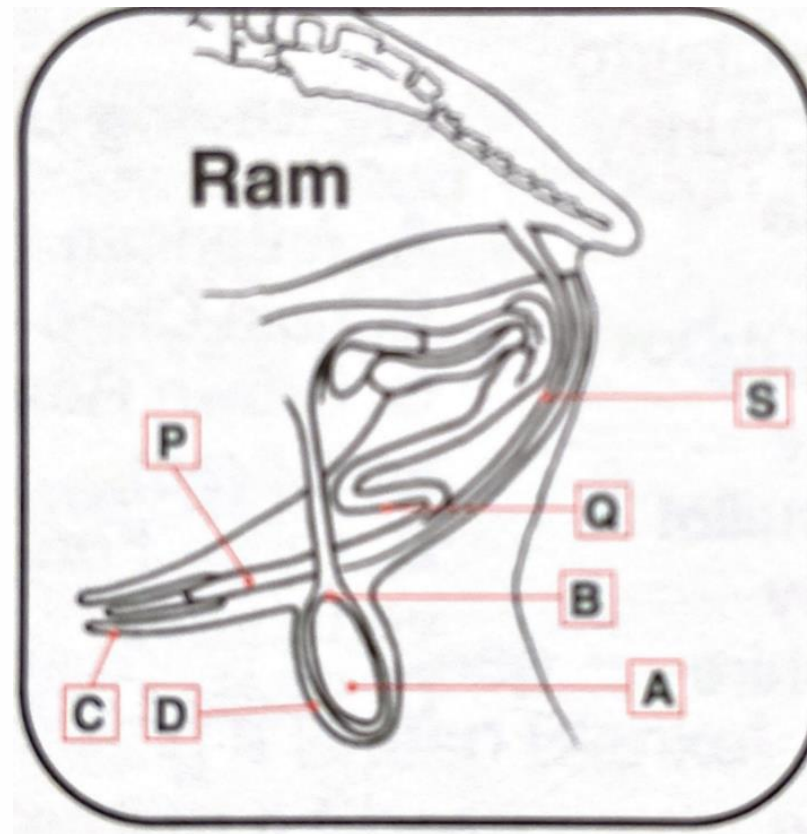
- Common Stomach Worm
 - Life cycle: sheep eat intermediary host and become worm infected, worm eggs passed in feces, intermediary host eats worm eggs
 - Larvae burrow into abomasal glands and remain there through dormancy. Symptoms include fluid accumulation in lower body parts, one example being “bottle jaw.”
- Blood Sucking Louse
 - This external parasite, usually visible to the naked eye on close examination, spreads rapidly among sheep that are kept in confinement. Affected animals may rub and scratch frequently
 - Life Cycle: young louse, male and female adults, eggs glued to hair



Reproductive Parts

Male Reproductive Parts

- Epididymis: Tube that stores sperm, transports it from the testicles to the penis
- Part of the tract that the ram uses to breed the ewe
- Retractor penis muscle: pulls the penis back into the ram's body after mating
- Scrotum: covers and protects the testicles
- Sheath: provides protection for the penis
- Sigmoid flexure: muscle that keeps the penis inside the ram's body and allows it to be extended during mating
- Testicles: produce the male hormones testosterone; where the sperm is made



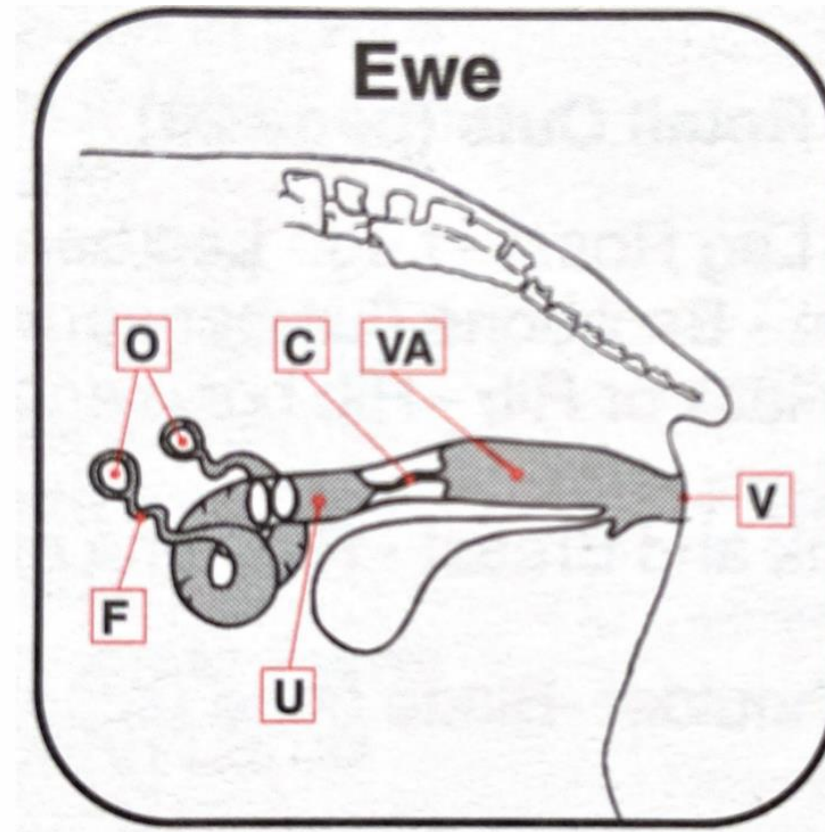
Ram Reproductive Parts

- A – testicle
- B – epididymis
- C – sheath
- D – scrotum
- P – penis
- Q – sigmoid flexure
- S – retractor penis muscle

Reproductive Parts

Female Reproductive Parts

- Broad ligament: a rough band of fibrous tissue that holds the uterus in place
- Cervix: barrier that protects the uterus from infection and foreign debris
- Ovary: the eggs develop here
- Oviduct: fertilization takes place here.
- Uterus: the fetus develops here during pregnancy
- Vagina: tube connects the vulva with the uterus where the ram deposits the semen, serves as the birth canal
- Vulva: external opening to the reproductive tract

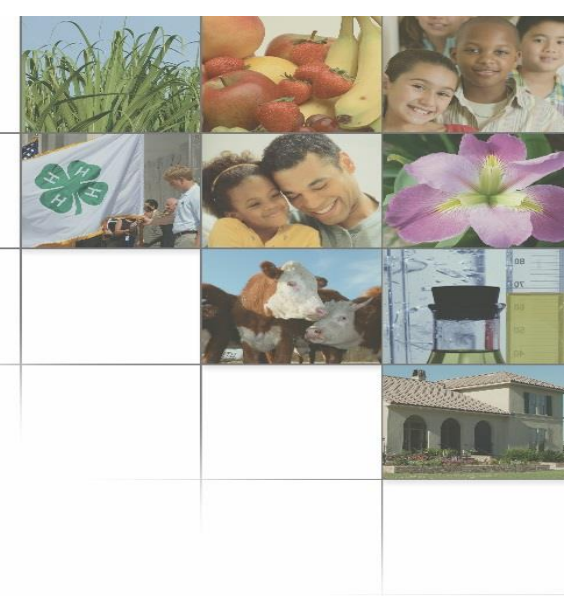


Ewe Reproductive Parts

V – vulva
Va – vagina
C – cervix
U – uterus
O – ovary
F – oviduct

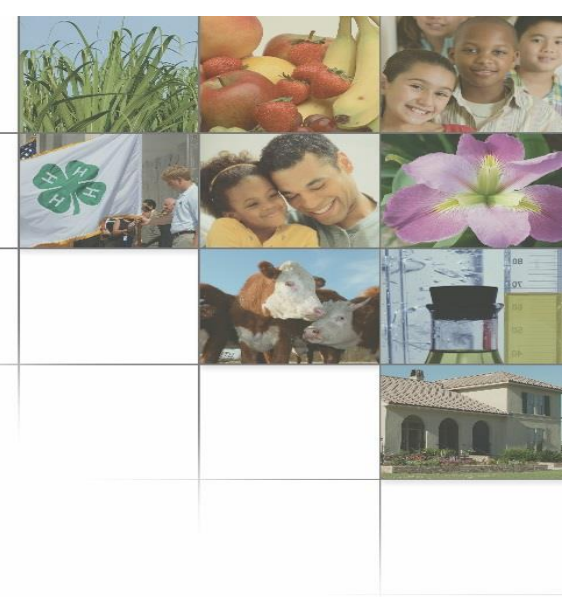
Selection in Breeding

- Combined Selection
 - Selection based on an individual's breeding value which was estimated by combining all performance information for selected and correlated traits
- Crossbred
 - An animal whose parents are of two different breeds
- Crossbreed
 - To mate animals of different breed
- Family
 - Ancestry; line of breeding
- Inbreeding
 - Mating of individuals more closely related than the average of the breed
- Linebreeding
 - Use of close relatives such as sons and grandsons in a breeding program to retain merits of an individual ancestor
- Natural Selection
 - Survival of the fittest; allows sheep that are best adapted to their environment to survive and produce the largest number of off spring
- Outbreeding
 - Mating of individuals less closely related than the average of the breed
- Pedigree
 - A written statement giving the record of an animal's ancestry
- Prepotency
 - The ability of an individual to transmit its own qualities to its offspring
- Purebred
 - An animal descended from a line of ancestors of the same breed; may or may not be registered
- Purebreeding
 - Mating of rams and ewes of a common genetic group



Lambing

- Accelerated lambing
 - The practice of having a ewe give birth more than once a year
- Afterbirth
 - The placenta and membranes that are expelled from the uterus after lambing
- Breech
 - A birth in which the rear portion of the fetus is presented first
- Dystocia
 - A difficult birth
- Lambing percentage
 - Number of lambs born in the flock as compared to the number of ewes exposed to the ram. For example: 150 lambs born to 100 ewes exposed to the ram $\times 100 = 150\%$
- Parturition
 - The act of giving birth
- Placenta
 - A sac-like tissue that contains the fetus during its development and connects the fetus to the dam
- Stillborn
 - A fetus that is fully mature but dead at birth



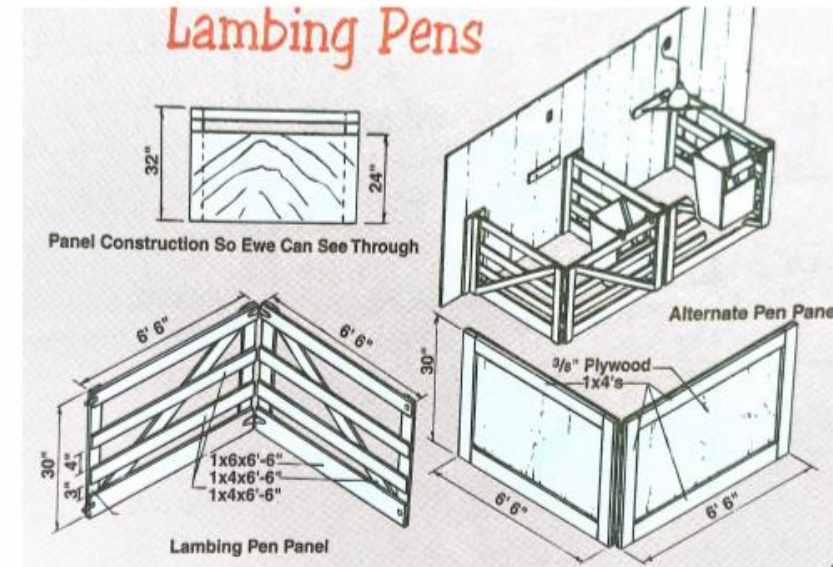
Lambing

10 Reasons for Lambing Losses

- Starvation
- Pneumonia
- Scours (Diarrhea)
- Navel Ill
- Entropion (Inverted eyelids)
- Urinary Calculi (Water Belly)
- White Muscle Disease (Stiff Lamb)
- Enterotoxemia (Overeating Disease)
- Parasites
- Coccidiosis

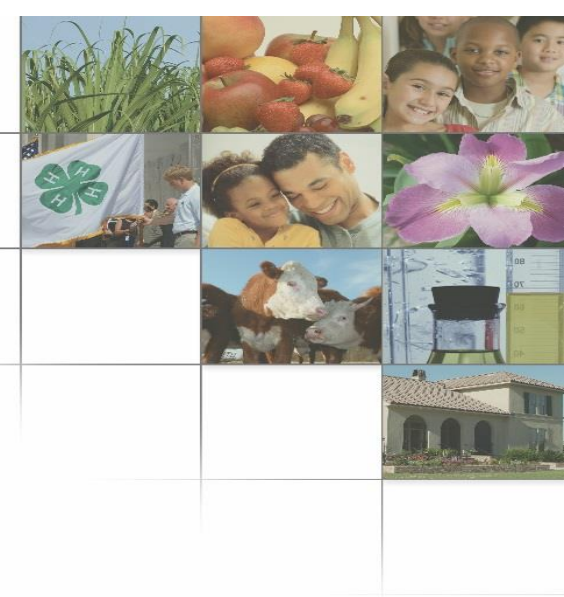
Lambing Supplies

- Heat Lamb
- Towels
- Water Pail
- 6X6 foot pens
- Iodine
- Scissors
- Colostrum
- Esophageal feeder
- Lamb nipples
- 60 cc syringe
- Antibiotic uterine
- Boluses
- Detergent



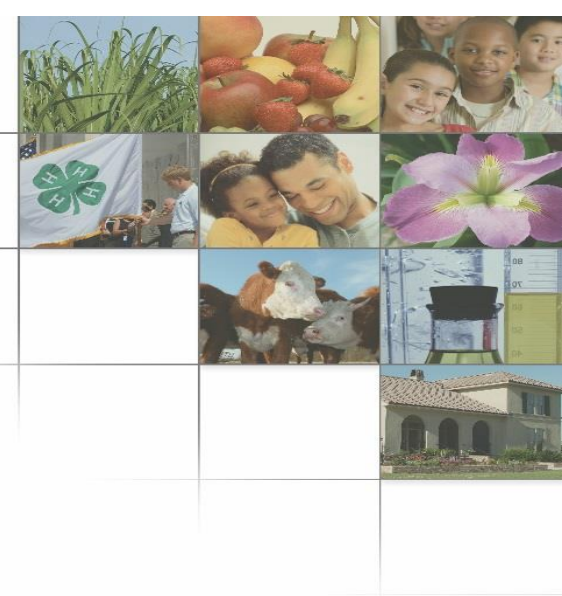
Sheep Breeding Terminology

- Abortion
 - Premature expulsion of the undeveloped fetus
- Breed
 - A group of sheep that look alike and have the same ancestors
- Breed type
 - The combination of characteristics that makes an animal better suited for a specific purpose
- Breeder
 - The owner of the lamb's dam at the time she was bred
- Breeding Season
 - The time of year when ewes are bred with rams to produce lambs
- Breeding Soundness Exam (BSE)
 - A physical examination of a ram used to determine if he is capable of getting ewes pregnant



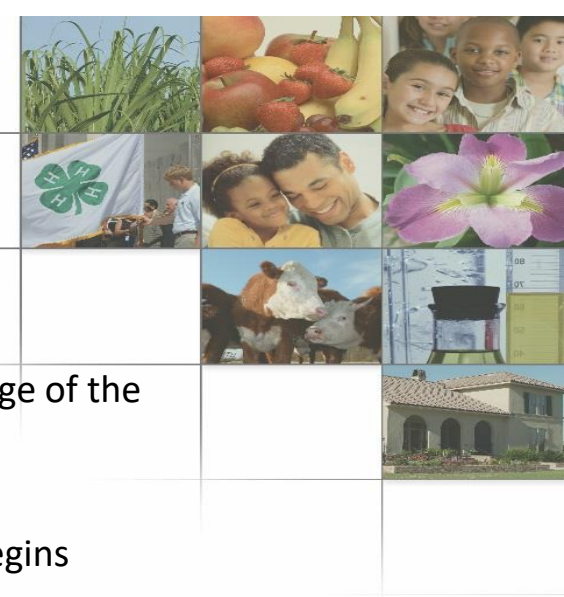
Sheep Breeding Terminology continued

- Crossbreeding
 - Mating of rams and ewes of different breeds
- Early Maturing
 - Becoming sexually mature at an early age
- Early weaning
 - Weaning lambs at 8-12 weeks of age or earlier than four months
- Estrous cycle
 - The time from one estrus (heat) to the next, about 17 days in ewes
- Estrus
 - Also known as “heat;” the period of time when the female will allow the male to breed her
- Fecundity
 - Ability to product many offspring
- Fertility
 - Proportion or percentage of ewes lambing that were exposed to rams
- Fertilization
 - Involves the union of sperm from the male with an ovum (egg) from the female
 - The continued use of purebred sires of the same breed in a grade flock



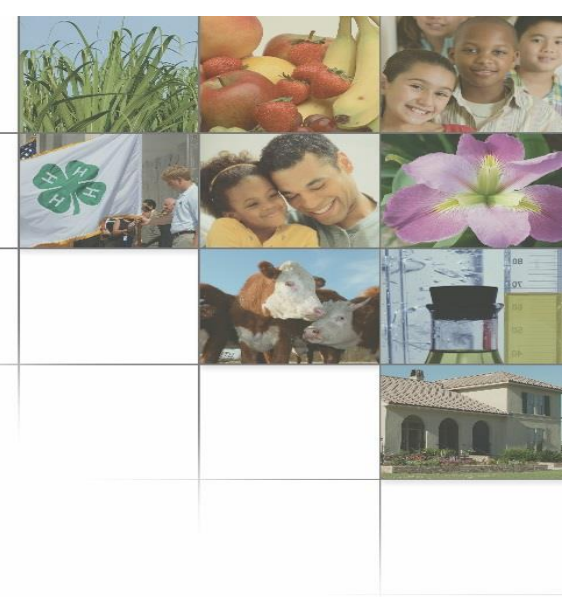
Sheep Breeding Terminology continued

- Flock Expected Progeny Difference (FEPD)
 - An estimate of how much better (or poorer) an individual's offspring will perform compared to the average of the flock
- Flushing
 - The practice of feeding and managing ewes so that they are gaining weight when the breeding season begins
- Heat Period
 - Also known as estrus, the period of time when the female will allow the male to breed her
- Gestation
 - Pregnancy; the period of development of a fetus between fertilization and birth
- Lactation
 - Period of time when ewes are nursing young lambs
- Mating System
 - How selected breeds and individuals will be paired at mating
- Offspring
 - Animals born to a parent, or later generations of the same family
- Open
 - When a ewe is not pregnant
- Ovulation
 - Occurs 24 hours after the ewe initially exhibits heat



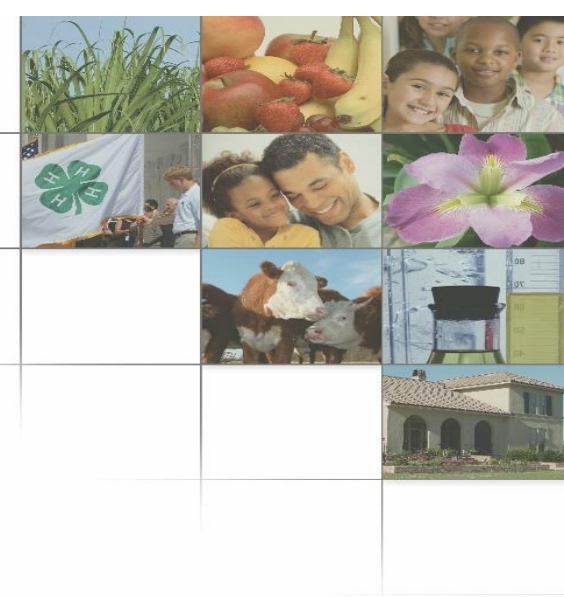
Sheep Breeding Terminology continued

- Polyestrus
 - Exhibiting more than one estrous period per year
- Pregnancy
 - The period of time in which a female animal carries a developing embryo or fetus inside the uterus
- Pregnancy toxemia (Ketosis)
 - Disease of pregnant ewes caused by a diet deficient in energy in late pregnancy when fetal growth is rapid
- Progeny Testing
 - An evaluation of an animal on the basis of the performance of its progeny (offspring)
- Progeny
 - Offspring



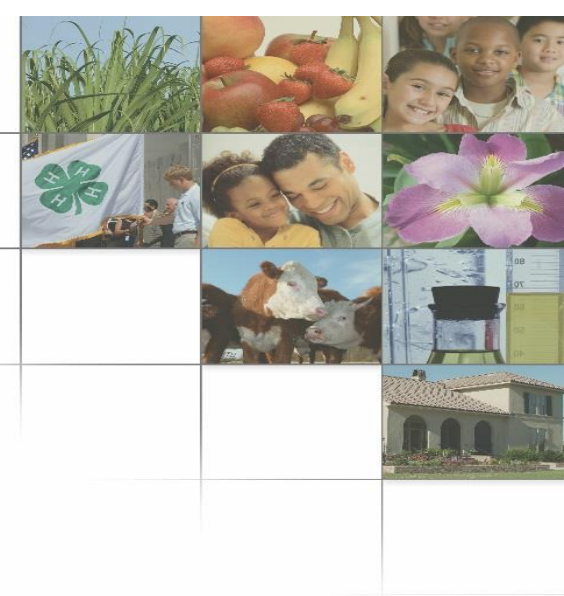
Sheep Breeding Terminology continued

- Prolific
 - Capable of having many offspring
- Prolificacy
 - Reproductive performance measured by number of lambs born per ewe lambing
- Replacement
 - An animal selected to be kept for the breeding flock or herd
- Scrotal Circumference
 - The distance around both of a ram's testicles, measured at the widest part of his scrotum
- Selection
 - The act of determining which individuals will be allowed to mate to produce the next generation
- Service
 - The mating of a female animal by a male animal
- Settled
 - Indicates that an animal has become pregnant
- Short day breeder
 - An animal like a sheep that begins its breeding season as the days get shorter
- Total ewe productivity
 - Pounds of lamb weaned per pound of ewe exposed



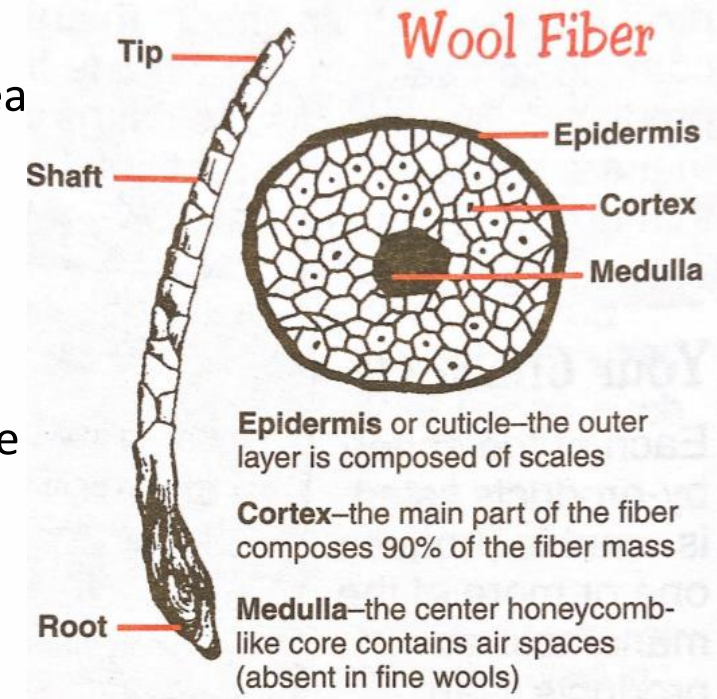
Genetics

- Carrier
 - Animal that does not exhibit a trait but carries the gene for it
- Chromosomes
 - SNA molecules are organized into pairs that make up the nucleus of every cell. Each individual has the exact same set of chromosomes in every cell. Sheep have 54 chromosomes
- DNA (deoxyribonucleic acid)
 - Genetic material that controls how animals look and perform. DNA molecules are organized into pairs of chromosomes
- Dominant
 - A gene which, when paired with another gene that determines that certain characteristic, covers up the phenotypic expressions of that gene
- Gene
 - Found in pairs in chromosomes, genes form the coding system that directs the production of enzymes and proteins which influence development, performance, and appearance of an animal
- Genotype
 - Genetic composition of an individual or a listing on an animal's genes
- Heritability
 - The likelihood of certain traits being passed genetically to future offspring
- Heredity
 - The transmission of genetic material from one generation to the next
- Heterosis (hybrid vigor)
 - The superiority of a crossbred individual relative to the average performance of the parent purebreds included in the cross. Crossbred individuals tend to be more vigorous, fertile, and grow faster than the average of purebred that make up the cross.
- Lethal Defect
 - Animal dies because of the genes it inherited
- Phenotype
 - The characteristics of an animal that can be seen or measured



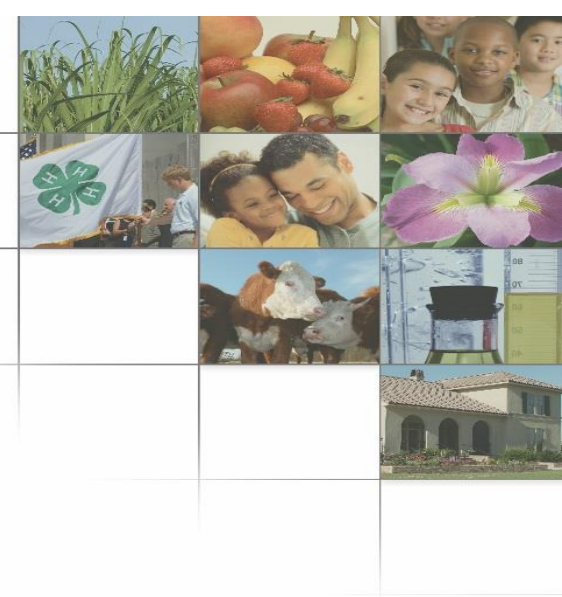
Wool

- Apparel Wools
 - All wools that are manufactured into cloth for use as clothing
- Blood System
 - American wool grades based on the degree of fineness of wool, measured in 1/4, 1/4, 3/8, and 1/2 blood and fine wool
- Crimp
 - The natural waviness of wool fiber
- Card
 - A hand tool used to fit show sheep; also a machine used to separate fibers
- Clean fleece weight
 - Weight of fleece after it has been washed and scoured
- Fiber
 - A single piece of wool
- Fleece
 - The wool from one sheep

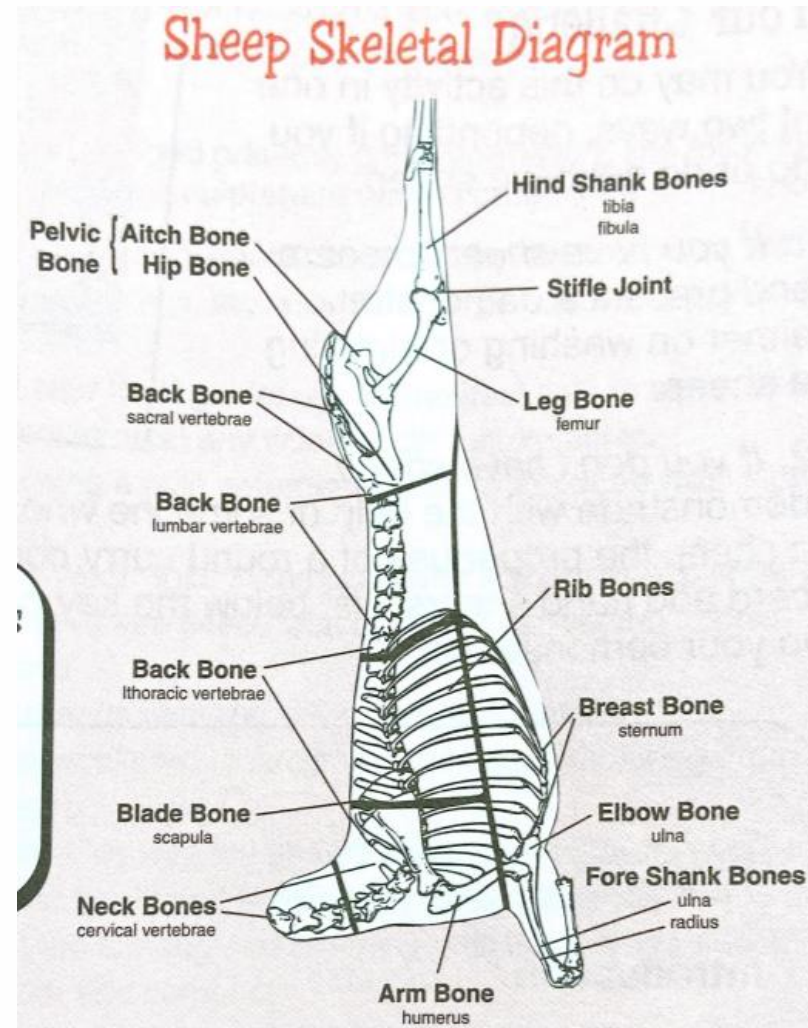


Wool

- Grease Wool
 - Shorn wool that has not been washed
- Lanolin
 - Refined wool grease
- Scales
 - Layer of cells that protect wool fiber
- Staple length
 - Length of the wool fiber in the fleece
- Properties of Wool
 - Resilient; Wear-resistant; Light-weight; Excellent insulation; Static-resistant; Flame-resistant; Dyes well; Holds shape; Comfortable; Richly beautiful; Versatile
- Wool Yield
 - Pounds of clean wool as a percentage of pounds of grease wool
- Woolen
 - Process used to manufacture softer types of clothes and yarns
- Worsted
 - Process used to manufacture men's suits
- Yolk
 - The natural grease covering on the wool fibers of the unsoured fleece



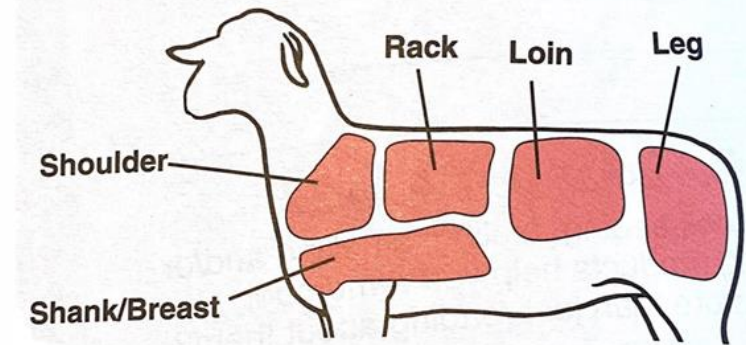
Sheep Skeleton



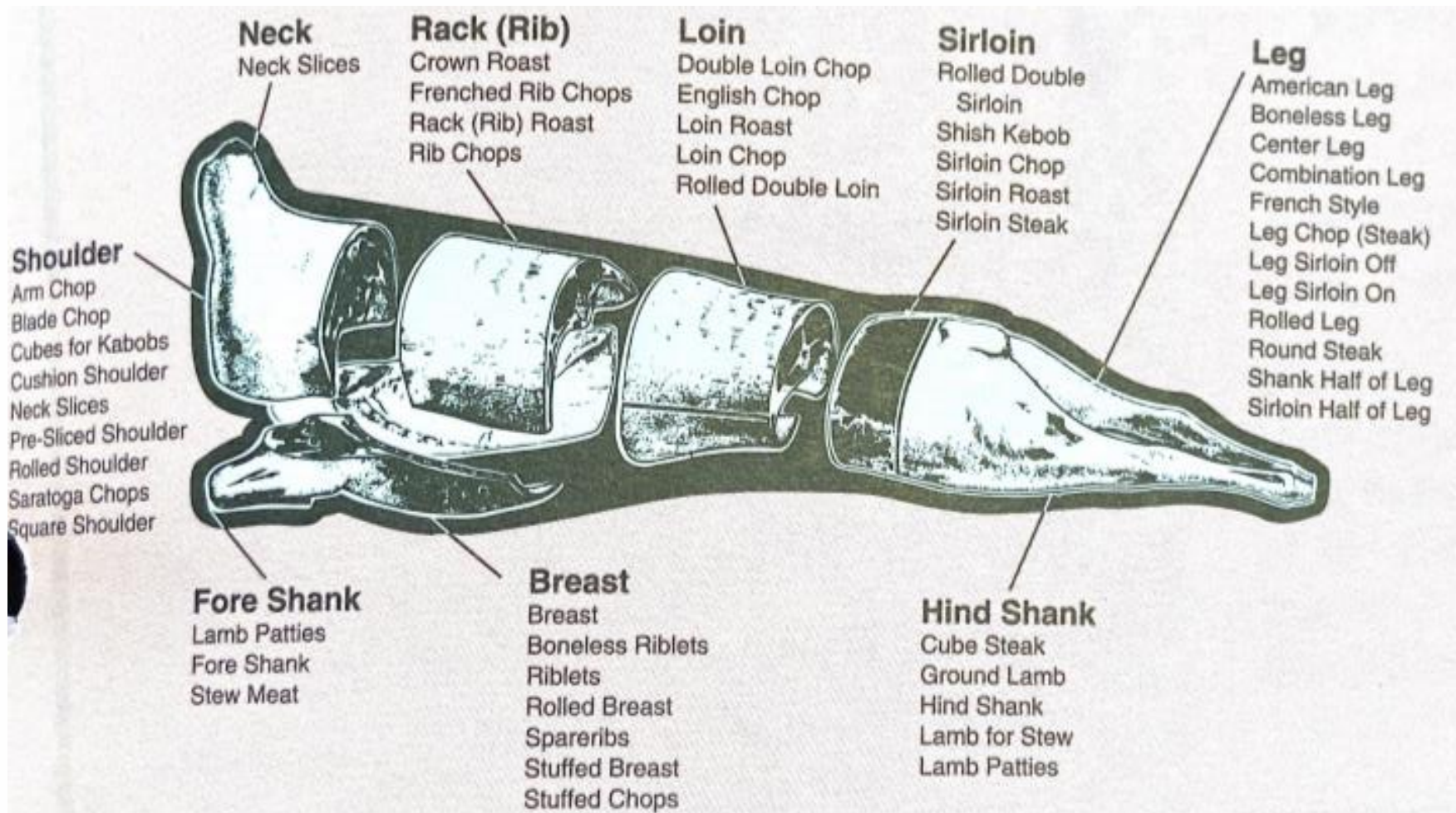
Market Terminology

- **Cutability**
 - how much saleable meat an animal can produce; relative amount of trimmed meat harvested from an animal expressed as a percent of the carcass weight
- **Dressing Percentage**
 - The carcass weight as a percentage of live weight
- **Fabrication**
 - The process of cutting lamb carcasses into wholesale cuts in the meat processing plant
- **Lamb Meat**
 - meat from sheep harvested at less than one year of age
- **Mutton**
 - meat from sheep that are harvested at two years of age or older. Has a stronger flavor than lamb meat
- **Processing**
 - Slaughter or butchering of market animals
- **Price Spread**
 - The difference between the farm price and the retail price
- **Retail cut**
 - Cuts of meat the consumer purchases
- **Retailer**
 - people that sell directly to consumers
- **Wholesale cut**
 - The portion of a carcass from which a group of retail cuts are taken. The shoulder, rack, loin, and leg are the major wholesale cuts of lamb.

Wholesale Lamb Cuts

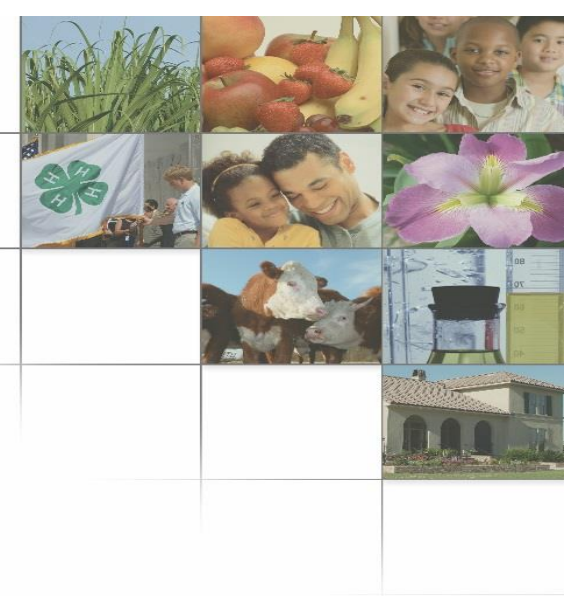


Identifying Lamb Cuts



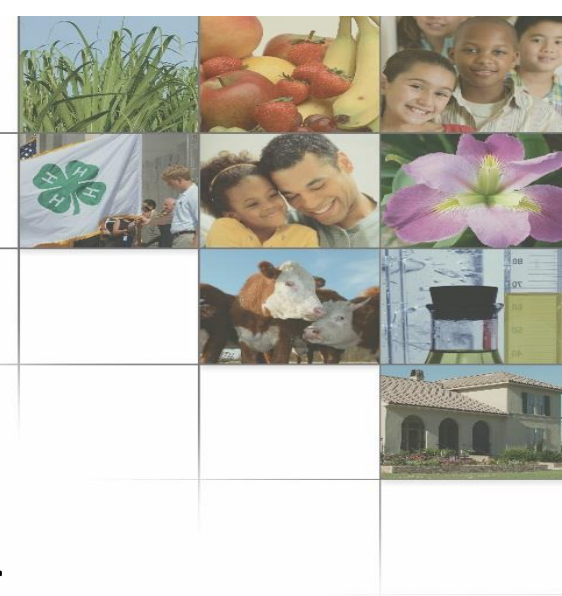
Industry Facts

- There are 914 different breeds of sheep in the world
- Australia, China, and New Zealand have the largest numbers of sheep and the highest production of lamb and mutton meat
- Per-capita consumption is 55 lbs in New Zealand and only about one lb in the United States
- There are approximately seven million sheep in the United States in comparison to 98 million cattle
- In 1998 the United States produced approximately 233.8 million pounds of lamb
- The top six sheep producing states are Texas, California, Wyoming, South Dakota, Colorado, and Utah
- The most popular sheep breeds in the United States are Rambouillet, Columbia, Suffolk, and Hampshire
- Dogs, llamas and even donkeys are used to guard sheep flocks from predators



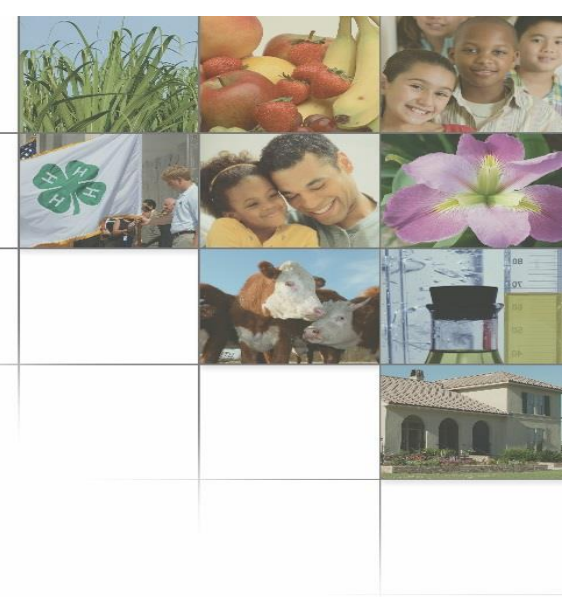
Product Plan Ideas

- The sheep industry has identified five action steps to increase consumer demand and market share for lamb and wool products.
 1. Identify the present and future consumers of lamb by market segment, and strive to increase market share by 10% by the year 2003.
 2. Identify and produce the types and variety of products that meet consumer needs.
 3. Move toward consumer-ready/prepackaged lamb that includes meal solutions.
 4. Promote lamb aggressively to the consumer through target marketing and partnerships.
 5. Develop an integrated marketing plan for the sheep industry.



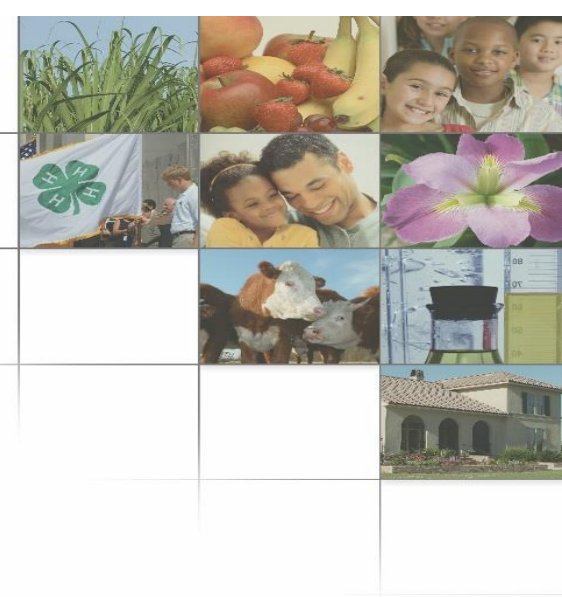
Vocabulary

- **Anatomy**
 - The branch of biology that studies structures of the body
- **Animal rights**
 - The philosophy that people do not have the right to use animals for any purpose
- **Animal welfare**
 - The proper care and management of animals that includes excellent health care and alleviation of any pain and suffering
- **Antibody**
 - A substance that helps fight disease. Colostrum is high in antibodies
- **Bacteria**
 - Tiny one-celled microorganisms (plants) that live in soil, water, plants and animals. Some can cause illness.
- **Bloat**
 - An abnormal buildup of gas in the rumen
- **Bracing**
 - Method used to tighten the loin muscles of a lamb's back to make them feel firmer when handled
- **Broken Mouth**
 - A condition in which a sheep has lost some, but not all, of its teeth



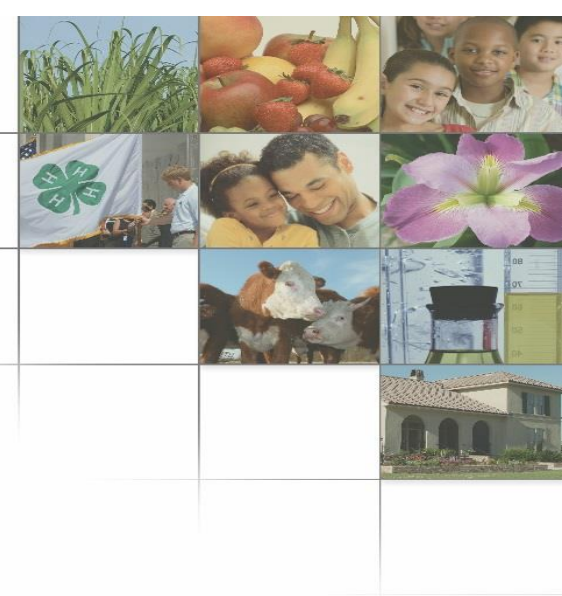
Vocabulary continued

- By-product
 - Anything used from a sheep to produce something besides
- Castration
 - Removing testicles from male animals
- Colostrum
 - The first milk, high in antibodies, produced by a female mammal after it gives birth
- Commercial flock
 - A sheep flock that issued to produce traditional lamb and wool products for sale to commercial markets
- Condition
 - The amount of fat an animal has
- Conformation
 - The shape and design of an animal



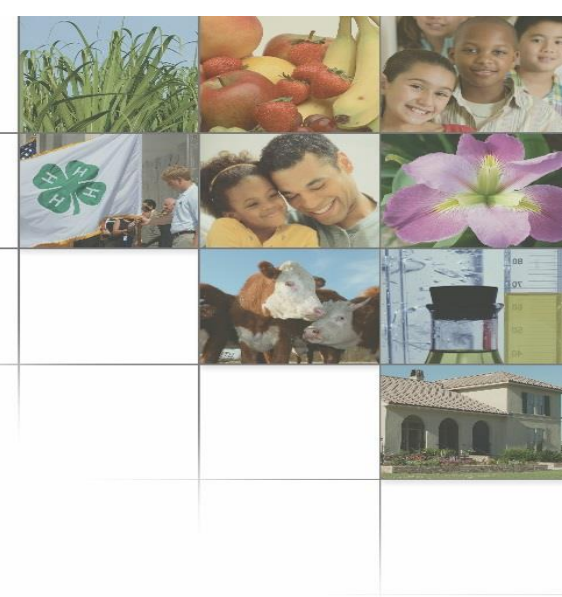
Vocabulary continued

- Cryptorchid
 - A lamb with one or more of its testicles retained in the abdominal cavity
- Cud
 - Regurgitated food
- Culling
 - The act of eliminating animals from the flock in order to improve its genetic purity or quality
- Deworming
 - Giving a chemical to an animal orally or through injection to prevent or destroy an internal worms
- Docking
 - Cutting the tails short on baby lambs. Performed for sanitary reasons where flies are a problem.
- Dual purpose breeds
 - Breeds that have both acceptable wool and meat characteristics



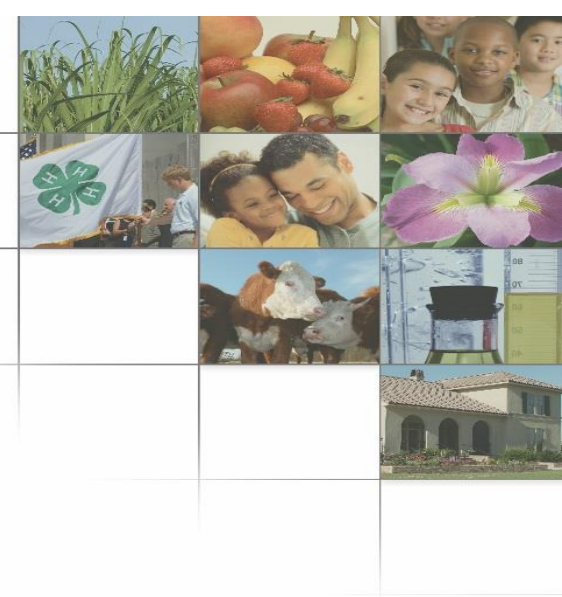
Vocabulary continued

- Energy
 - Nutrient supplied by fats and carbohydrates
- Environment
 - All the external factors within which an animal's genotype acts to determine the animal's phenotypic traits
- Epididymis
 - An elongated structure next to the testis that stores and concentrates sperm
- Epididymitis
 - Inflammation of the epididymis
- Fetus
 - A young unborn animal as it develops in the uterus of a mammal



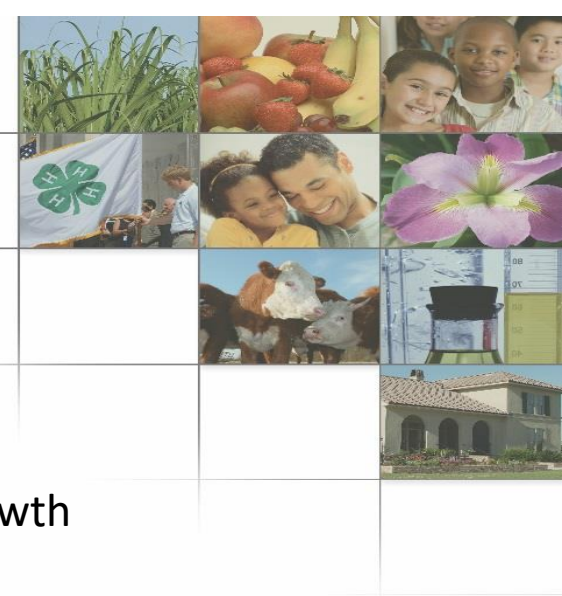
Vocabulary continued

- Fitting
 - The clipping, washing and grooming of animals for show
- Finish
 - To fatten a market animal
- Foot rot
 - Contagious condition caused by an organism that affects the hoof and sole
- Frame Size
 - An estimate of an animal's relative skeletal size, which can predict the weight at which it will begin fattening or reach its mature size
- Get
 - The offspring of a male animal
- Grade
 - An animal that looks like a purebred, but is not
- Grain
 - Feeds like corn, wheat and barley that are high in energy
- Gummer
 - A sheep with all the incisor teeth missing, a sign of age
- Hay
 - Livestock feed made from grasses that have been cut and dried so they can be stored without molding



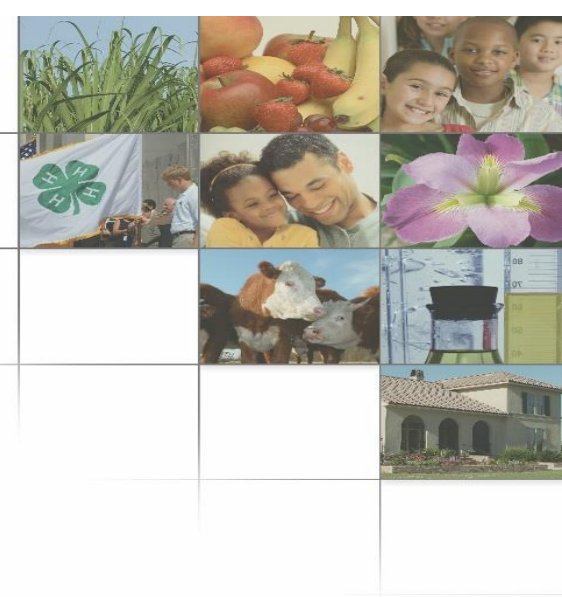
Vocabulary continued

- Horned
 - An animal that has horns
- Hypocalcemia
 - Low blood calcium caused by sudden calcium demand placed on ewe by rapid fetal growth and beginning of milk production
- Hypothermia
 - Inability to keep warm, often caused by cold or wet weather
- Livestock
 - Farm animals raised for milk, meat, work, and wool; include beef and dairy cattle, swine, sheep, horses, and goats; may also include poultry
- Legume
 - A plant with nodules on the roots containing special kinds of bacteria that are able to convert atmospheric and soil nitrogen into protein. Beans, clover, and alfalfa are legumes.
- Mammal
 - An animal that gives milk, nurses its young and grows hair on its body
- Market weight
 - The weight of the animal when sold for processing



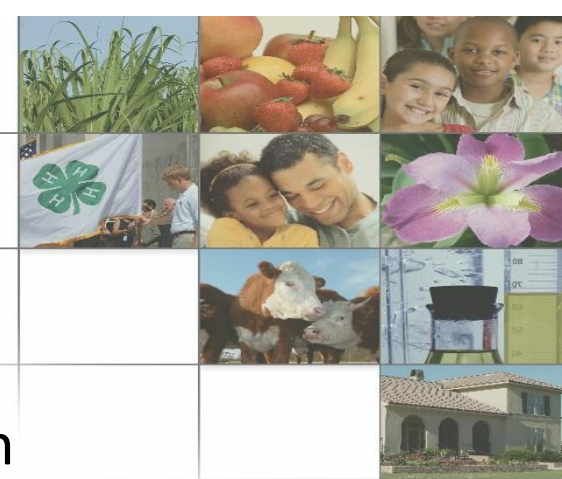
Vocabulary continued

- Mouthing
 - Estimating a sheep's age by looking at its teeth
- Muzzle
 - The nose of a sheep
- Pastern
 - The region of the foot or leg between the hoof and the dewclaw
- Pasture
 - A plot of land where plants are cultivated for grazing
- Poll
 - The forehead of a sheep
- Polled
 - An animal that is born without horns in a species that sometimes has them



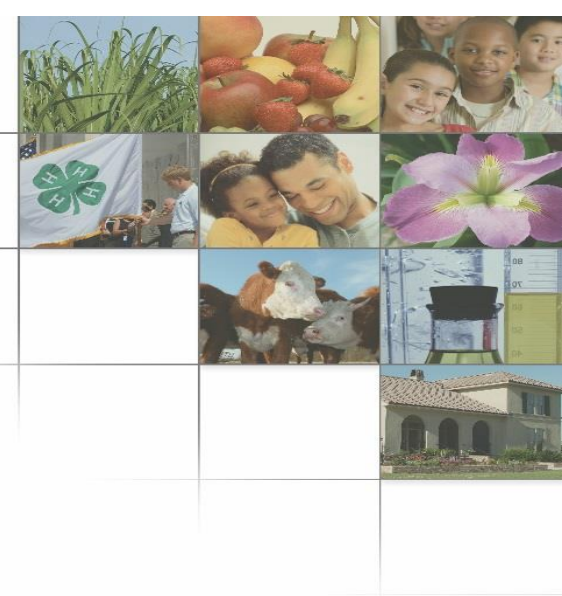
Vocabulary continued

- Puberty
 - The time when an animal becomes sexually mature. The female can get pregnant and the male can produce viable sperm
- Quality Assurance
 - Practices that help ensure that any animals processed produce a safe and wholesome product
- Quality Grade
 - Grade for lamb carcass that reflects differences based on the eating quality and evaluated by flank streaking and maturity
- Quarantine
 - The separation of a diseased or exposed animal from other animals in order to prevent the spread of a contagious disease
- Registered
 - Purebred animals whose pedigrees are recorded in the breed registry



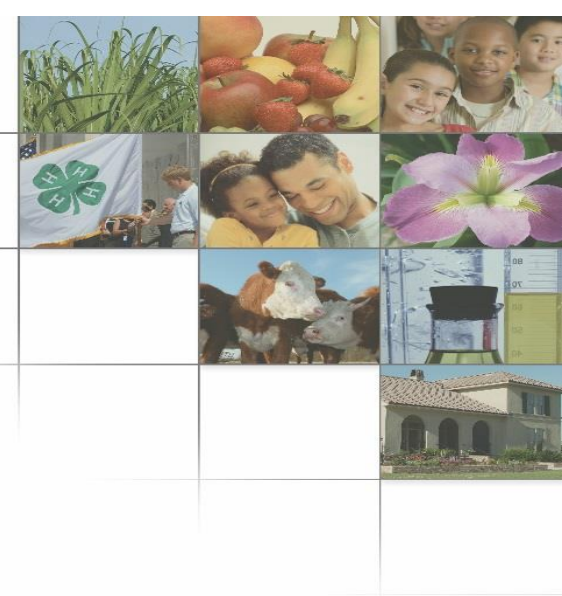
Vocabulary continued

- Scurs
 - Small, rounded portions of horn tissue attached to the skin at the horn pits of polled animals
- Showmanship
 - Presenting an animal at a show including proper fitting of the animal, showing and exhibitor appearance
- Single
 - One lamb born with no brothers or sisters
- Sore Mouth
 - A contagious disease caused by a herpes virus that causes sores on the mouth and lips. It can be transmitted to humans
- Tagging
 - Practice of shearing wool from udder and dock region. Also called crutching or crotching
- Tags
 - Dung locks, floor sweepings or stained pieces of wool



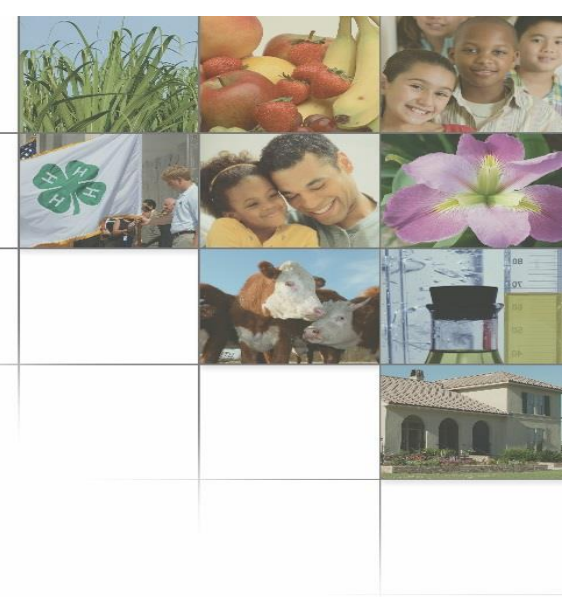
Vocabulary continued

- Tissue
 - Groups of cells working together to carry out a common function such as muscle tissue, connective tissue and epithelial tissue
- Trait
 - Any observable or measurable characteristic of an animal
- Triplets
 - Three lambs born to a ewe at the same time
- Twins
 - Two lambs born to a ewe at the same time
- Udder
 - The mammary glands, including the teats or nipples of farm animals
- Weaning
 - Removing lamb from the ewe to stop nursing



Skillathon Station Examples

- Breed Identification
- Aging by Teeth
- Body Part/Anatomy Identification
- Selection
- Digestive System Identification
- Feed Tag Application
- Sire/Dam Selection
- Feed Identification
- Hay Identification or Judging
- Wool Judging
- Equipment Identification
- Ethics Application
- **Skillathon stations are not limited to this list



Additional Resources

- American Lamb Council (lambchef.com)
- American Meat Institute (meatami.org)
- American Sheep Industry Association (sheepusa.org)
- National Lamb Feeders Association
(nmaonline.org/links.htm)
- National Sheep Improvement Program (nsip.org)
- Oklahoma State University Sheep Breeds Library
(<http://afs.okstate.edu/breeds/sheep/>)
- American Wool Council

