### Meat Judging: Beef Carcass and Major Cuts Placing

Confidence Value determination Logical reasoning Personal drive

Competitiveness Team work Point conveyance Responsibility





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#### **Beef Carcass Placing**

- Quality and Yield grading already covered

   90% of what you need to place beef carcasses
- Determining Factors
  - Carcass Size/Weight
  - Carcass Quality (Grading)
  - Carcass Cutability (Grading)
  - Potential Defects



### **Carcass Size/Weight**

- Cuts must fit in the box
- Highly efficient system



- Process runs smoothest with similar carcasses
- Excessively large and small carcass are discounted
  - Primals and portion cuts
- Ideal size/weight
  - 600 800 pound carcass
  - Most fit this window



### **Carcass Quality**

- Measure of consumer acceptability (cooked palatability) and value
- Primary Indicators
  - Maturity
    - Lean color\*, firmness, texture
    - Skeletal ossification along vertebra
- Most in contest will be "A"
- May include Older but will usually be noticeable to those paying attention
  - If "C" or older place at bottom
  - What about "B"?



# **Maturity and Chronological Age**



#### Overall maturity

- If difference is 40% or less average the two and round to nearest 10% toward skeletal maturity
- If greater than 40% average and move 5 -10% towards skeletal
- Overall Can Not differ more that one maturity grade from skeletal

### **A - Maturity**









A60

#### A – Maturity (9-30)

Sacral	Distinct Seperation
Lumbar	No ossification
Thoracic	No ossification
Rib	Slight Tendency to be Flat
Chine	Soft , very red in color

A20

### **B** - Maturity





#### B – Maturity (31-42)

Sacral	Completely Fused
Lumbar	Nearly completely ossified
Thoracic	Some ossification ~ 10%
Rib	Slightly wide, slightly flat
Chine	Slightly soft, slightly red

### **C** - Maturity



#### C – Maturity (43-72) Sacral **Completely Fused** Lumbar Completely ossified Thoracic Partial ossification 35%, outlines visible Rib Slightly wide, slightly flat, slightly bleached/flinty Chine Tinge of red to mostly white

# **D** - Maturity



) — I	Maturi	ty (7	73 –	96)	

Sacral	Completely Fused
Lumbar	Completely ossified
Thoracic	Considerable ossification 70% or more, outline visible
Rib	Moderately wide and flat
Chine	Moderately hard and flat

# **E - Maturity**





E – Maturity (96 >)			
Sacral	Completely Fused		
Lumbar	Completely ossified		
Thoracic	Considerable outlines to barely visible		
Rib	Very wide and flat		
Chine	Hard and white or yellow		

#### **Lean Maturity**

#### Lean Maturity Illustrations

The following illustrations are intended to represent the indicated lean maturity. However, they should only be used as a guide because it is not possible to reproduce, absolutely, colors of original photographs when they are printed.



## **Beef Quality Cont**

- Marbling will most likely be primary indicator — Provided maturities are similar
- Chine will be split at 12-13 rib junction
- Determine marbling score in the exposed rib face

Pay attention to amount and distribution

One small flake counts as "1"
One large flake counts as "1"

Lesser concern: external fat color

White vs. Yellow, soft or oily



Moderately Abundant



Slightly Abundant



Moderate







Modest

Small

Slight

#### **Degree of Marbling**

Moderate

Slightly Abundant Abundant



#### **USDA** Prime

Slight





USDA Choice Eating Quality

Modest

Small

# **Beef Quality Grading**

REL	ATIONSHIP BETWEE	N MARBLING,	MATURITY, AND C	CARCASS QUALITY GR	RADE <sup>1</sup>
DEGREES OF MARBLING	MATURITY <sup>2</sup>				
	A <sup>3</sup>	В	С	D	E
Abundant					
Moderately Abundant	PRIME				
Slightly Abundant				COMMERCIAL	
Moderate					
Modest	CHOICE				
Small				UTILITY	
Slight	SELECT			906	
Traces					
Practically Devoid	STANDARD			CUTTER	

<sup>1</sup>Assumes that firmness of lean is completely developed with the degree of marbling and that the carcass is not a "dark cutter." <sup>2</sup>Maturity increases from the left to right (A through E).

<sup>3</sup>The A maturity portion of the figure is the only portion applicable to bullock carcasses.

# **Cutability**

- Measure of "Boneless Closely Trimmed Retail Cuts" – 4 main primal areas
- Primary Concerns
  - Trimness amount of trimmable fat
  - Largest impact on Yield or cutability
  - Most cuts in excess of 0.4" will require "excessive" trimming
  - Fat thickness at <sup>3</sup>/<sub>4</sub> position of Rib face

# **Cutability Cont**

- Primary focus
  - Muscling 2<sup>rd</sup> most important
  - Used in relationship to carcass weight
  - Main indicator REA at 12-13<sup>th</sup> rib junction
- Other Evaluations
  - %KPH in relation to carcass weight
  - Overall muscling in round and chuck
  - Adjusted fat thickness (round, brisket)

### **Cutability Cont**

Yield Grade Considerations

 YG 1 has highest cutability
 YG 5 has lowest cutability





### **Major Defects**







**EXAMPLES OF TRIM LOSS** 









### **Finally – Actual Placing**

60% Quality, 40% Cutability

Traditionally the spread between Se, Ch, Pr is greater than YG spreads

Even in times like now this is safest bet

- Quality grade 1<sup>st</sup> and rank, Yield grade 2<sup>nd</sup>
  - Rank w/in Quality grade, except
  - 1.5, 2.0 YG can be used to place lower quality over high quality wasty
- YG 4 heavy discount
- Standard and YG 5 placed last



### **Terms in Brief**

Although not writing, may be used in questions

#### Quality

-Less ossification
-Firmer ribeye
-Whiter fat
-Finer textured
ribeye
-Brighter, more
cherry red color
-Greater amount of
more evenly
dispersed marbling

#### <u>Trimness</u>

-Less fat opposite the ribeye
-Less fat over the round, sirloin, loin edge, lower rib and chuck
-Less fat over the inside round and brisket
-Less KPH
Less cod/udder fat

#### Muscling

-Larger ribeye
-Thicker round
-Plumper cushion
-More bulging heel
-Shorter shank
-Heavier muscled
sirloin
-Fuller rib
-Thicker chuck

### **Beef Ribs Placing**

- Most ribs will be fabricated into steaks
  - Quality is the most important trait
  - Evaluate Quality in BOTH the <u>Rib face</u> and <u>Blade face</u> of the ribeye
  - Select and lower quality should be discounted
  - Equal quality should be ranked on cutability
    - Trimness is most important factor here
- Extremely fat, wasty, YG4-5 ribs should be discounted

### **Rib Emphasis**

- Evaluate based on 70% Quality, 30% Cutability
- All ribs should be Quality Graded 1<sup>st</sup>
- Evaluate for Cutability 2<sup>rd</sup>
- USDA Standard ribs (low marbling, Traces, PD, Devoid) should be placed last
- Yield Grade 4 and 5 type ribs should be heavily discriminated



### **Beef Ribs**





### **Beef Rib Terminology**

#### **Quality**

Higher degree of marbling in the ribeye
Greater amount of marbling in the eye of the blade face
Finer textured lean in the ribeye, eye of the blade
Firmer lean
Less ossification in the thoracic buttons

#### <u>Trimness</u>

-Less fat opposite the ribeye
-Less fat over the lip
-Less fat over the back
-Less fat along the rib ends
-Less fat over the blade face
-Less seam fat in the blade face

#### **Muscling**

-Larger ribeye
-Fuller back
-Larger eye of blade
-Greater area of exposed lean in the blade face

#### **Beef Full Loin Placing**

- Full loins are evaluated similar to ribs
   Fabricated into steaks
- Quality is most important factor
  - Evaluate in Loin face and Sirloin face
    Select or lower are discounted
- Loins of equal quality are place by cutability

   Trimness is most important
- YG 4 and 5 loins should be discounted

## **Full Loin Emphasis**

- Loins should be evaluated based on 70% Quality and 30% Cutability
- Quality Grade and place 1<sup>st</sup>
- Determine cutability 2<sup>rd</sup> and place within Quality Grade
- USDA Standard loins should be placed last
- YG 4 and 5 loins are heavily discriminated



#### **Beef Full Loins**







### **Beef Full Loin Terminology**

#### **Quality**

Higher degree of marbling in loin eye
Greater amount of marbling in the sirloin face
Brighter, more cherry-red color in loin eye and sirloin face
Finer textured lean in the loin eye and sirloin face
Firmer lean in the loin eye and sirloin face
\*\*Specify top or bottom sirloin face

#### **Trimness**

-Less fat opposite the loin eye
-Less fat over the tail
-Less fat over the back
-Less fat over the sirloin
-Less fat along the flank
-Less fat over the sirloin face
-Less seam fat in the sirloin face

#### Muscling

-Larger loin eye
-Fuller back
-Heavier muscled sirloin
-Greater area of exposed lean in the sirloin face

#### **Beef Short Loin Placing**

- Beef short loins are placed very similar to beef full loins
  - Extra emphasis on quality

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- Almost entirely fabricated into steak cuts
  - T-bone, Porterhouse, Strips, Filets
- Due to high value Quality is very important



### **Short Loin Emphasis**

- Beef short loins are evaluated based on 80% Quality and 20% Cutability
- Short loins should be Quality Graded 1<sup>st</sup>
- Determine cutability 2<sup>rd</sup>
- USDA Standard loins should be place last
- YG 4 and 5 short loins are heavily discounted



#### **Beef Short Loins**



### **Beef Short Loin Terminology**

#### **Quality**

Higher degree of marbling in the loin eye
Greater amount of marbling in the sirloin face\*
Brighter more cherry-red colored loin eye and sirloin face\*
Finer textured lean in the loin eye and sirloin face\*
Firmer lean in the loin eye and sirloin face\*
\*Includes the LD, GM and PM

#### <u>Trimness</u>

-Less fat opposite the loin eye
-Less fat over the tail
-Less fat over the back
-Less fat over flank edge
-Less fat over sirloin face
-Less seam fat in sirloin face

#### **Muscling**

-Larger loin eye
-Fuller back
-Greater are of exposed lean in sirloin face
-Larger LD, GM, and PM

## **Beef Round Placing**

- Beef rounds are the exception to the rule in beef class placing
- Almost all the emphasis is placed on round cutability
  - Trimness of rounds is most important
- Muscles of locomotion

 Will mostly be utilized as roasts with moist cookery, not steaks



#### **Beef Round Emphasis**

- Beef rounds should be evaluated with 90% of the emphasis on cutability and only 10% on quality
- Evaluate trimness of the round 1<sup>st</sup>
- Evaluate muscling 2<sup>rd</sup>
- Quality typically only plays a role when two rounds are so similar that a break point is needed



#### **Beef Rounds**







### **Beef Round Terminology**

#### <u>Trimness</u>

-Less fat over the round face (evaluate knuckle and rump individually)
-Less fat over the center-section
-Less fat over the cushion
-Less seam fat in the round face
-Less fat along the flank edge
-Less cod fat

#### **Muscling**

-Greater area of exposed lean in the round face -Larger knuckle -Larger rump face -Longer, wider center-section -Deeper, plumper cushion -Shorter shank -More bulging heel

#### Resources

- The Meat Evaluation Handbook

  American Meat Science Association

  An Outline of Meat Grading and Selection

  lowa State University Meat Judging Manual, 2005

  Scientific Farm Animal Production
  - Taylor 5<sup>th</sup> Ed.
- E-mail: astelz@uga.edu

