Live Cattle Evaluation
What are we trying to determine?

- Quality grade
- Yield grade
- Dressing percentage
Quality Grade Factors

Maturity

Marbling
Beef Quality Grading Factors
-- Maturity --

- Estimation of physiological age
- Classifications: A B C D E (young to old)
- determined by degree of bone ossification
- most fed cattle = A maturity (< 30 mo of age)
- As age ↑, QG ↓
Bone Maturity

Thoracic Cartilagenous Vertebrae
Bone Maturity
Thoracic Cartilagenous Vertebrae
Chronological Age of Cattle

Feedlot Cattle

Heiferettes

Young Cows

Older Cows
Beef Quality Grading Factors

--- Marbling ---

- Measure of the intramuscular fat
  - fat within the muscle
  - “taste” fat
<table>
<thead>
<tr>
<th>Sl. Abundant</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate</td>
<td>PRIME</td>
<td></td>
<td>COMMERCIAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modest</td>
<td>CHOICE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slight</td>
<td>SELECT</td>
<td></td>
<td>UTILITY (Boners/Breakers)</td>
<td></td>
<td></td>
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<tr>
<td>Traces</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practically Devoid</td>
<td>STANDARD</td>
<td></td>
<td>CUTTER</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Beef Yield Grades

- Measure of **cutability** or the **percent yield** of boneless, closely trimmed retail cuts from the:
  - chuck
  - rib
  - loin
  - round

**Wholesale Cuts from the Beef Carcass**
Interconversion of YG and the % of Boneless, Closely Trimmed Retail Cuts

<table>
<thead>
<tr>
<th>Yield Grade</th>
<th>% Retail Cuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>54.6</td>
</tr>
<tr>
<td>2</td>
<td>52.3</td>
</tr>
<tr>
<td>3</td>
<td>50.0</td>
</tr>
<tr>
<td>4</td>
<td>47.7</td>
</tr>
<tr>
<td>5</td>
<td>45.4</td>
</tr>
</tbody>
</table>

↑ % lean (muscle), ↓ % fat
Factors Used to Calculate Beef Yield Grades

- Fat over ribeye (in) \( \text{FOE} \)
- % kidney, pelvic, heart fat \( \text{KPH} \)
  - of the carcass weight
- Ribeye Area (in\(^2\)) \( \text{REA} \)
- Hot carcass weight \( \text{HCW} \)

As HCW ↑, REA must ↑
Fat thickness
3/4 length of Ribeye
Measurement of FOE
Fat thickness
Measurement of REA
Dressing Percentage

- Used as a basis for marketing livestock
  - beef
- Usage and importance ↓ as the industry moves toward “value-based” marketing.
  - As fat ↑, dressing percentage ↑
  - but YG less desirable (poor cutability)
Dressing Percentage

\[
\text{Dressing Percentage} = \left( \frac{\text{hot carcass weight}}{\text{live pay weight}} \right) \times 100
\]

Example: If live weight = 1200 lbs, HCW = 750 lbs

\[
\left( \frac{750}{1200} \right) \times 100 = 62.5\% \text{ cattle}
\]
Dressing Percentage

Example: If live weight = 1200 lbs
DP = 65%

1200 X .65 = 780 lb HCW
Beef Dressing Percent

- Fed Cattle = 63%
- Cows = 50%
- Factors that affect dressing percentage
  - “Fill” -- large rumen capacity
  - fat cover -- fat animals have higher dress
  - mud on the hide -- add live weight, reduce dress
Key Points: The Beef Industry

Carcass Evaluation of Beef

- Beef quality grading factors (2)
  - associated quality grades

- Beef yield grading factors (4)
  - associated yield grades

- Dressing Percent
  - factors
  - importance for valuation of beef