Introduction to Live Animal Evaluation

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Introduction to Market Beef Evaluation
Market Beef Evaluation: Fat Indicators

- Tailhead & Pins
- Last Ribs
- Fore flank
- Rear flank & Cod
- Brisket
Steer A
Steer B
Market Beef Evaluation: Muscle Indicators

- Loin
- Quarter/Rump
- Forearm
- Stifle
Live Cattle Evaluation

- Weight
- Dressing Percent
- 12th rib fat
- Ribeye area
- KPH
- Quality Grade
- Yield Grade
Weight

- **Live or Carcass**

- **Live Weight range**
  - 900 lb to 1500 lb
  - Avg: 1200 lb

- **Carcass Weight range**
  - 550 lb to 950 lb
  - 750 lb
Dressing Percent

- Proportion of live weight that ends up as carcass
- Example: 1250 lb steer with a 775 lb carcass has a dressing percent of 62%
- Range: 55 - 67%
- Avg: 62%
Factors Affecting Dressing %

- Gut Fill
  - Gut fill = ↑ Body Weight = ↓ Dressing %

- Hide weight and/or mud
  - Hide wt = ↑ Dressing %

- Muscle
  - Muscle = ↑ Dressing %

- Fat
  - Fat = ↑ Dressing %

- Dairy influence
12th Rib Fat Thickness

- Highly correlated to retail yield
- Predictor of total carcass fatness
- Range: .15 in. to .80 in.
- Avg: .40
- .25 in. considered minimum
Ribeye Area

- Highly correlated with lean yield
- Predictor of total carcass muscle
- Dependant of carcass weight
- Range: 9.0 - 18.0 sq. in.
- Avg: 12.5 sq. in. for 1150 lb steer
- Rule of thumb: 1.1 sq. in. for 100 lb live wt
Kidney, Pelvic and Heart Fat

- Internal fat as a percentage of carcass weight
- Continental cattle will tend to have less than British cattle

- Range: 1.0 - 4.5%
- Avg: 2.5%
Quality Grade

- Assigned according to amount of marbling and bone maturity
- Most influential component of pricing
- Range: Standard to Prime
- Avg: Low Choice
Factors Affecting Marbling

- Genetics
- Age of cattle
- Time on feed
- Energy content of diet
- Fat cover
- Continental/Brahman influence
Yield Grade

- Calculated to predict yield of boneless, closely trimmed, retail cuts from the round, loin, rib and chuck
- Based on 4 estimations
  - 12th rib fat
  - Hot carcass weight (HCW)
  - Rib eye area (REA)
  - Kidney, pelvic, heart fat (KPH)
Yield Grade

- Range: 1 through 5
  - 1 = Lean and/or Muscular; High cutability
  - 5 = Fat and/or Light Muscled; Low cutability

- Avg: 3.0
Introduction to Market Lamb Evaluation
Lamb Evaluation: Fat Indicators

Shoulder
Breast
Flank
Forerib
Lamb Evaluation: Fat Indicators

- Base of leg/Twist
- Dock
- Loin Edge
- Spine
Lamb Evaluation: Muscle Indicators

- Leg
- Forearm
- Stifle
Lamb Evaluation: Muscle Indicators

Rack  Loin

Leg
Reading Top Shape
Reading Top Shape
Live Lamb Evaluation

- Weight
- Dressing percent
- 12th rib fat
- Ribeye area
- Yield grade
- Quality grade
**Weight**

- **Live weight**
  - Range: 90 - 150 lb
  - Avg: 125 lb

- **Carcass weight**
  - Weight of dressed carcass with kidney and pelvic fat removed
Dressing Percent

- Percentage of live weight that ends up as carcass
- Range: 45 - 58%
- Avg:
  - 53% for shorn lambs
  - 50% for unshorn lambs
Factors Affecting Dressing Percent of Lamb

- Pelt weight
  - Unshorn lambs will dress 1-5% lower than shorn
- Fill
- Muscling
- Fat cover
Fat Thickness

- Taken at the 12th rib
- Normally adjusted up to a .1 inch due to body wall fat
- Used in YG equation
- Range: .05 - .50 in.
- Avg: .25 in.
- Minimum requirement: .15 in.
Ribeye Area

- Measured at 12th rib
- Indicator of total muscle in carcass but not used in YG equation

- Range: 1.5 - 4.5 sq. in.
- Avg: 2.5 sq. in.
**Yield Grade**

- Predicts the yield of boneless, closely trimmed retail cuts from the leg, loin, rib, and shoulder
- Only includes adjusted 12th rib fat thickness
- \[ YG = 0.4 + (10 \times \text{Adj. fat thickness}) \]
Quality Grade

◆ Predictor of eating quality based on three factors:
  ◆ Maturity
  ◆ Lean Quality
    ◆ Texture
    ◆ Firmness
    ◆ Marbling
  ◆ Conformation
Lamb Quality Grades

- Range: Good to Prime
- Avg: Choice

Majority of market lambs will grade Choice
Lamb Quality Grade

- Superior conformation can compensate for inferior lean quality and vice versa
  - **Good** lean quality with **Choice** conformation = **Choice**
  - **Prime** lean quality with **Choice** conformation = **Prime**

- To qualify for Ch or Pr, lamb carcass must have at least .10 in. fat covering
Primal Identification
Introduction to Market Swine Evaluation
Swine Evaluation: Fat Indicators

- Shoulder
- Loin Edge
- Ham/ Loin Junction
- Flank
- Elbow Pocket
- Jowl
- Seam of Ham
Swine Evaluation: Muscle Indicators

- Forearm
- Ham
- Loin
- Stifle
**Weight**

- **Live Weight**
  - Range: 210 lb - 300 lb
  - Average: 250 to 260 lb

- **Carcass Weight**
  - Weight of dressed carcass (hot or chilled)
    - Chilled 1.5% less than hot
  - Range: 150 - 215 lb
  - Avg: 180 lb
**Dressing Percent**

- Proportion of body weight that ends up as carcass
  - Example: 255 lb live weight hog with 186 lb carcass = 73% dress
  - Some variation in dressing % across plants due to slaughter procedures and time of carcass weight measurement (hot or chilled)
- Range: 65 - 77%
- Avg: 72%
Factors Affecting Dressing Percent

- Gut Fill
  - \( \text{Gut fill} = \uparrow \text{Body Weight} = \downarrow \text{Dressing \%} \)

- Muscle
  - \( \text{Muscle} = \uparrow \text{Dressing \%} \)

- Fat
  - \( \text{Fat} = \uparrow \text{Dressing \%} \)
**Carcass Length**

- Measurement taken from the **First Rib** to the **Aitch Bone**
- Not in calculations

- **Range:** 28 - 34 in.
- **Avg:** 31 in.
10th Rib Fat

- Used in % Muscle Formula
- Range: .50 - 1.50 in.
- Avg.: .90 in
Last Rib Fat

- Used in USDA Grade calculation
- Range: .40 - 1.40 in.
- Avg: .80 in.
Loineye Area

- Estimated at the 10th rib
- Range: 3.8 - 9.0 sq. in.
- Avg: 5.5
Reading Top Shape
Reading Top Shape

BF = .90 inches
Reading Top Shape

BF = 1.5 inches
The End!