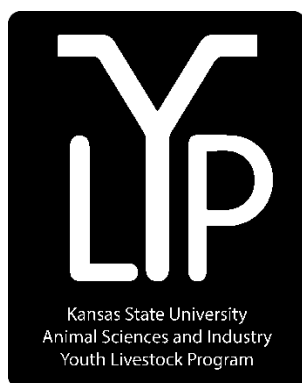


2018

Kansas Junior
Sheep Producer Day
Educational Materials



Youth Livestock Program • Kansas State University
214 Weber Hall • 1424 Claflin Road • Manhattan, KS 66506

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Contributions

Special thanks to these people for their contributions to the Junior Sheep Producer Day program and this educational resource.

Animal ID, Inc.

Dr. Alison Crane

Sam Davis

Lexie Hayes

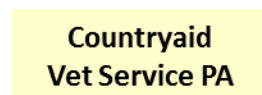
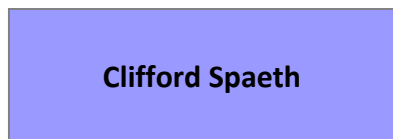
Ed Hewlett

Dr. Terry Houser

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Dr. Emily Reppert



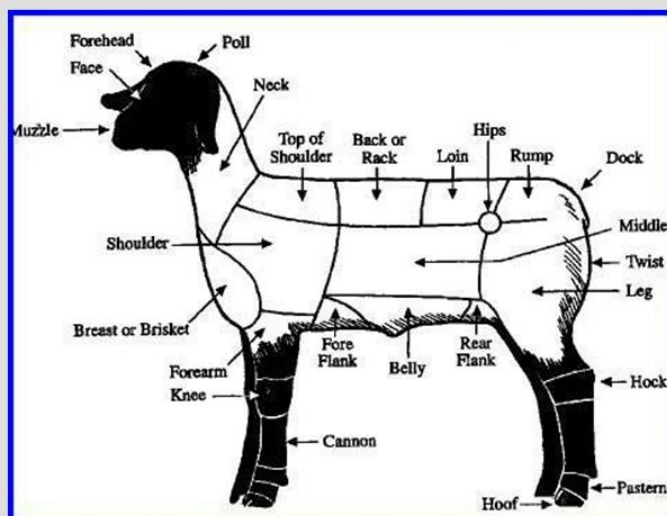
Market & Breeding Lamb Selection

Ed Hewlett
Hewlett Club Lambs
Independence, KS

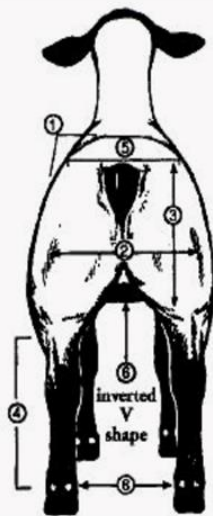


Ed, Connie, and Curtis
Independence, Kansas

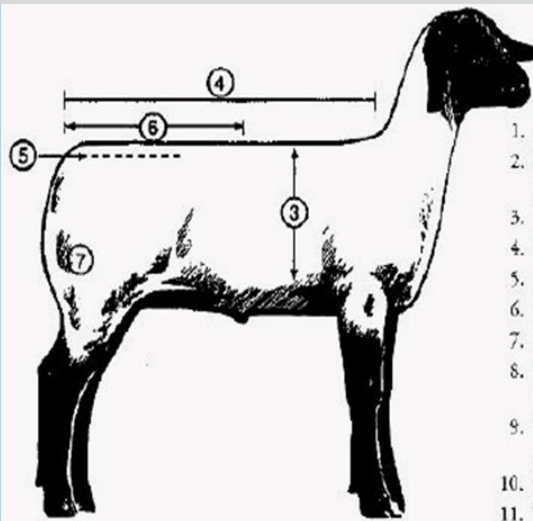
Parts of the Sheep



Market Lamb Selection



1. Correct turn of top
2. Thickness through center of leg
3. Length of leg muscle
4. Structurally correct rear legs
5. Squareness of rump
6. Depth of twist-inverted U (fat) or V (trim) shape in crotch area
7. High dock setting
8. Width between hind legs is an indicator of muscling



1. Balance
2. Size and scale (Height, length and width)
3. Depth of body
4. Length of body
5. Levelness of rump
6. Length of hind saddle
7. Depth and fullness of leg
8. Trimness of middle (market lamb)
9. Correctness of feet, legs and pasterns
10. Length of head and neck
11. Trimness of breast

Current Judging Trends

- **Balance – front to rear**
- **Muscle- indicators, forearm, rack, leg**
- **Bone- size of foot and joints, shag (hairy or wooly legs)**
- **Structure and Soundness- base width (chest floor and tracking), pasterns and rear leg set,**
- **Finish- fat cover (.15-.30 inch)**

35 Days Old



6 Months Old



35 Days Old



6 Months Old



Choices for Lamb Selection

- **Online sales (beware of partially sheared lambs)**
- **Live sales**
- **Private treaty (off the farm)**
- **Raising your own**

Breeding Ewe Selection

- **Hampshire**
- **Suffolk**
- **Dorset**
- **Southdown**
- **Shropshire**
- **Natural**
- **Montadale**
- **Dorper**
- **Corriedale**
- **Columbia**
- **Rambouillet**

Breeding Ewe Selection

- Breed Character
- Structural Correctness
- Frame (in moderation)

Nutrition

Dr. Alison Crane, K-State Sheep & Meat Goat Extension Specialist
Department of Animal Sciences & Industry
Kansas State University

Basics of Sheep Nutrition

Dr. Alison Crane

K-State Sheep and Meat Goat Extension Specialist, Assistant Professor

General

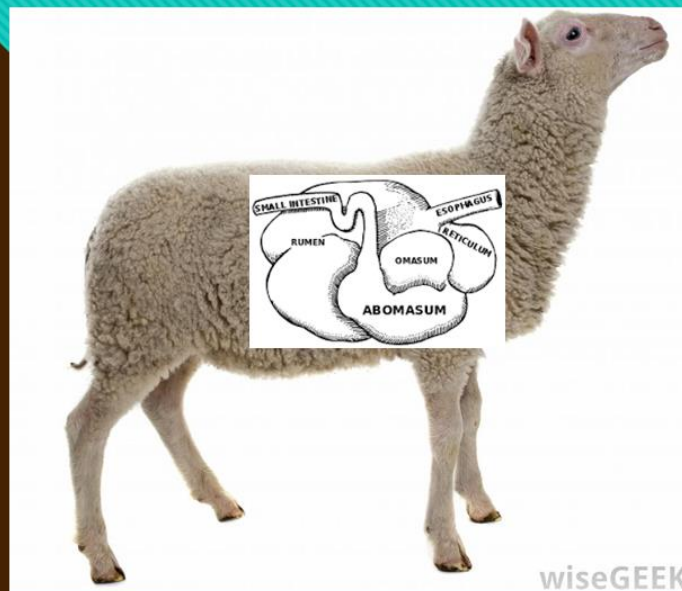
- Faulty nutrition plays one of the largest roles in failed reproduction and lamb death from birth to weaning
- Sheep production is:
 - The efficiency of converting feed resources (pasture, forage, or grain) into products of economical value (meat, wool, or milk)
- Feed is the largest cost associated with livestock production

General

- But, what is nutrition?
 - The sum of the processes by which an animal takes in and assimilates the nutrients in feeds



Digestive System



Nutrients

- Water
- Energy:
 - Carbohydrates
- Protein
- Vitamins
- Minerals

Water

- Water is extremely important to the animal's health and performance
 - Coolant
 - Transporter
 - Acts in chemical reactions
- For every 4 lbs of DM consumed, 1-1.5 gallons of water should be consumed
 - Typical ewe water consumption: 0.72 in winter, 2.2 summer

Energy

- Digestible Energy (DE; Mcal)
 - Basis for energy requirements
 - Maintenance, Lactation, and Growth
- Metabolizable Energy (ME; Mcal)
 - ME = 82% of DE
- Total Digestible Nutrients (TDN; % or lbs.)
 - 1 lb. TDN = 2 Mcal of DE

Energy

- Most important nutrient
 - Inadequate energy limits performance more than any other nutritional deficiency
- Supplied through:
 - Carbohydrates (grains), fat, and excess protein (inefficient)

Protein

- Dietary protein → ruminal microorganisms → microbial protein → amino acids
- This is important because:
 - Quantity is most often more important than quality!!!**
 - Microbial protein is commonly adequate, however with low quality forage, additional protein might be required
- Overfeeding protein is expensive!

Protein (Amino Acids)

Essential

- Arginine
- Histidine
- Isoleucine, Leucine, Lysine
- Methionine
- Phenylalanine
- Threonine
- Tryptophan
- Valine

Non-Essential

- Alanine, Aspartic Acid
- Citrulline
- Cysteine
- Glutamic Acid
- Glycine
- Proline
- Serine
- Tyrosine

Nitrogen

- Nitrogen (% or lbs)
 - Important when considering feeding urea
- Crude Protein (CP, % or lbs)
 - Nitrogen x 6.25
 - Common terminology referring to nitrogen content of the diet

Nitrate Poisoning

- Drought stricken, frost damaged, or heavily fertilized fields may contain forages with high nitrate levels
 - Need to be tested!
 - **1-3% potassium nitrate indicates that feeds should be blended**
 - Can be deadly!

Urea Supplementation

- Most inexpensive form of Nitrogen
- N is converted to microbial protein
- Recommendations:
 - 1% of the total ration
 - 3% of concentrate portion
 - No more than 1/3 of total N
 - Do not use for young lambs or creep
 - Needs to be adequately mixed
 - Avoid allowing "binge feeding"

Vitamins

- All sheep require vitamins A, D, and E
- Lambs may require B complex- before rumen development
- Vitamin C synthesized by body tissues

Vitamin	Requirement	Deficiency	Toxicity
A	21 IU/lb live weight Green forages- Beta-carotene Grains poor	Growth retardation, retained placenta, repro failure, night blindness, dead lambs	Not likely
D	252 IU/lb BW Sun-cured hay, Grains poor	Rickets	Not likely
E	9-10 IU/lb of diet Injection of E or Selenium, alfalfa	White Muscle Disease Stiff legs, arched back, tucked-up Corn contributes	Not likely
B Complex	Not required in diet, synthesized in rumen	PEM in early weaned and feedlot lambs on high concentrate diets, treat with Thiamin injection. Symptoms: Down on side, paddling, stargazing	

Minerals

- Sixteen essential minerals:

- Salt, Calcium, Phosphorus, Magnesium, Potassium, Sulfur, Copper

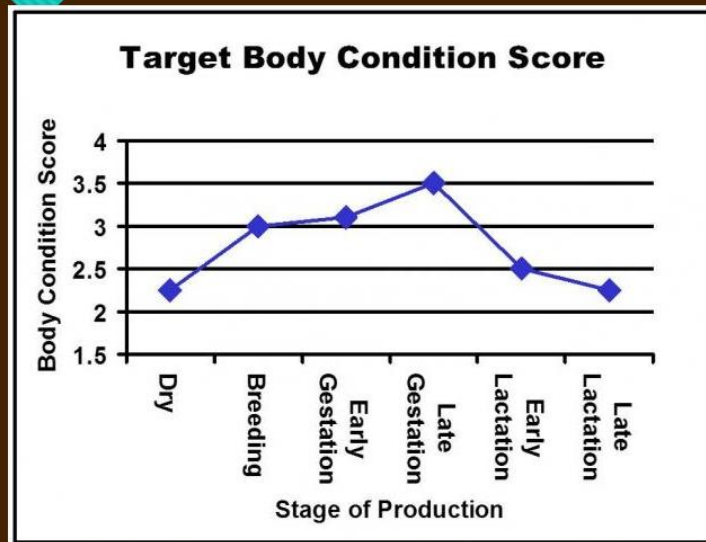
Mineral	Requirement	Deficiency	Toxicity
Salt	0.5-1.0% of diet	Feed/water intake, production, chewing wood/dirt	Death possible, but not likely
Calcium	0.2-0.82% of diet	Rickets, tetany, urinary calculi	Not likely, deficient in o/minerals
Phosphorus	0.16-0.38% of diet, 2:1 ratio, most grains excess	Rickets, slow growth, decreased appetite	Urinary calculi
Magnesium	0.12-0.18% of diet	Skeleton, tetany, frothy mouth, falling on side, death- Spring grazing ewes	Not likely
Potassium (Grass Tetany)	0.50-0.80% of diet	Listlessness, stiffness, convulsions, death	3% of diet (DM) causes depression of Mg absorption
Sulfur	0.14-0.26% of diet	Loss of appetite, reduce gain, wool growth, shed	0.4% of diet, decre intake- tie up CU, Mb
Copper	7-11 ppm, most feeds adequate, but can be tied up	Decreased immune status, swayback, stringy wool, infertility	25 ppm, RBCs splice, death! Do not use mineral salts for other species

Body Condition Scoring

- Over and under nutrition are not accurately determined by body weight's
- Body Condition Scoring (BCS) estimates external fat cover
- BCS:
 - Scale: 0-5
 - 0 = extremely thin
 - 5 = extremely fat

Ewe body condition scores (Kott, 1998)	
Score	Description
1:	An extremely emaciated ewe, with no fat between skin and bone. Ewes in this body condition have no fat and very limited muscle energy reserves. They appear weak and unkempt. Wool fleeces are often tender, frizzy, and lack luster.
2:	Ewes in this body condition have only a slight amount of fatty tissue detectable between skin and bone. Spine processes are relatively prominent. These ewes appear thin but have only minimal fat reserves.
3:	Ewes in this body condition have average flesh but do not have excess fat reserves. This condition score includes ewes in average body condition.
4:	This condition score includes ewes that are moderately fat. Moderate fat deposits give sheep a smooth external appearance.
5:	Ewes that are extremely fat. Excess fat deposits can easily be seen in the brisket, flank, and tailhead regions. These ewes have excess fat reserves to the point that productivity may be impaired.

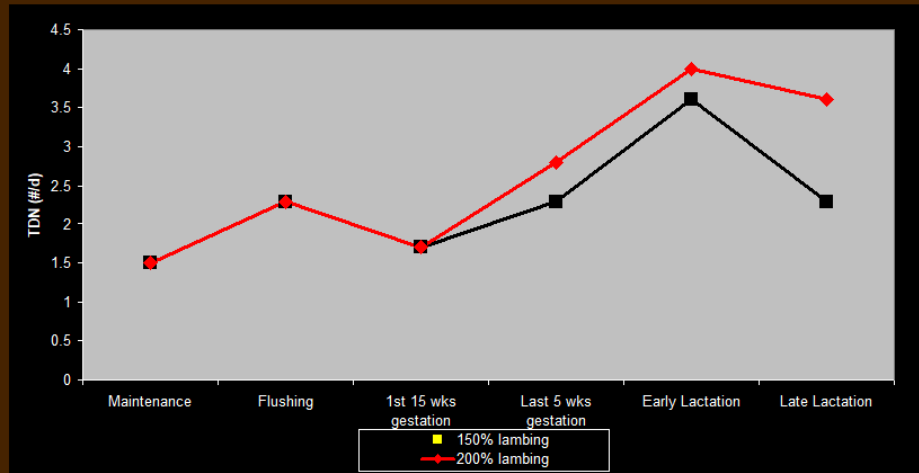
Target BCS



Ewe Diets, Production Stage



Ewe Diets, Twins



Proper Management Can Prevent

- **Pregnancy Toxemia (Ketosis):** Caused by rapid fat mobilization during late pregnancy
 - Most common in over- or under-conditioned ewes
 - Also commonly affects does with triplets or quads
 - Glucose (oral, sub q, or i.v.) is the usual treatment

- **Milk Fever:** can occur pre-partum or post-partum
 - Symptoms similar to pregnancy toxemia
 - Response to calcium therapy (oral or i.v.) is the definitive indicator



Feeding the Club Lamb Ewe

- Grass hay or pasture during the first 3-4 months of gestation
- Alfalfa hay during the last 1 -2 months
- Concentrate to balance
 - Feed to an adequate body condition score
- Offer free choice mineral

Adjustments/ Terms

- Adjustments
 - Old and yearling ewes may need higher energy rations
 - Lambing rate will affect nutrient demand
- Terms:
 - Dry Matter (DM): Removal of water from feed
 - Values for balancing rations are always presented in DM form
 - As Fed (AF): Feed with the water remaining
 - Ad Libitum: Unrestricted access to feed
 - Limited Intake: Daily feeding or limiting intake by providing salt
 - 25-50% of supplement

Overall Intake

Voluntary dry matter intake is relatively high:

Sheep: 2.5 to 4.0% of body weight

Goats: 3.0 to 5.0% of body weight

Cattle: 1.5 to 3.0% of body weight

Creep Feed

- Offer free choice creep feed within the first 7 days of life
- Feed should be
 - Highly palatable
 - Higher fat
- Can also offer free choice alfalfa



Creep Feed Example

ACTIVE DRUG INGREDIENT	
Decoquinate	(6.8 mg/lb).....0.0015%
GUARANTEED ANALYSIS	
Crude Protein, Min.	20.0%
(This includes not more than 1.25% equivalent crude protein from non-protein nitrogen.)	
Crude Fat, Min.	5.0%
Crude Fiber, Max.	12.0%
Calcium (Ca), Min.	0.75% Max.1.25%
Phosphorus (P), Min.	0.4%
Salt (NaCl), Min.	0.2% Max.0.7%
Selenium (Se), Min.	0.3 ppm
Vitamin A, Min.	6,000 IU per pound
INGREDIENTS	
Plant Protein Products, Animal Protein Products, Processed Grain By-Products, Grain Products, Forage Products, Calcium Lignin Sulfonate, Cane Molasses, Animal Fat preserved with BHT, Calcium Carbonate, Ammonium Chloride, Salt, Maltodextrin, Extracted Citric Acid Presscake, Natural and Artificial Flavors, DL-Methionine, Zinc Amino Acid Complex, Yeast Culture (Saccharomyces cerevisiae), Diatomaceous Earth, Lactobacillus acidophilus Fermentation Product Dehydrated, Lactobacillus casei Fermentation Product Dehydrated, Bifidobacterium thermophilum Fermentation Product Dehydrated, Enterococcus faecium Fermentation Product Dehydrated, Monocalcium Phosphate, Dicalcium Phosphate, Sodium Propionate (A Preservative), Manganous Oxide, Zinc Oxide, Magnesium Oxide, Vitamin E Supplement, Defluorinated Phosphate, Ferrous Sulfate, Vitamin A Supplement, Sodium Molybdate, Potassium Iodide, Niacin Supplement, Thiamine Mononitrate, Calcium Pantothenate, Riboflavin Supplement, Cobalt Carbonate, Sodium Selenite, Vitamin D ₃ Supplement, Vitamin B ₁₂ Supplement.	

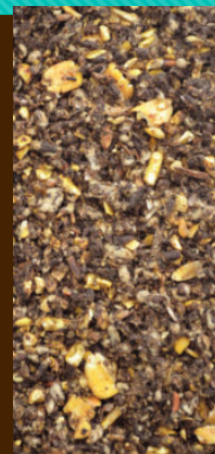
1. 18 to 21% CP

2. Higher fat – Young lambs are in an energy dependent stage of growth

3. Ammonium Chloride to acidify urine and help prevent urinary calculi

Show Feed

- Similar protein but with lower fat
 - Older lambs in a protein dependent stage of growth
- Generally textured with heavy molasses to increase consumption during hot summer months
- Requires transition period from creep to show feed
 - May sort steam flaked corn
 - Or anything of a differing particle size



Show Feed Example

Guaranteed Analysis

Medicated Active Drug Ingredient:

Lasalocid.....30 grams per ton

For the prevention of Conccidiosis caused by
Eimeria ovina, Eimeria canalis, Eimeria ovinoidalis
(Eimeria ninakohlyakimovae,
Eimeria parva and Eimeria intricata in sheep
maintained in confinement.

Crude Protein, not less than.....19.0%
(this includes not more than 1.5% equivalent crude
protein from non-protein nitrogen)

Crude Fat, not less than2.5%

Crude Fiber, not more than.....12.0%

Calcium, Min0.85%

Calcium, Max1.3%

Phosphorus, Min0.4%

Salt, Min.....0.55%

Salt, Max.....1.0%

Selenin, Min.....0.39 ppm

Vitamin A, Min2,500 IU/lb

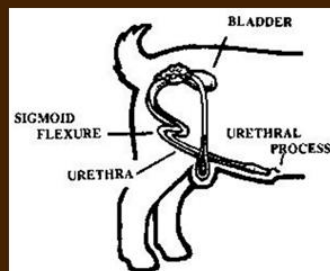
Ingredients

Steam flaked corn, steam flaked barley, steam flaked
oats, linseed pellets, soybean meal, sunflower meal,
canola meal, wheat middlings, soy hulls, cottonseed
hulls, alfalfa meal, fish meal, molasses products,
calcium carbonate, salt, ammonium chloride, sodium
bentonite, potassium chloride, magnesium sulfate,
potassium sulfate, ferrous sulfate, cobalt carbonate,
zinc oxide, ethylenediamine dihydriodide, maganous
oxide, sodium selenite, Vitamin E supplement,
Proponic Acid (a preservative), Vitamin A acetate,
Vitamin D supplement, menadione,
dimethylpyrimidinol bisulfite (source of Vitamin K
activity), niacin, riboflavin, calcium pantothenate,
Vitamin B12 supplement, choline chloride,
ethoxyquin (a preservative), propionic acid, water,
ammonium hydroxide, sorbic acid, benzoic acid,
phosphoric acid, propylparaben, methylparaben, and
BHA.

Urinary Calculi



- Ca:P Imbalance
- Phosphorus content
 - Be leery of products with > 0.50% Min
 - Urinary calculi common in males on creep feed with an imbalance of Ca and P



Medicated or Non-medicated

- If you want to increase ADG and FE, medicated
 - Lasalocid (Bovatec®) or Monensin (Rumensin®)
 - Ionophore
 - Coccidiocide
 - Reduces gram-positive bacteria in the rumen
 - Improves nitrogen utilization
 - Increase propionate production
 - Increases Hot Carcass Weight and Mature Weights by 2-3%
 - Decoquate (Deccox®)
 - Coccidiostat
 - Improved feed efficiency

Feed Processing and Additives

- Grind, crack, roll, or flake to allow uniform mixing
- All ingredients should be of similar particle size
- Cost usually dictates the amount of feed processing

Animal	Additive	Reason
Lamb	Chlorotetracycline	Gain, feed efficiency, enterotoxemia
Lamb	Decoquate	Coccidiosis
Lamb	Ammonium Chloride	Urinary Calculi
Sheep	Oxytetracycline	Gain, feed efficiency, scours, prevention and treatment, enterotoxemia
Sheep	Lasalocid	Coccidiosis
Sheep	Thiabendazole	Roundworms
Breeding ewes	Chlorotetracycline	Vibriotic Abortion

EAT LAMB

Because the West wasn't won on Beef or Salad....

- 1493- First sheep, Columbus
- 1521- Sheep from Mexico to SW U.S.
- 1541- First sheep drive (5,000)
- 1836- First cattle drive (1,000)

(Kansas Historical Society; *Sheep and Man*, M. L. Ryder)



Questions?



Sheep Project Facilities, Equipment, & Management

Ed Hewlett
Hewlett Club Lambs
Independence, KS

Facilities, Management, and Equipment

- **Facility-** spacious, comfortable, safe and dry
Design so showman can catch their own lamb.
- **Equipment-**
 - Clippers (use fine or surgical blades)
 - Leg comb
 - Drying method- (blow dryer, towels, etc..)
 - Halter
 - Water bucket and feed pan
 - Drench gun
- **Management**
- **Feeding (twice daily)**
 - Nutritional Need- protein, energy and roughage
 - Amounts (3 percent of body weight)
 - Water (cool, fresh, clean)

Shearing

1. Shearing as close to show as possible keeps the lamb fresher.
2. Shear head and body short and blend at knee and hock.
3. Best to shear when wool is clean and damp.
4. Shear in different directions on body to get smooth.
5. After shearing keep lamb blanketed at all times.

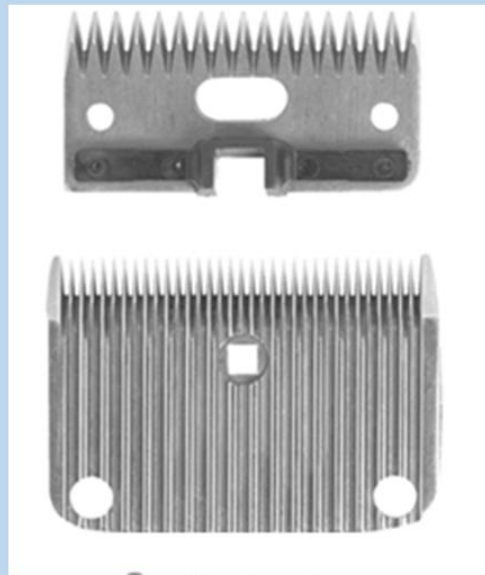
Pre Show Prep

1. To offset stress keep lamb on electrolytes designed for sheep.
2. Be careful not to over feed and a little less can work best.
3. A lamb Drench can help keep the lamb fresh.
4. For a proven drench Google (Famous Gail Christian Drench).
5. Have on hand ice and towels to keep lamb cool at show.

Clipping Stand



Clippers



Blanket and Comb



Drench Guns



Feed Can



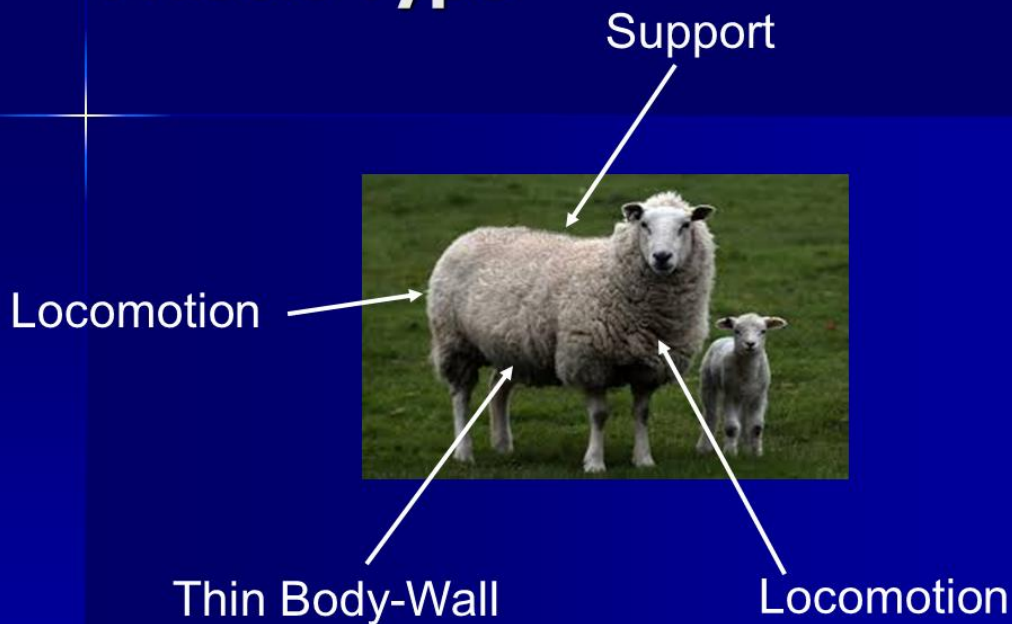
Lamb Meat Cuts & Cookery

Dr. Terry Houser, K-State Meat Science Extension Specialist
Department of Animal Sciences and Industry
Kansas State University

Lamb Cuts and Cookery

Terry A. Houser Ph.D.
Associate Professor
Kansas State University

Muscle Type



Support Muscles

- Purpose is to support the rest of the body
- Generally Associated with the Spinal Column (Back Bone)
- Tubular in Appearance
- Lowest in Connective Tissue
- Higher in Fat than Locomotion Muscles

Locomotion Muscles

- Purpose is to move the animal around
- Generally associated with the legs
- Very large in size
- Very lean
- Higher content of connective tissue

Thin Body Wall Muscles

- Purpose is to hold the abdomen together
- Thin in size
- Generally associated with the body cavity
 - Rib cage
 - Abdomen
- Higher in fat content
- Higher in connective tissue
- Surrounded by fat and connective tissue
 - Acts as a cushion over the thoracic cavity

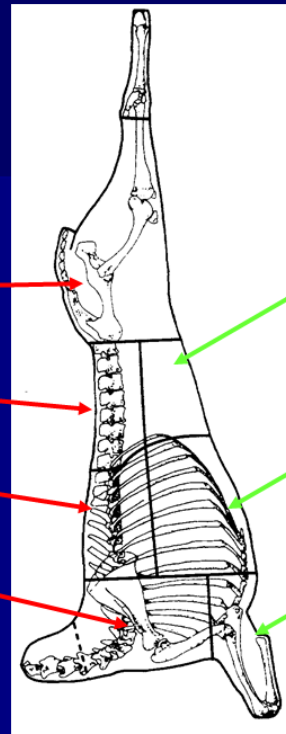
Principles of Meat Cutting

- Cut across the grain.
- Separate tender portions of the carcass from less tender areas.
- Separate lean areas from portions with greater amounts of fat.
- Separate thicker heavily muscled portions of the carcass from the thin-muscled areas.

Lamb Wholesale Cut Chart

Primals:

Leg
Loin
Rack
Shoulder



Flank

Breast

Foreshank

*Picture courtesy of
the American Meat
Science Association*

What are Retail Cuts?

- ▶ Individual portioned meat cuts packaged for retail sale.
 - Chops
 - ▶ Usually thin cuts less than 1 ½ inches in thickness
 - Roasts
 - ▶ Usually larger cuts more than 1 ½ inches in thickness

UNIFORM RETAIL MEAT IDENTITY STANDARDS

- ▶ U.R.M.I.S.
- ▶ Harmonizes retail cut name variation
- ▶ Consists of three parts
 - ▶ Species: **Lamb**, beef or pork
 - ▶ Primal Cut: Leg, loin, rib, or shoulder
 - ▶ Retail Cut: rib chop
- ▶ Most chains use to some extent (Dillons, HyVee, and Rays Apple Market)

Lamb Rib Rib-chops



Dry Heat Cookery

- Tender cuts of meat that are **low** in connective tissue amount and can withstand fast, high heat cooking
- Direct or indirect heat **without** moisture
- **Roasting, Broiling, Panfrying, Stirfrying, Grilling, and Panbroiling**
- **Example: Loin Chops or Leg**

Moist Heat Cookery

- **Less** tender cuts of meat with a **high** amount of connective tissue which needs a **low** temperature and **long** cooking time to turn the connective tissue to **gelatin**
- **Indirect** heat and the addition of **liquid** for retained moisture
- **Braising, BBQ, or stewing**
- **Example: Lamb shanks or lamb shoulder**

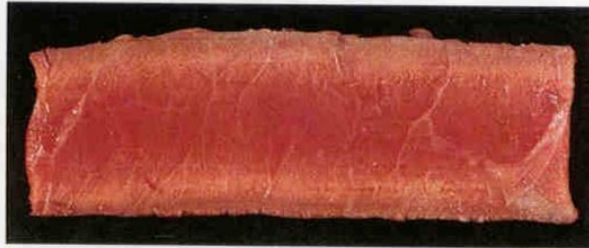
Typical U.S. BBQ Meats

- Slow cooked < 275°F
- Hardwood smoked
- Heavily seasoned
- Regional differences
 - Kansas City
 - Texas
 - Carolina's



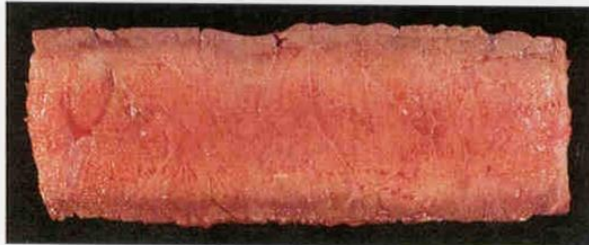
VERY RARE

Approx.
130°F, 55°C



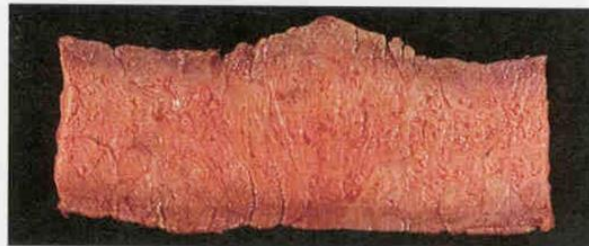
RARE

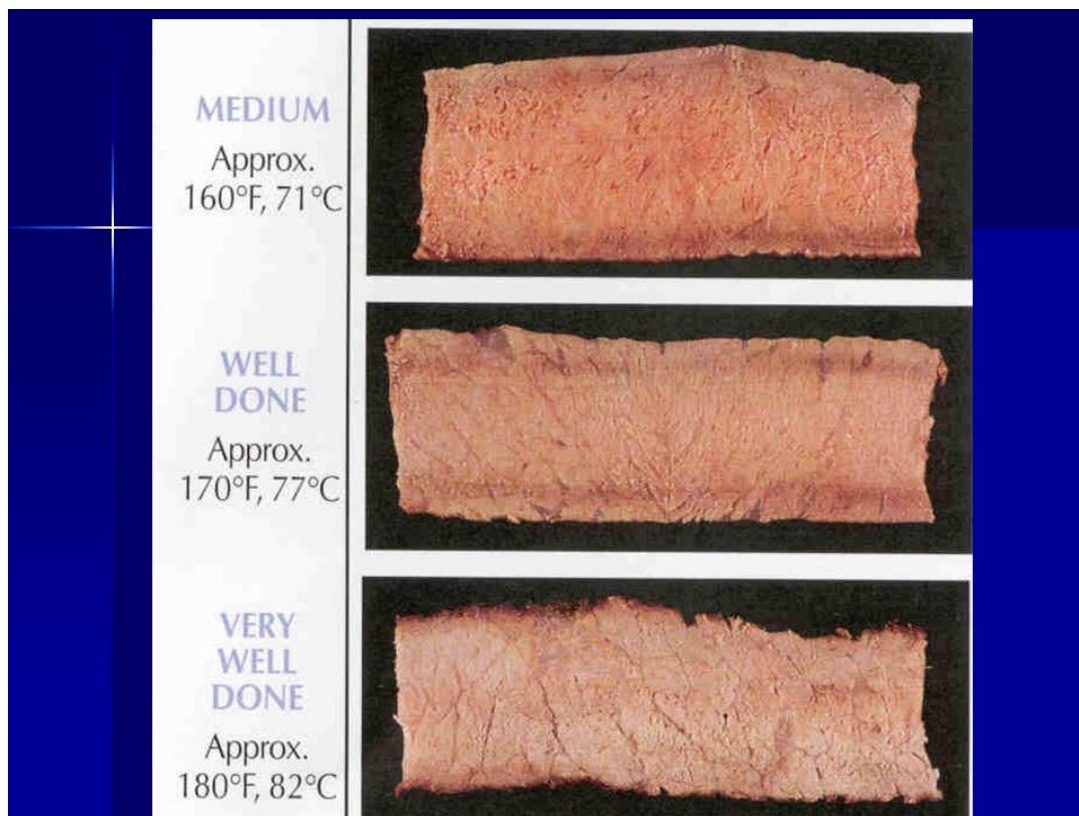
Approx.
140°F, 60°C



MEDIUM RARE

Approx.
145°F, 63°C





Cooking Temperatures

- Measure temperature in the geometric center of the product.
- Expect increasing temps after you take product away from heat source.
 - Roasts: 10-15°F
 - Chops: 5-10°F
- **Cook all ground products to 160°F!!!**

American Lamb Cookery Video: <http://www.americanlamb.com/consumer>

State Livestock Nomination Process

Lexie Hayes, Youth Livestock Program Coordinator
Department of Animal Sciences and Industry
Kansas State University

State Livestock Nomination Process

Lexie Hayes

Youth Livestock Program Coordinator

March 2018



Nomination Process Overview

- Must nominate market or commercial female animals to be shown at a state show
 - ✓ Kansas State Fair (Grand Drive)
 - ✓ Kansas Junior Livestock Show (KJLS)
- 2018 Nomination Paperwork MUST be used
- 2018 Nomination Information and Forms available via:
 - ✓ Extension Offices
 - ✓ K-State Youth Livestock Program website
www.youthlivestock.ksu.edu ➡ Nomination Information



Postmark Deadlines

May 1, 2018

Market Beef

June 15, 2018

Market Lambs, Commercial Ewes, ALL Meat Goats, Market Swine, Commercial Gilts, and Commercial Heifers



Nomination Process

Step 1: Animals eligible for KJLS or KSF will need a Kansas 4-H EID ear tag placed in the ear of the animal **BY THE AGENT**

-Speak with your local Extension Office

Step 2: Exhibitors will fill out the declaration/nomination paperwork

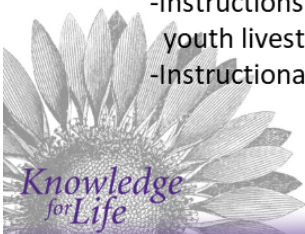
-Print from www.youthlivestock.ksu.edu or request from Extension Agent

Step 3: Exhibitors will pull a DNA sample from the animal and place it in an official DNA envelope (DO NOT CUT THE HAIR)

-Envelopes may be obtained from local Extension Office

-Instructions on pulling DNA are in educational resource or on the youth livestock website

-Instructional videos on youth livestock website



Nomination Process

Step 4: Exhibitors will have their agent sign declaration/
nomination paperwork & place barcode stickers on forms

Step 5: Exhibitors will mail their completed **declaration form**,
nomination form, **DNA**, and **check** to be processed by KSU
-Certified mail is HIGHLY suggested (\$3.45-\$6.20 for peace of mind)

Step 6: KSU will process these nominations and post weekly
updates online regarding complete/incomplete
nominations. During this process there are also letters sent
out to the families stating whether the nomination is
complete/incomplete. This is the exhibitor/family's
opportunity to verify the accuracy of the nomination
information received by K-State.



Nomination Materials to Mail

Declaration Form

DNA Envelope

Nomination Form

\$8/animal



Scrapie Tag

- FULL SCRAPIE TAG #s are required for all sheep nominations
- Submit Flock/Premise ID AND Individual #
- Resources available:
 - ✓ Rookie Guide
 - ✓ KSU Youth Livestock website

4-H Tag # 90747	Scrapie Tag # KSS0035 16121
	



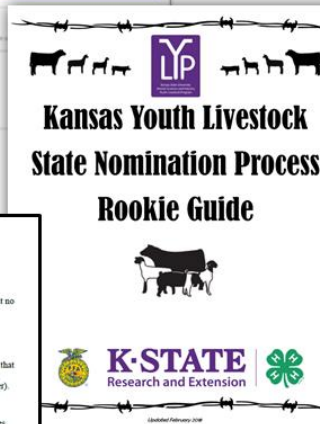
Flock ID/
Premise ID



Individual
Animal #



Tips & Resources



INCOMPLETE FEE

**\$20 ONE TIME/
YEAR
INCOMPLETION
FEE IF
PAPERWORK HAS
TO BE RETURNED
FOR ANY REASON,
ANY FIELD IS
BLANK, OR ANY
NOMINATION
MATERIALS ARE
MISSING.**

CHECKLIST

MARKET LAMB/COMMERCIAL EWE NOMINATION

- I have a market lamb or commercial ewe to nominate, what do I need to turn in?
- Completed Household Declaration Form (www.YouthLivestock.KSU.edu). Double check that no field has been left blank or incomplete. If you have marked "No" for the housing question in Section 1, you must complete Section 2, including listing the species and how you will care for projects not located at your primary residence.
 - Tagged Your Animal by June 15 with a Kansas 4-H Electronic Identification (EID) tag.
 - Completed Market Lamb Nomination form (www.YouthLivestock.KSU.edu). Double check that no field has been left blank or incomplete. This includes contact information, signatures, 4-H tag numbers, breeds, and full scrapie tag number (Flock ID/Premise ID and individual animal number). Scrapie Tag # Example: KSS0035 16121. Make sure that 4-H tag numbers on form match DNA envelopes.
 - Completed DNA Hair Sample Envelope, hair must be pulled, not cut. Obtain at least 40 follicles. All family exhibitors and a parent/guardian must sign the front of the DNA envelope.
 - \$8.00 per animal nomination fee. Make checks payable to *Kansas Junior Livestock Show (or KJLS)*.
 - All of the above must be completed and postmarked by June 15. Certified Mail is HIGHLY encouraged.

If it's on the form – it's required!



Show Entry

- **REMINDER:** A livestock nomination is **NOT** an entry for Kansas Junior Livestock Show or Kansas State Fair.
- K-State processes and manages nominations, but KSF and KJLS manage their own shows and entry processes.
 - 3 SEPARATE processes
- Exhibitors must submit an entry for each of these shows once they have completed the nomination process
 - get entry information from Extension Office OR show website(s)



2018 Nomination Process UPDATES

- Declaration Form – verbiage modification
- Specie Nomination Forms – verbiage modification
- Exhibitors are encouraged to write the breed and scrapie tag # or ear notch in the lower right corner of DNA envelopes
- Tattoo no longer required for a commercial heifer



Kansas State Fair – Grand Drive



- Date: September 7-16, 2018
- Grand Drive: September 7-9, 2018
- Show held in Hutchinson, KS
- Entries Due: July 15th
- www.kansasstatefair.com



Kansas Junior Livestock Show

- Date: October 5-7, 2018
- Show held in Hutchinson, KS (State Fair Grounds)
- Entries Due: August 15th
- www.kjls.org



Thank You!

adhayes@ksu.edu
(785)532-1264

www.YouthLivestock.ksu.edu



Kansas State Youth Livestock Program



SHEEP & GOAT HAIR SAMPLE COLLECTION INSTRUCTIONS



1 Check the ear tag number of the animal, and record it on the hair sample envelope. Clean the sample area to remove dirt or other contaminants.

Use bent, long or needle nose pliers to collect the sample.



2 Pull a tuft of hair from the leg, just above the toes. Pull the hair directly away from the skin, NOT at an angle. This will allow the root to come out with the hair. Pull at least twice.



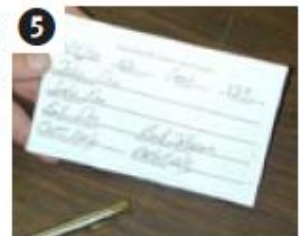
3 Inspect the hairs sample to ensure at least 30 hair follicles or roots. The roots are easy to see in goats (like human hairs with a bulb at the end), but difficult in sheep. In sheep, you may notice a color variation which indicates that the root is intact.

Note: Do NOT cut the hair from the animal. The hair MUST CONTAIN ROOTS for DNA testing. Avoid touching the roots and make sure the hair is dry

Place the sample in the hair sample envelope, and then seal the envelope in the presence of the exhibitor and parent/supervisor. Do not put hairs in a plastic bag.



Fill out the remaining information lines on the envelope, and have the witnesses sign.



REMEMBER: Cleanse hands and pliers between animal samples to ensure that hairs from different animals are not mixed.



SHEEP & GOAT SAMPLE CHECKLIST

- ✓ Select collection area - we suggest above toes
- ✓ Insert ear tag number on the envelope
- ✓ Obtain at least 30 hairs with follicles
- ✓ Take at least 2 pulls
- ✓ Inspect for follicles – do not touch follicles
- ✓ Obtain exhibitor signature & seal envelope
- ✓ Clean pliers and hands between animals

*Instructional videos available on the DNA page of the KSU Youth Livestock website (www.youthlivestock.ksu.edu).

If viewing this resource book electronically, click here: [DNA Videos](#).

2018 Kansas State Youth Livestock

Nomination Guidelines

In order to show at the Kansas State Fair (KSF) or Kansas Junior Livestock Show (KJLS), you must first nominate your animal.

What is a nomination? A nomination is documentation that you have owned, possessed and cared for your animal since a certain date in order to show at a state show.

How are the nomination dates set? The nomination dates are set by minimal guidelines set forth by Kansas 4-H on how long you should own, possess and care for your animal to have gained the optimal experience. In addition, the KSF and KJLS Board of Directors agree on these dates.

What are the nomination dates?

May 1 Market Steers and Market Heifers

June 15 Commercial Heifers, Market Lambs, Commercial Ewes, Market Hogs, Commercial Gilts, and ALL Meat Goats (Market Goats, Commercial Does, and Registered Does)

How do I know what to turn in? The Youth Livestock Program has compiled a list of requirements (checklist) for each species.

How much does it cost? The nomination fee is \$8.00 per animal, for all species.

What is the Declaration form? The declaration form is required by all families/households who nominate animals and wish to show at Kansas State Shows (Kansas State Fair Grand Drive or KJLS). This form states the family/household name, along with who is able to show within that family/household. In addition, it lists the physical location of where the animals are kept, and also has a statement about possession, ownership and care of the animals. It must be signed by all individual exhibitors, a parent/guardian, and extension agent/advisor. Each family/household must complete a declaration form annually, which includes all eligible exhibitors for that year.

Is a Nomination the same as an entry for the show? NO! You must first nominate your animal in order to declare that you own, possess and care for them. Then, you must actually enter that animal for the show following the specific entry processes set forth by the Kansas State Fair (KSF) and Kansas Junior Livestock Show (KJLS). You must do both of these things in order to show. *Nominations are sent to the KSU Youth Livestock Program office, but the entries for KSF and KJLS are sent directly to and managed by the respective Livestock Show offices.*

How will I know if my Nomination is complete? Once your nomination is put into the nomination database, you will receive a letter in the mail from the KSU Youth Livestock Program. This letter will list all of the animals that we have in the system from you. A family/household will receive a separate letter for each species nominated. If you are missing information, it will tell you what you are missing and how to fix that issue. In addition, we post the nomination information on our website www.YouthLivestock.KSU.edu under Nominated Livestock so you can see if your nomination is complete. We update this often during the nomination season and highly recommend that you use this tool.

What if I don't get everything in the first time? If your confirmation letter states that something is missing or wrong, **there is a one-time fee of \$20.00.** This includes declaration or nomination form, DNA Envelope, and signatures (exhibitor, parent and agent/advisor). The \$20.00 incomplete fee must be submitted with the missing or corrected information for the nomination to be complete.

Where do I get ear tags and DNA envelopes? Animals must be tagged and DNA Hair Sample envelopes obtained through your local Extension Office. Make sure you communicate with your local Extension Office far enough in advance for them to have enough tags and official envelopes available for the number of animals you plan to nominate. DNA must be submitted in an official DNA envelope. One type of envelope is available for all species. Please refer to the Step-by-Step page in the "Rookie Guide" for detailed information on obtaining DNA samples from your animals.



Youth Livestock Program · Kansas State University
214 Weber Hall · Manhattan, KS 66506 · 785-532-1264

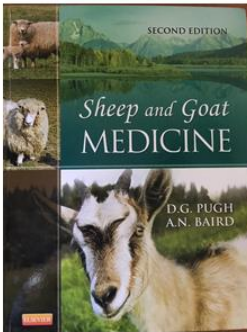


Sheep Health, Wellness, & Diseases

Dr. Emily Reppert, Assistant Professor, Agricultural Practices
College of Veterinary Medicine
Kansas State University

References

Sheep and Goat Medicine 2nd Edition
-Disease information



American Consortium for Parasite Control

<https://www.wormx.info>

-Deworming charts
-Up-to-date literature regarding ALL parasites

American Veterinary Medical Association

<https://www.avma.org/KB/Resources/LiteratureReviews/Pages/Welfare-Implications-of-Tail-Docking-of-Lambs.aspx>

-Tail docking info

Maryland Small Ruminant Page

www.sheepandgoat.com

KANSAS STATE
UNIVERSITY

Wool Education & Judging

Dr. Alison Crane, K-State Sheep & Meat Goat Extension Specialist
Department of Animal Sciences & Industry
Kansas State University

What is Wool and Why Should We Care?

Dr. Alison Crane

K-State Sheep and Meat Goat Extension Specialist, Assistant Professor



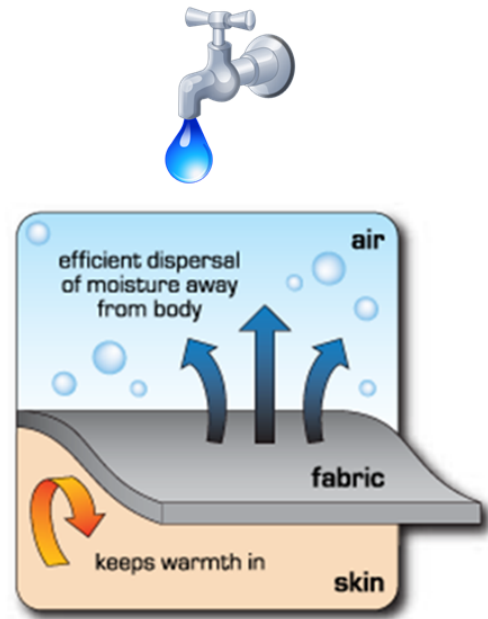
Chemical and Physical Properties of Wool

- Chemical Structure
- Durability and resilience
- Felting
- Dyeability
- **Fiber absorbency**
- **Resistance to flame**



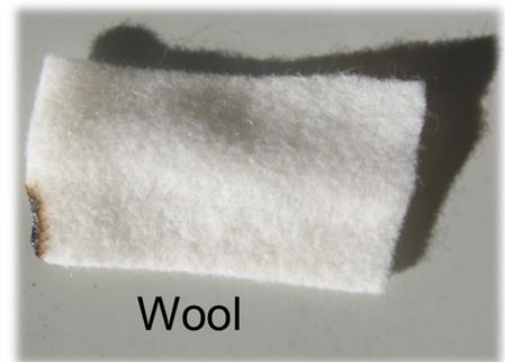
Fiber absorbency

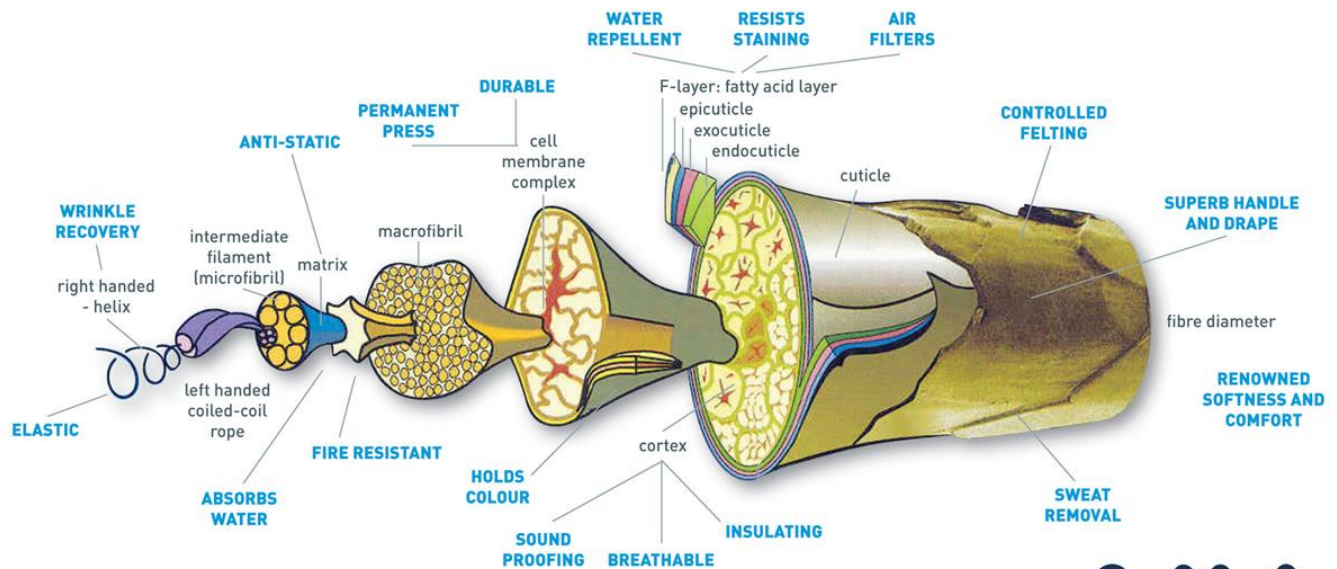
- Hygroscopic – takes in moisture as vapor
 - Tiny pores make the fiber semi-permeable, allowing vapor to pass through the core of the fiber
 - Wool can absorb 30% of its weight in moisture without feeling damp
 - Wool can absorb perspiration, keeping a layer of dry air next to the skin
- Wool is a warm and cold weather fabric



Resistance to Flame

- Because wool contains moisture in each fiber, it resists flame
 - Wool will char and stops burning when it is removed from the source of fire
- Wool is self-extinguishing
 - Wool blankets are recommended for putting out fires.





Uses of Wool:

Micron Range (μm)	Value-Added End Use
16 – 19	Fine worsted, intimate wear, next-to-skin knitwear
19 – 23	Apparel, outerwear, quilt-batting, felts, knitwear, socks (Military)
23 – 28	Sweaters, light upholstery coatings, fiberfill
28 – 32	Upholstery, tapestries, some carpets
32 – 38?	Carpets, industrial use

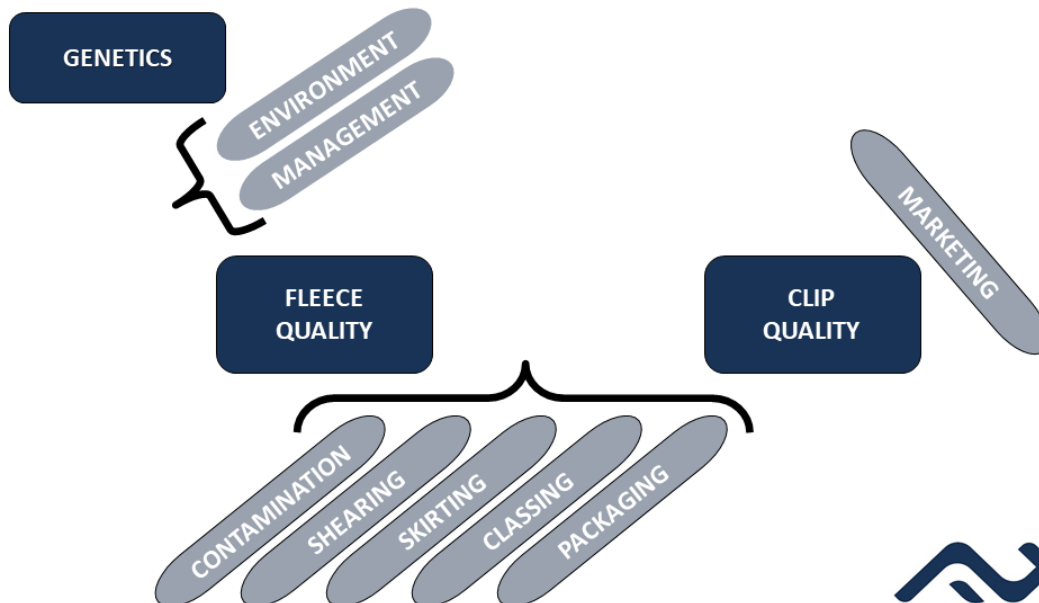


Superwash and the Sock Industry

- Superwash was a game changer for our industry
- Sock Industry expansion
- American made, American wool brands
 - Farm to Feet
 - Wigwam
 - Crescent Sock Co. – Hiwassee and Omiwool brands
- Military sock contracts for Darn Tough and Crescent



Factors influencing wool price:





CONTAMINATION



Contamination defined:

- Anything that is not WOOL is considered a contaminant
- When greasy wool is contaminated, it affects the whole wool pipeline, from the sheep producer to the cloth/fabric manufacturer
- The various contaminants in greasy wool increase costs along the wool pipeline



Contamination defined:

- It is often mentioned that wool offered for sale in the United States brings less money per pound than comparable foreign wool, due in part to fleece contamination
- Fleece contamination is either:
 - NATURAL (produced by the sheep itself, e.g., impure fibers, urine, dung, suint, wool wax)
 - ACQUIRED (e.g., vegetable matter, mineral matter, animal matter, polypropylene, jute, strings, cigarette filters, etc.);
 - APPLIED (e.g., paint brands, pesticides, medications.)
- However, there are steps you can take to ensure a higher-quality clip - regardless of the type of contamination.



Natural contaminants:

- Hair from:
 - Shedding breeds or crosses
 - Top knots
 - Leg hair
 - Hairy britches
- Colored fiber or black spots



Natural Contaminants:

- Stain from urine or feces
- Yolk or canary stain

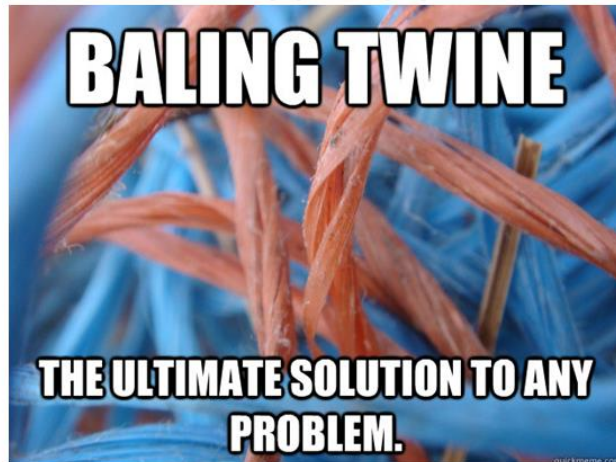


Acquired Contaminants:

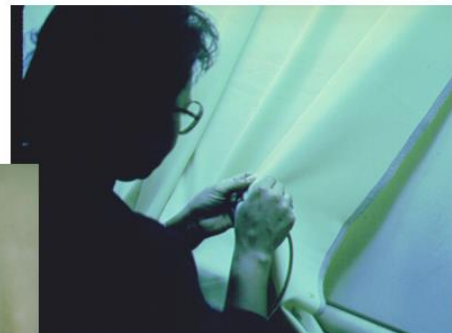
- Burrs
- Burdock
- Straw/Chips



Acquired Contamination : Polypropylene



Acquired Contamination : Polypropylene



Acquired Contamination : Polypropylene



Acquired Contamination : Polypropylene



Acquired Contamination : Polypropylene



Applied Contamination

- Paint brands
- Grease markers



Additional Contaminants:

- Jute
- Sisal
- String
- Rags
- Cigarette Butts
- Tools
- Blood
- Skin pieces



What is the major contamination issues in US Wools?

- Hair, Kemp and Medulated Fibers
- Black Fibers
- Poly
- Paint



Why do we remove bellies and package separately?

- This area is where most of the contaminants are found
- Belly wool is:
 - Shorter
 - Uneven
 - Tender
 - Stained
 - Low-yielding



How do we tell the difference?

American Blood Grade	Spinning Count	Range for Average Fiber Diameter (μm)	Maximum Standard Deviation
Fine	Finer than 80s	under 17.70	3059
	80s	17.70-19.14	4.09
	70s	9.15-20.59	4.59
	64s	20.60-22.04	5.19
1/2 Blood	62s	22.05-23.49	5.89
	60s	23.50-24.94	6.49
3/8 Blood	58s	24.95-26.39	7.09
	56s	26.40-27.84	7.59
1/4 Blood	54s	27.85-29.29	8.19
	50s	29.30-30.99	8.69
Low 1/4 Blood	48s	31.00-32.69	9.09
	46s	32.70-34.39	9.59
Common	44s	34.40-36.19	10.09
	40s	36.20-38.09	10.69
Braid	36s	38.10-40.20	11.19
	Coarser than 36s	more than 40.20	

Classing Line Standards – Fleece Lines



- A Main Line of 12-month wool
- A-1 Coarse
- A-2 Short or Tender
- AA Better than A
- AAA Better than AA
- A-3 Another Defect Line
- A-4 Outcast Fleece
- AL – Lamb/Yearling
- M – Meat breeds
- R – Risk wool



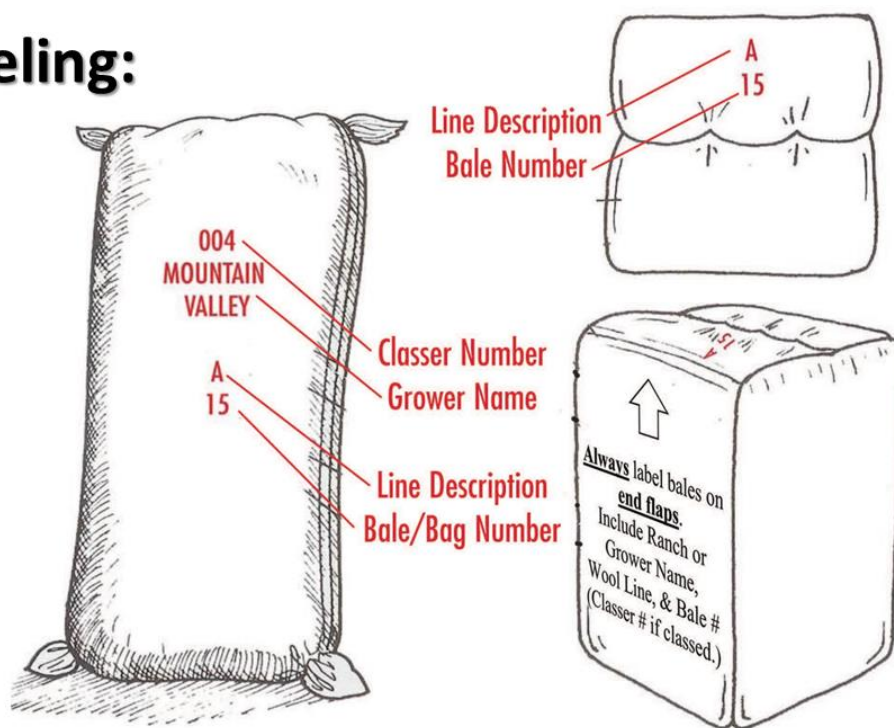
Classing Line Standards – Off sorts



- BLS – Wool from the belly area
- PCS – Wool removed from the skirting table
- STN – Wool removed from the skirting table that is stained
- LKS – Tags, top knots, sweepings, second cuts
- CTH – Wool less than 2 1/4", shorter than A-2 line
- BLK – Black wool



Wool bag labeling:



Why Should We Care?

Washington February 27, 2018 - The U. S. Department of Agriculture's Commodity Credit Corporation today announced posted prices for wool and mohair. The effective repayment rate is the lower of either the 30-day average or weekly rate.

2018 Graded Wool Posted Prices (per pound, clean basis)

Microns	Repayment Rate	Weekly Rate *	30-Day Weighted Average	Feb. 20	Feb. 13	Feb. 6	30-Day = Weighted ** Average of Jan. 30	Jan. 23
Less than 18	\$6.80	\$6.80	\$6.84	\$6.87	\$6.86	\$6.83	\$6.77	\$6.88
18.6 to 19.5	\$6.12	\$6.12	\$6.16	\$6.16	\$6.16	\$6.14	\$6.14	\$6.24
19.6 to 20.5	\$5.64	\$5.75	\$5.64	\$5.70	\$5.70	\$5.61	\$5.56	\$5.64
20.6 to 22.0	\$5.16	\$5.42	\$5.16	\$5.20	\$5.18	\$5.18	\$5.12	\$5.09
22.1 to 23.5	\$4.68	\$5.15	\$4.68	\$5.24	\$4.44	\$4.57	\$4.51	\$4.49
23.6 to 25.9	\$3.77	\$3.84	\$3.77	\$3.89	\$3.76	\$3.76	\$3.69	\$3.72
26.0 to 28.9	\$2.12	\$2.17	\$2.12	\$2.18	\$2.14	\$2.05	\$2.08	\$2.23
29.0 and ove	\$1.36	\$1.38	\$1.36	\$1.40	\$1.38	\$1.31	\$1.34	\$1.42



Why Should We Care?

National Average Fleece Weight of this micron:

about 12 pounds

How much clean wool will it yield?

About 60% (Average)

How many total pounds is that?

7.2 pounds

$7.2 \text{ pounds} \times \$5.16 = \$37.15$

BUT, we have to pay the shearer!

$\$37.15 - \$4.00 = \$33.15/\text{sheep}$



What happens at shearing can have an important impact on how wool is used!



Poor management at shearing can devalue a wool clip in a matter of minutes



Showmanship

Ed Hewlett
Hewlett Club Lambs
Independence, KS

Showmanship



Correct feet and head
placement prior to bracing.



Brace Example



Profile Brace



Have Fun With Your Project



Youth for the Quality Care of Animals (YQCA)

Youth for the Quality Care of Animals (YQCA) is a new, national, multi-species livestock quality assurance program available for youth ages 8-21. This annual educational and certification program focuses on food safety, animal well-being, and character awareness for youth producing and/or showing livestock. The species covered by the training are swine, beef cattle, dairy cattle, sheep, goats, market rabbits, and poultry. Extension specialists, the National Pork Board, national show organizers, and animal industry representatives were involved in designing the program with the intent to provide a national, standardized livestock quality assurance program applicable to multiple species. The curriculum is designed to provide different age-appropriate modules annually, so youth will expand their knowledge by learning about new topics every year. There are two options by which youth may obtain their YQCA certification; they may attend a 60-minutes face-to-face training with a certified instructor, or they may complete the age-appropriate online certification course. There is a \$3/child fee for the face-to-face training, while the online certification course is \$12/child. The YQCA program has been integrated into the 4HOnline system, so families may register for a face-to-face training, or complete the online certification, by logging in using their 4HOnline credentials. There is also an option to create an independent account for FFA members.

Youth swine exhibitors in the Kansas State Fair Grand Drive and/or Kansas Junior Livestock Show (KJLS) are currently required to complete Youth PQA Plus training and have an active certification number in order to participate. This information is submitted as part of the state nomination process. The Youth PQA Plus requirement will continue for 2018, however, Youth PQA Plus or YQCA certification will be accepted. The National Pork Board has announced that the Youth PQA Plus program will be discontinued on June 1, 2018. At that point, all youth seeking livestock quality assurance training will need to use the YQCA program. For those youth who previously tested out of their age division through the Youth PQA Plus program and earned a multi-year certification, those certifications will be honored until they expire.

For more information about YQCA, please visit www.yqca.org, contact your local Extension Office, the K-State Youth Livestock Coordinator, Lexie Hayes, at adhayes@ksu.edu or (785)532-1264, or State 4-H Specialist, Pam Van Horn, at pvanhorn@ksu.edu or (785)532-5800.





Home About More Info Fairs & Shows Buy Coupons Contact Sign In/Register

info@yqca.org help@yqca.org

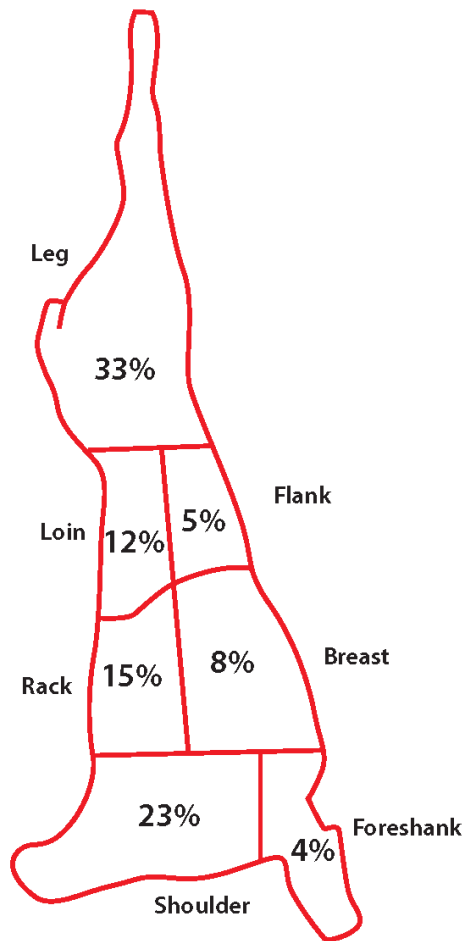
A NEW OPTION FOR YOUTH LIVESTOCK EDUCATION

SIGN UP OR LOG IN

www.yqca.org



Lamb Processing Options for Consumers



The primal cuts of lamb as a percentage of carcass weight.

This guide explains choices available to consumers when they take a lamb to be processed. It provides information on the approximate amount of meat that should be returned from each primal after the animal has been prepared to customer specifications.

Foreshank: Generally, foreshank will be removed from the carcass and kept whole. This cut can also be used for ground lamb if the customer prefers not to receive the two foreshanks.

Shoulder: Two options for cutting the shoulder are arm and blade chops or boneless shoulder roasts of desired thicknesses and weights. Depending on customer preference, the shoulder also can be used for ground lamb.

Rack: Generally the rack will be cut into bone-in rib chops of desired thickness. Alternatively, the rack can be cut into two bone-in rib roasts.

Loin: The loin is either cut into bone-in loin chops or cut into two bone-in loin roasts.

Leg: From the leg, the customer can choose to have sirloin chops cut or bone-in leg roasts, including American- or Frenched-style roasts. Additionally, the lower shank can be removed from each leg, producing leg shank roasts. The leg can also be cut into center-sliced leg steaks, if steaks are preferred to roasts. Consumers may choose to keep the leg whole for roasting.

Miscellaneous: The breast can either be kept whole or cut into riblets. The breast can also be cut into Denver style ribs. Overall, lamb carcasses produce less trim for ground lamb production as compared to either pork or beef carcasses.

Lamb Cutout Table

The numbers below are based on a lamb carcass with a 75-pound hot (unchilled) carcass weight with average fat cover. A 3% shrink (cooler shrink and cutting loss) is assumed. The percentage of the hot carcass and the approximate weight in pounds for cuts from each primal are shown below.

Cut Options	% of Hot Carcass	Weight (lbs)
Leg	22.4	16.8
Leg roasts		
Center slices		
Shank roasts		
Sirloin chops		
Loin	8.7	6.5
Loin chops		
Loin roasts		
Rack	12.7	9.5
Rib chops		
Frenched rib chops		
Rib roasts		
Frenched rib roasts		
Shoulder	14.0	10.5
Blade chops		
Arm chops		
Boneless shoulder roasts		
Breast	5.8	4.4
Riblets		
Denver-style ribs		
Whole breast		
Trimmings	4.9	3.6
Ground lamb		
Miscellaneous	28.5	21.4
Bone and fat		
Total meat	68.5	51.3
Total fat and bone	28.5	21.4

References

A Guide to Lamb Cuts – Learn your cuts of lamb. 2017. American Lamb Board, Denver, CO. Available from: <http://www.americanlamb.com/lamb-cutting-board/>

Market Lamb Meat and Cuts. 2010. Dustin Warren. Tarleton State University, Stephenville, TX. Available from: <http://faculty.tarleton.edu/harp/documents/notes/sheepgoat/lab/Market%20Lamb%20Meat%20and%20Cuts.ppt>

How Much Meat to Expect from a Carcass. 2010. Gregg Rentfrow. University of Kentucky, Lexington, KY. Available from: <http://www2.ca.uky.edu/agcomm/pubs/asc/asc179/asc179.pdf>

American Lamb Makes the Plate. American Lamb Board, Denver, CO. Available from: [http://www2.bakersfieldcollege.edu/cularts/Lamb Handout.pdf](http://www2.bakersfieldcollege.edu/cularts/Lamb%20Handout.pdf)

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF3397— February 2018

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How Much Meat To Expect From Your Animal

Have you ever taken your steer to the butcher at 1,300 pounds and been confused when you were only returned 500 pounds of cut and packaged beef? Like many consumers, you may be unaware of the steps in animal processing that result in changes in product weight. Some changes occur in converting the live animal to a carcass, and more before the animal becomes packaged meat. This guide explains the process and provides tools to help you determine the amount of meat to expect when you have an animal harvested.

- Hide or wool weight
- Horns
- Animal muscling and fatness

From live animal to carcass in the cooler

The first step is to convert the live animal to a carcass. The amount of the live animal's weight represented by the carcass, or *dressing percentage*, can be calculated as follows:

Dressing percentage: (carcass weight ÷ live weight) x 100

Next, the animal's blood, hide, and internal organs are removed, which results in weight loss. The amount of weight lost is highly variable and can be affected by many characteristics, including:

- Mud or manure on the animal's hide
- The amount of food in the animal's stomach (gut fill)
- Bruises that must be trimmed from the carcass



Species differences

The dressing percentage is different for each species as animals carry body weight differently. Pork has the highest dressing percentage (70-75%) because the skin and feet remain on the carcass, and hogs are monogastrics with single-compartment stomachs. Lambs have the lowest dressing percentage (54-59%) due to heavy hides and less muscling on the carcass. The beef dressing percentage (60-64%) falls between pork and lamb.

**Average dressing percentage
for the three major meat species**

Species	Average dressing percentage (%)
Beef	60-64
Pork	70-75
Sheep	54-59

From whole carcass to retail cuts

Estimating the carcass weight of an animal is fairly easy because the process is standard across the industry. Predicting the weight returned as cuts of meat is much more difficult. A carcass can be processed into cuts (steaks, roasts, and ground meat) in multiple ways. The final weight varies depending on the processing style and cuts requested. Customers have many options and may be able to customize their order, adding even more variability to the equation. Here are a few choices that can affect the weight of the finished product:

- **Bone-in vs. boneless cuts:** Removing the bone results in less weight returned as product.
- **Fat percentage in the ground product:** A leaner product produces fewer pounds of ground meat.
- **Aging:** Longer aging periods improve meat tenderness but lead to moisture loss and less weight returned.
- **Type of aging (dry-aged vs. wet-aged):** Dry-aged products result in more moisture loss due to dehydration and additional trimming losses due to surface crust removal.
- **Further processing:** Having cuts processed into cooked sausages, hams, bacon, corned beef, and similar products results in fewer pounds of returned product because of the moisture lost during the cooking process.

The amount of meat returned after harvesting an animal varies. The following examples should help consumers understand where the weight of the live animal goes and provide information on the approximate amount of meat to expect. Other fact sheets in this series describe processing options for individual species.

Example for cattle:

Live weight = 1,290 lbs.

Actual dressing %: 62%

Carcass weight = 800 lbs.

Bone-in option: 65-70% of carcass weight

Boneless option: 55- 60% of carcass weight

Approximate bone-in meat returned = 520 lbs.

OR approximate boneless meat returned = 440 lbs.

Example for hogs:

Live weight = 285 lbs.

Actual dressing %: 72%

Carcass weight = 205 lbs.

Bone-in option: 75-80% of carcass weight

Boneless option: 65-70% of carcass weight

Approximate bone-in meat returned: 154 lbs.

OR Approximate boneless meat returned = 133 lbs.

Example for sheep:

Live weight = 132 lbs.

Actual dressing %: 55%

Carcass weight = 70 lbs.

Bone-in option: 70-75% of carcass weight

Approximate bone-in meat returned = 50 lbs.

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF3394— February 2018

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3/17/2018