Live Animal Evaluation & Grading
Gregg Upchurch
UT Extension Cumberland County
Breeds / “Brands”

Marketing... getting you to spend money you don’t have on something you don’t need!
General Thoughts on Selection/ Evaluation

Focus on “good ones”...

Biological Type & Kind

Purpose and Function
Greater variation among breeds than between breeds
Are your genetics dated?
Champion Suffolk Ram
Chicago International 1946

Champion Suffolk Ram
North American International 2011

Improving over time...
Selection/evaluation is about improving livestock...
Selection / Evaluation is not about cloning...
Understanding Heritability and Heterosis
Heritability Muscle

\[\text{Muscle} \times \text{Muscle} = \text{Muscle}\]
Heritability
Muscle
Heterosis
Muscle

Average
No Effect
Phenotype drives selection of high heritable traits

Heterosis drives improvement of low heritable traits
We must move from the hors d’oeuvre table to the center of the plate... if we are going to be a player in the protein business!

Dr. Dwight Loveday – UT Food Science & Technology
“Ethnic customers neither knew nor cared about breeds of goats.”

Observations on Meat Goat Carcass Evaluation by Dr. Frank Pinkerton, Goat research and extension Prairie View A&M, TX

Dr. Ken McMillin, LSU meat scientist
“Their deciding factor, however, seemed to be ‘meatiness’, as judged by thickness of muscle mass, particularly the hind and fore quarters.”

Observations on Meat Goat Carcass Evaluation by Dr. Frank Pinkerton, Goat research and extension Prairie View A&M, TX

Dr. Ken McMillin, LSU meat scientist
“The most negative carcass trait identified by packers and consumers was excessive fat.”

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Live Animal... Carcass Evaluation

1. Muscle
2. Fat
3. Bone/Skeleton
4. Size
Goat carcass grades... reflect muscle shape

**USDA grades for live goats and goat carcasses**

<table>
<thead>
<tr>
<th>Selection 1</th>
<th>Selection 2</th>
<th>Selection 3</th>
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<tbody>
<tr>
<td>Superior muscling</td>
<td>Average muscling</td>
<td>Inferior muscling</td>
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<tr>
<td>Superior meat yield</td>
<td>Medium meat yield</td>
<td>Poor meat yield</td>
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Grades are supposed to be independent of age, breed, sex, weight, and fat(?).
Goat carcass grades... reflect muscle shape
Fat is important...

Cooler

Taste

Yield Grade

Maintenance
USDA Lambda Carcass Yield Grades

✓ USDA Yield Grade... number that represents the percent cutability

✓ Cutability... percentage of closely trimmed, bone-in, semi-boneless and boneless retail cuts from the leg, loin, rib and shoulder
USDA Lamb Carcass Yield Grades

✓ USDA Yield Grade

\[ YG = (10 \times \text{Adjusted Fat Thickness}) + .4 \]

✓ Fat Thickness “Window of Acceptability”

.10 to .25 inch of fat, with ideal of .15 inch
Estimate the YG
Devoid of Fat...

Ribs, spine...
Fat... fills the indentions

= 

Smooth appearance...
Fat... body condition for maintenance

Score 1 - emaciated
Score 2 - lean
Score 3 - moderate
Score 4 - fat
Score 5 - very fat

Too Thin

Just Right

Too Fat
Body Condition (fat) for...
Maintenance and/or Marketing

Score 1 - emaciated
Score 2 - lean
Score 4 - fat
Score 5 - very fat

Evaluate Feeding Program, Management & Genetics
“Shape” ... interpreting fat & muscle

Round vs Flat

Round vs Sharp

Leg
Sirloin Chop
Loin Chop
Rib Chop
Shoulder
Lamb Muscling Carcass Conformation

Prime 0  Prime  -  Choice 0  Choice  -  Good +
Which loin chop are you buying?
Which loin chop are you producing?

3.5 sq in  2.5 sq in  1.5 sq in
Shape!

Place the class...
Live, Visual, Appraisal... Shape
Shape
Shape
Skeletal Width
3 Dimensional Body & Muscle Shape

Center Skeletal Width
Evaluate the Shape...
Correct Finish?
Fat or thin finish?

Heavy muscle or plain muscle?
Questions before you try evaluation on live animals?