FFA Meat Judging CDE

Contest

- Retail ID
- Beef Grading
- Pork & Beef Carcass Classes
- Pork & Beef Wholesale Cut Classes
- Retail Cut Classes
- Test
- Team Formulation Problem

Retail Meat Identification

Purpose

- ✓ To educate and expose you, the consumer, to factors that will enable you to **identify cuts of meat** at the retail store.
- ✓ Knowing cuts of meat and the area of the carcass in which the cuts came from will allow you to better prepare the meat for a more enjoyable meal.

- Species found at the retail market (beef, pork, lamb) are physiologically the same. *Bones and muscles are basically the same* with minor exceptions.
- Example: Thoracic Vertebrae
- Porcine 14
- Bovine 13

Fabrication Process…

SIDE

⇩

QUARTERS

⇩

PRIMALS

(wholesale cuts)

⇩

SUBPRIMALS

⇩

RETAIL CUTS

Identification Tips

1. Primary factor for identification is **BONE**
2. Secondary factor is **MUSCLE**

   Muscle/Bone shape and size relationship

Bone:

1. Most reliable key for identification
2. Retail cut names are often derived from bones
3. Used as a guide to anatomical location

Identification Tips

Each of the seven categories have an associated bone

Picture courtesy of the American Meat Science Association

Shoulder Arm Cuts	 Arm Bone
Shoulder Blade Cuts (Cross Sections of Blade Bone)	 Blade Bone (near neck)  Blade Bone (center cuts)  Blade Bone (near rib)
Rib Cuts	 Back Bone and Rib Bone
Short Loin Cuts	 Back Bone (T-Shape) T-Bone
Hip (Sirloin) Cuts (Cross Sections of Hip Bone)	 Pin Bone (near Short Loin)  Flat Bone (Center cuts)  Wedge Bone† (near round)
Leg or Round Cuts	 Leg or Round Bone
Breast, or Brisket Cuts	 Breast and Rib Bones

†*On one side of a sirloin steak, this bone may be wedge shaped while on the other side the same bone may be round.*

Identification Tips

Muscle:

1. Number of muscles in cut
2. Texture of Cut
3. Size: Beef > Pork> Lamb

Distinguishing Between Species:

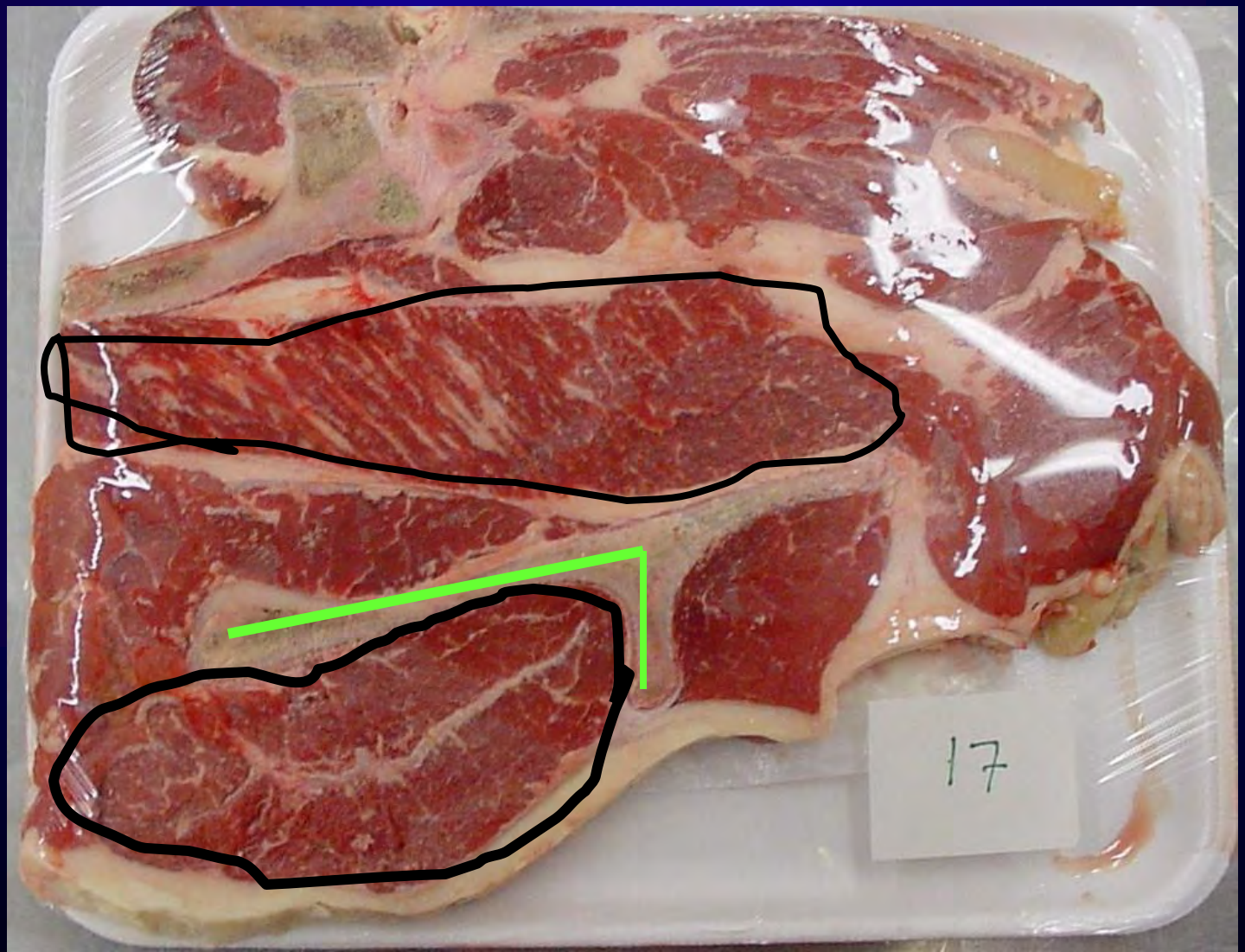
Muscle Color:

Beef ---- Bright Cherry Red

Lamb ----- Reddish Pink

Beef Round Steak

Beef Chuck 7-Bone



Beef Loin T-Bone Steak

Basic Terminology

- Cutability- Proportion of red meat : fat + bone
  - Carcass Weight
  - Fatness
  - Muscling

Basic Terminology

- Quality- Prediction of eating quality
  - Marbling
  - Lean Color
  - Lean Texture
  - Lean Firmness

USDA Quality and Yield Grades

- **90% of the cattle slaughtered in the US receive a USDA grade.**
- **Dual grading system (quality and yield)**
- **USDA grading of beef is optional**
- Both quality grades and yield grades are assigned to carcasses by USDA Graders who are independent of the packing plants.

USDA Quality Grade

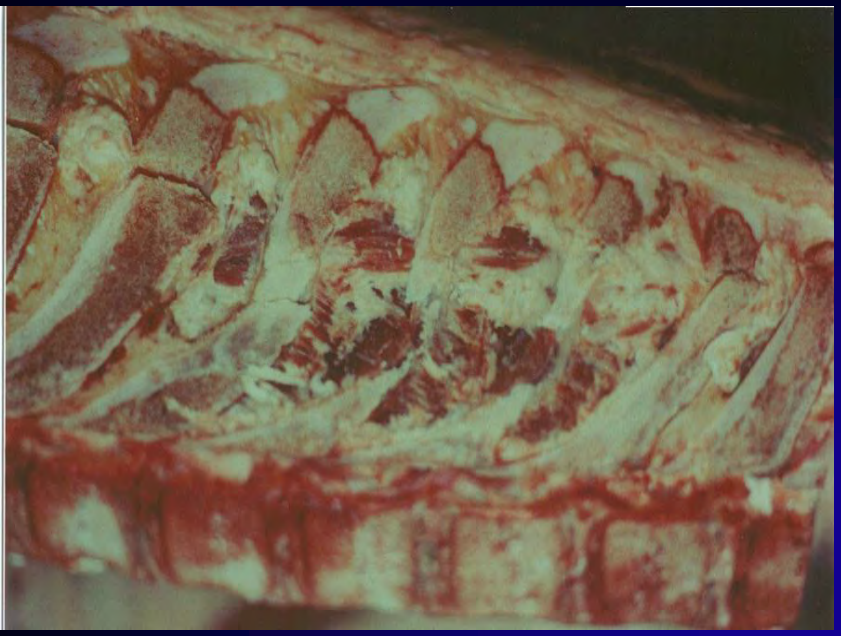
- What is meant by quality grade:
  - term used to describe the characteristics of the lean that indicate palatability
  - describes factors that consumers associate with tenderness, juiciness, flavor, and overall palatability

Quality Grade Factors

- Maturity:
  - subjective observation of ossification of the vertebral columns, color of lean, and texture of lean
- Marbling
  - Subjective evaluation of the amount of intramuscular fat dispersed within the ribeye

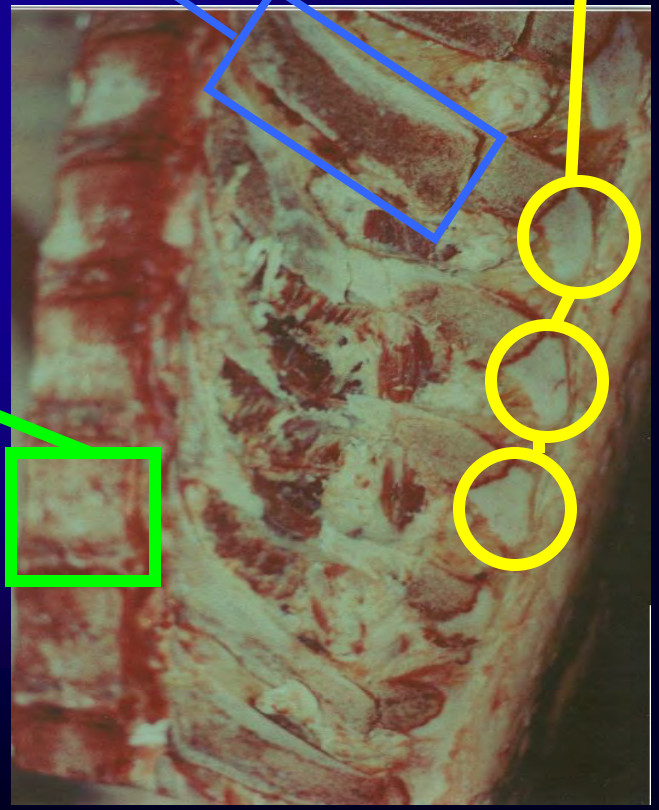
Beef Quality Grades-Maturity

- Maturity of a carcass is determined by subjective evaluation of the ossification (turning to bone) of the vertebral column from the sacral vertebra to the thoracic vertebra.
- Particular attention is paid to the cartiligneous tips, or buttons, found on the dorsal aspect of each vertebral spinous process.

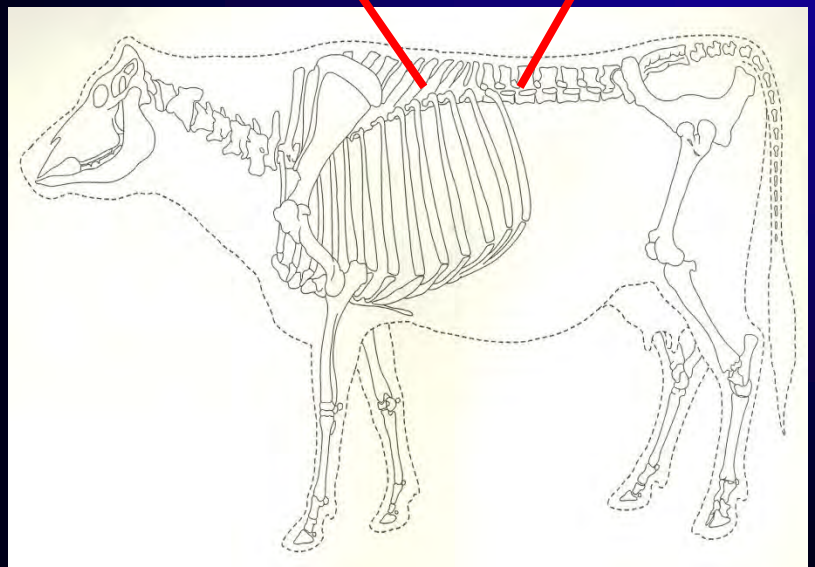


Spinous process of the Thoracic vertebra

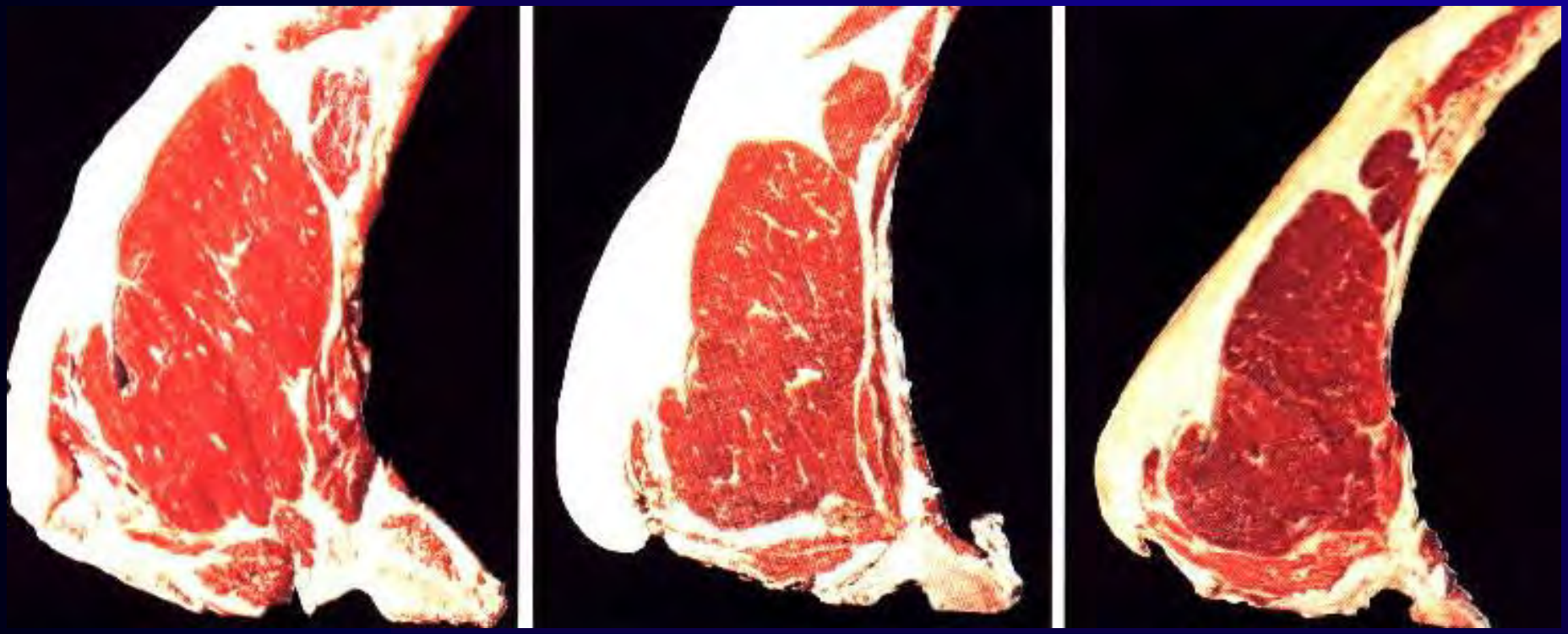
"Buttons"



Thoracic vertebra



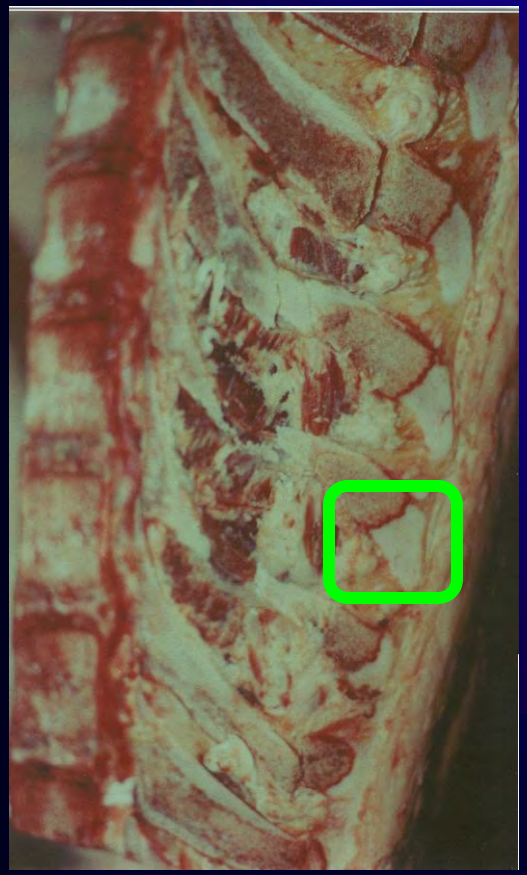
Beef Quality Grades- Lean Maturity



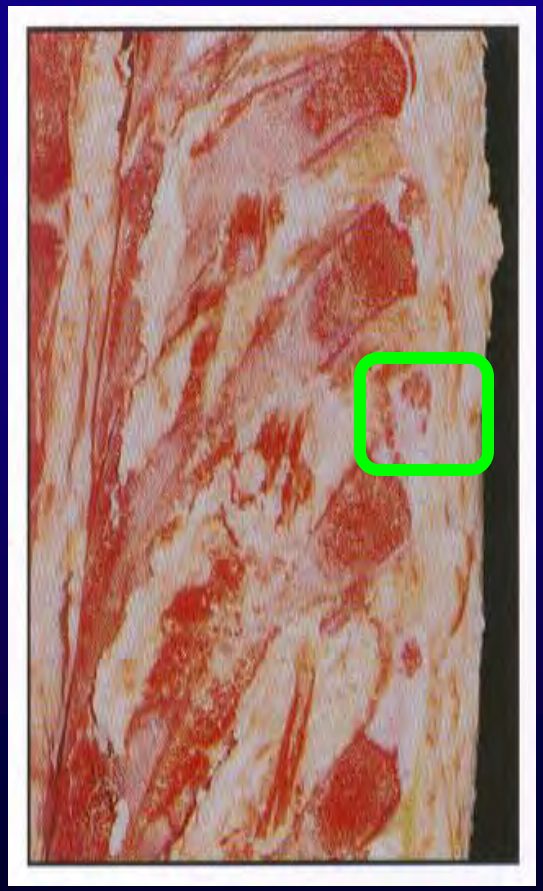
Young Intermediate Mature

A^{00} B^{00} C^{00} D^{00} E^{00}

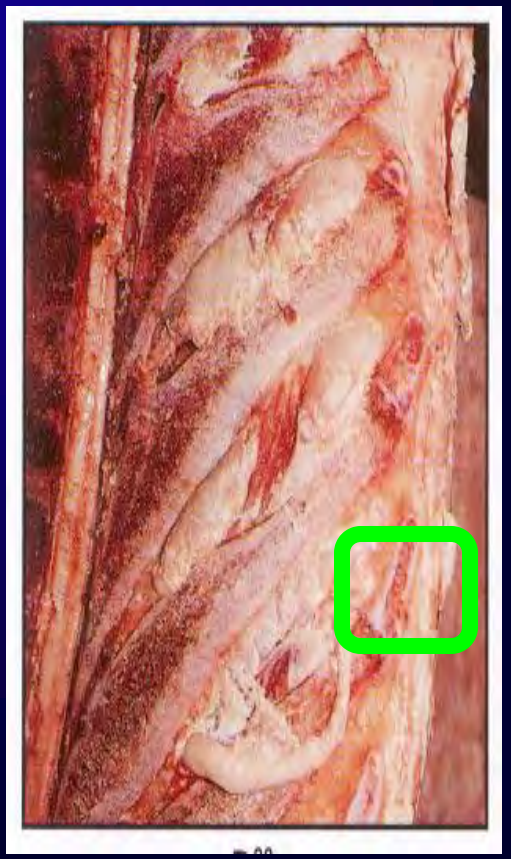
Various Maturity of Beef Cattle



A-Maturity



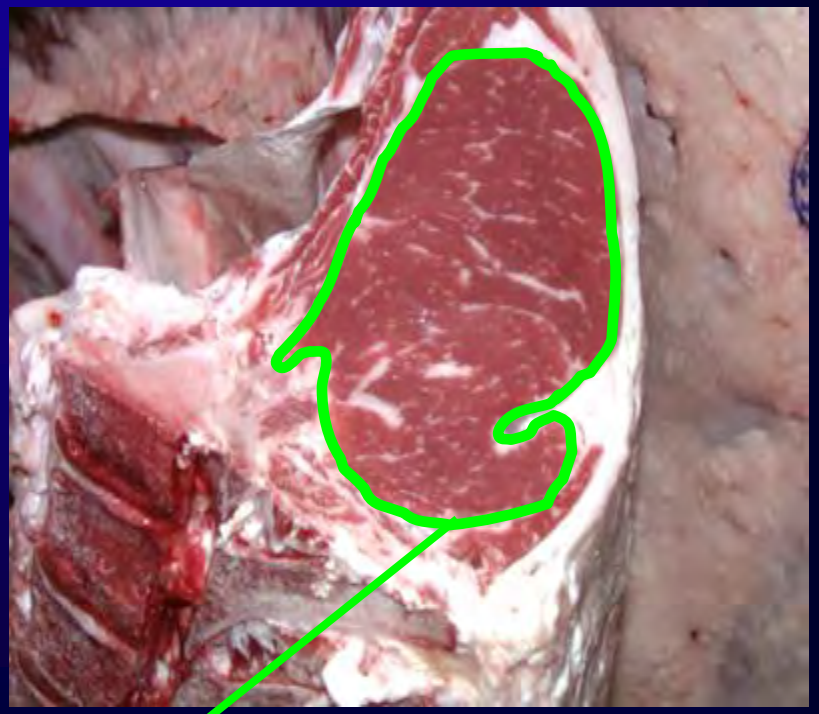
C-Maturity



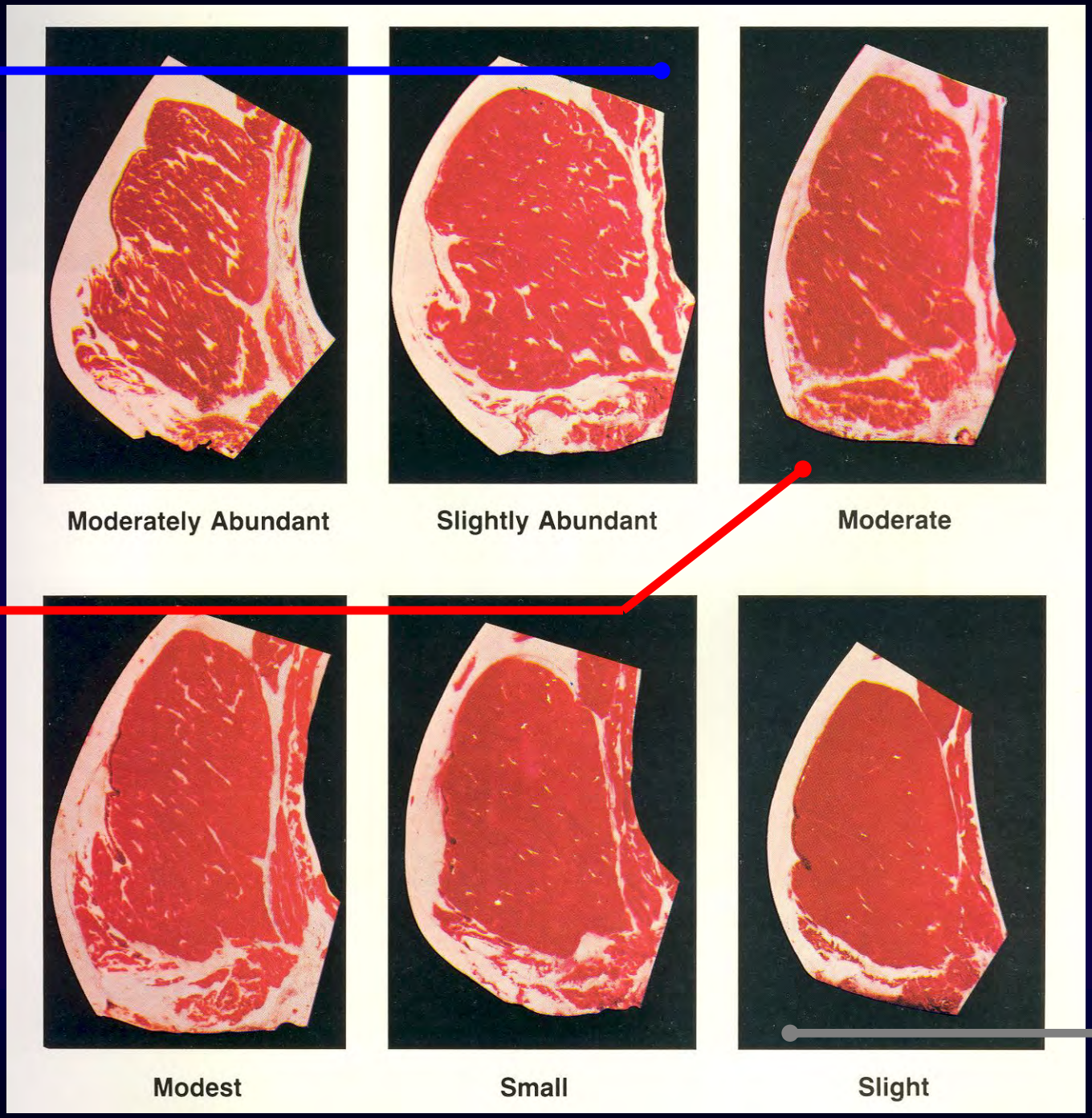
D-Maturity

USDA Quality-Marbling

- Marbling, or intramuscular fat flecks within the exposed ribeye area
- Usually the major factor determining quality grade



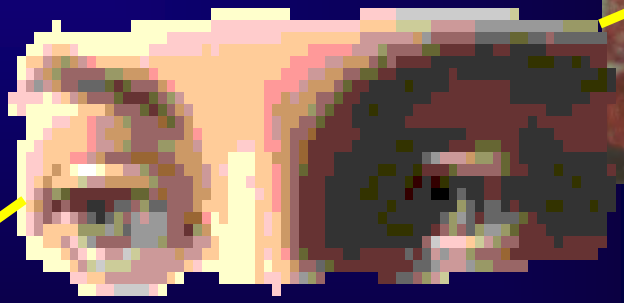
Flecks of fat within the encircled area


Prime
Choice
Select
Moderately Abundant
Slightly Abundant
Moderate
Modest
Small
Slight

Overall USDA Quality Grade

Modest Marbling

A-Maturity



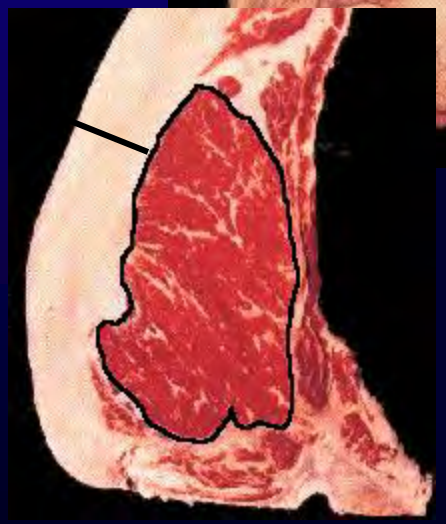
Average Choice

USDA Yield Grade

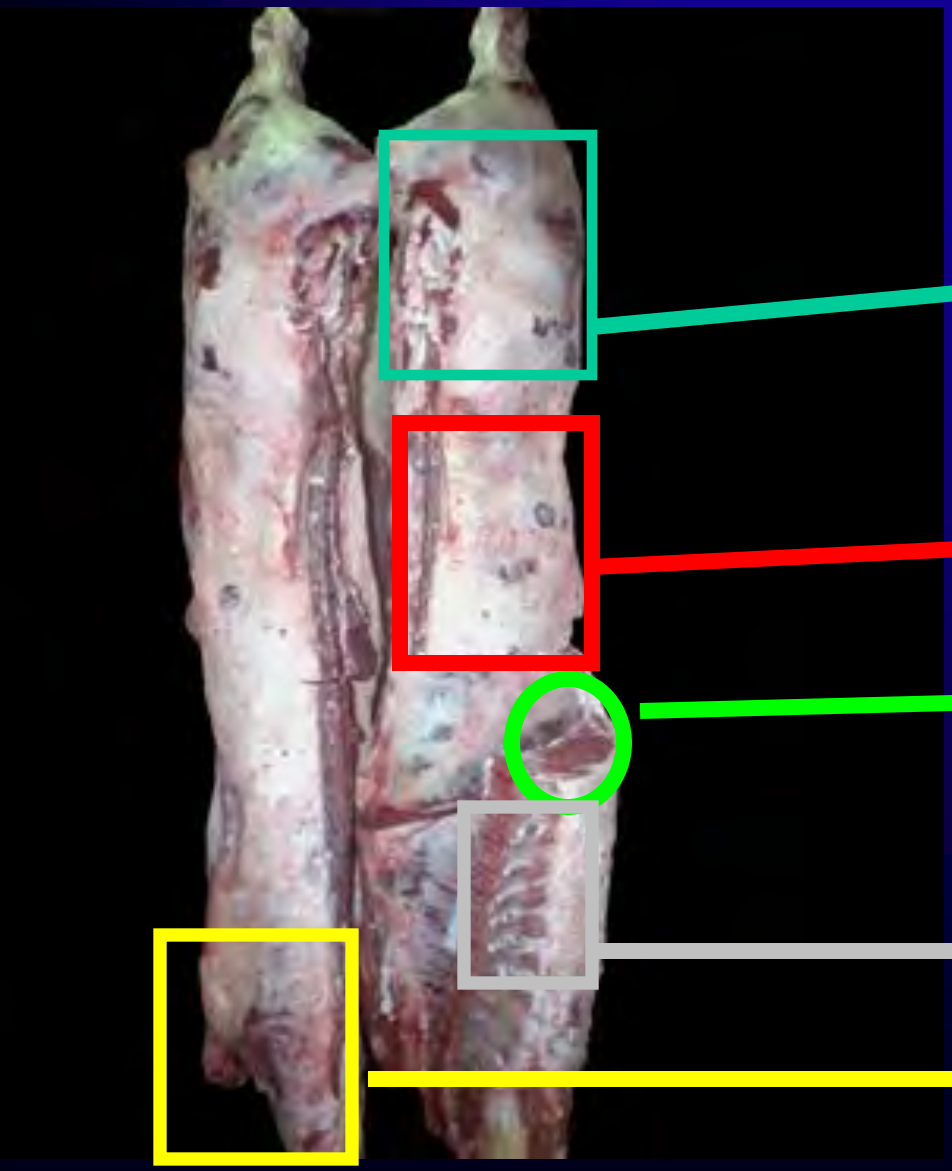
- What is meant by USDA Yield Grade:
  - Yield grades were developed to estimate the "Percent Boneless Closely Trimmed Rib, Loin, Chuck, and Round."
- This equation uses the hot carcass weight, ribeye area, back fat thickness, and percentage of Kidney, Pelvic, and Heart Fat (KPH).

USDA Yield Grades

- Predicting Carcass Cutability
  - Hot Carcass Weight (lbs)
  - Adjusted Fat Thickness (in.)
  - Ribeye Area (sq. in.)
  - % Kidney Pelvic and Heart Fat



Beef Carcass Anatomy



Round

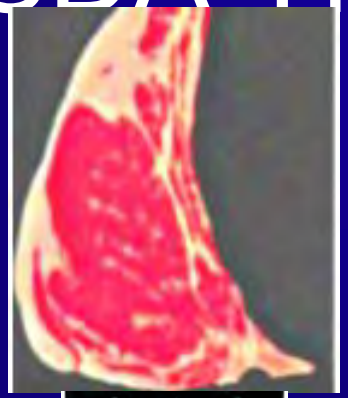
Loin

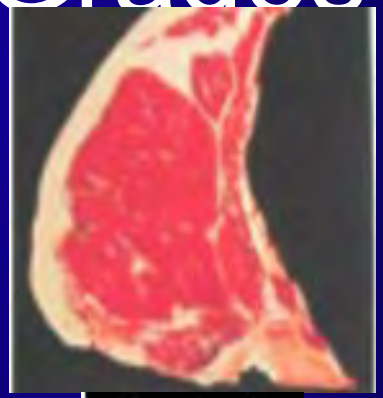
12th and
13th Rib

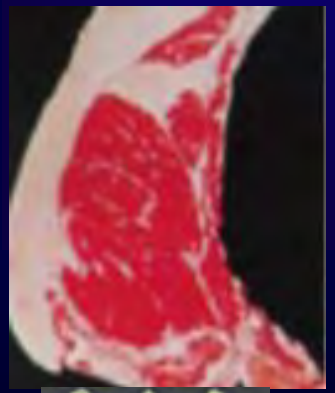
Rib

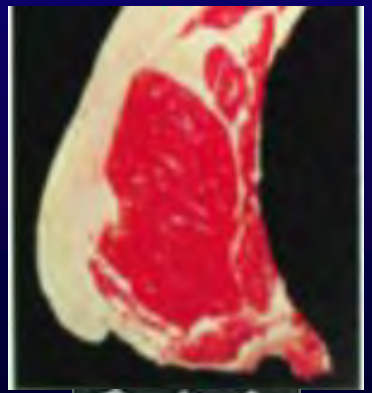
Chuck

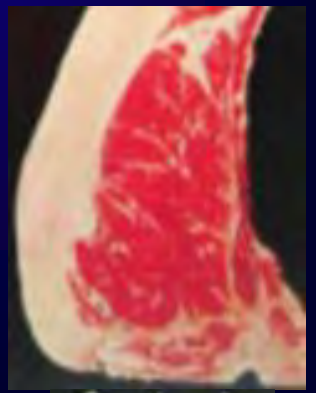
USDA Yield Grades











Percent Kidney, Pelvic, and Heart Fat (KPH)

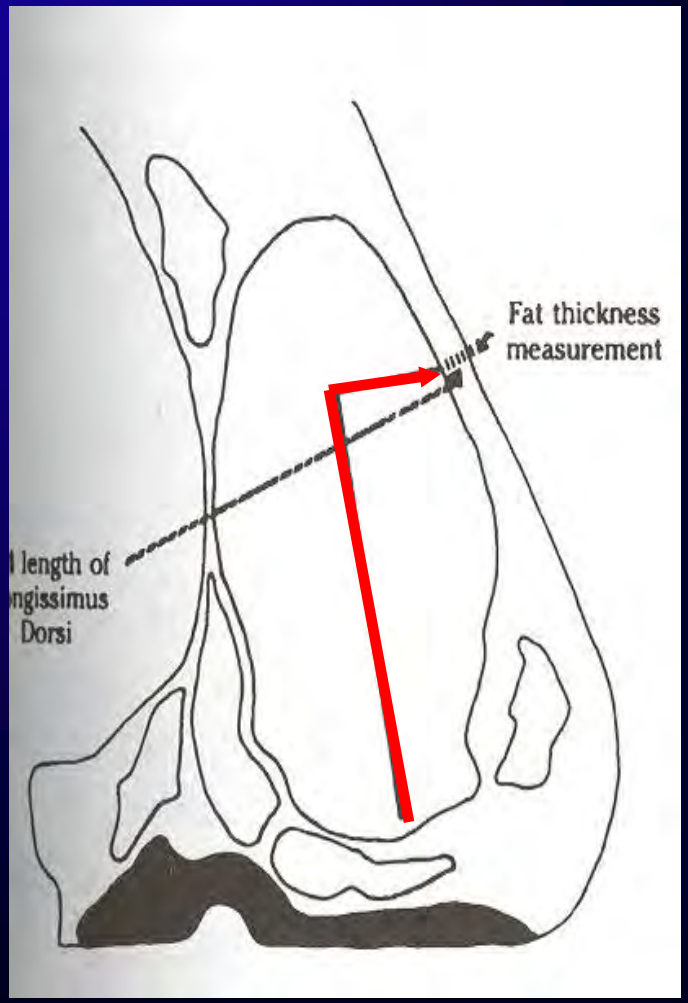
Pelvic Fat

Kidney Fat

Heart Fat

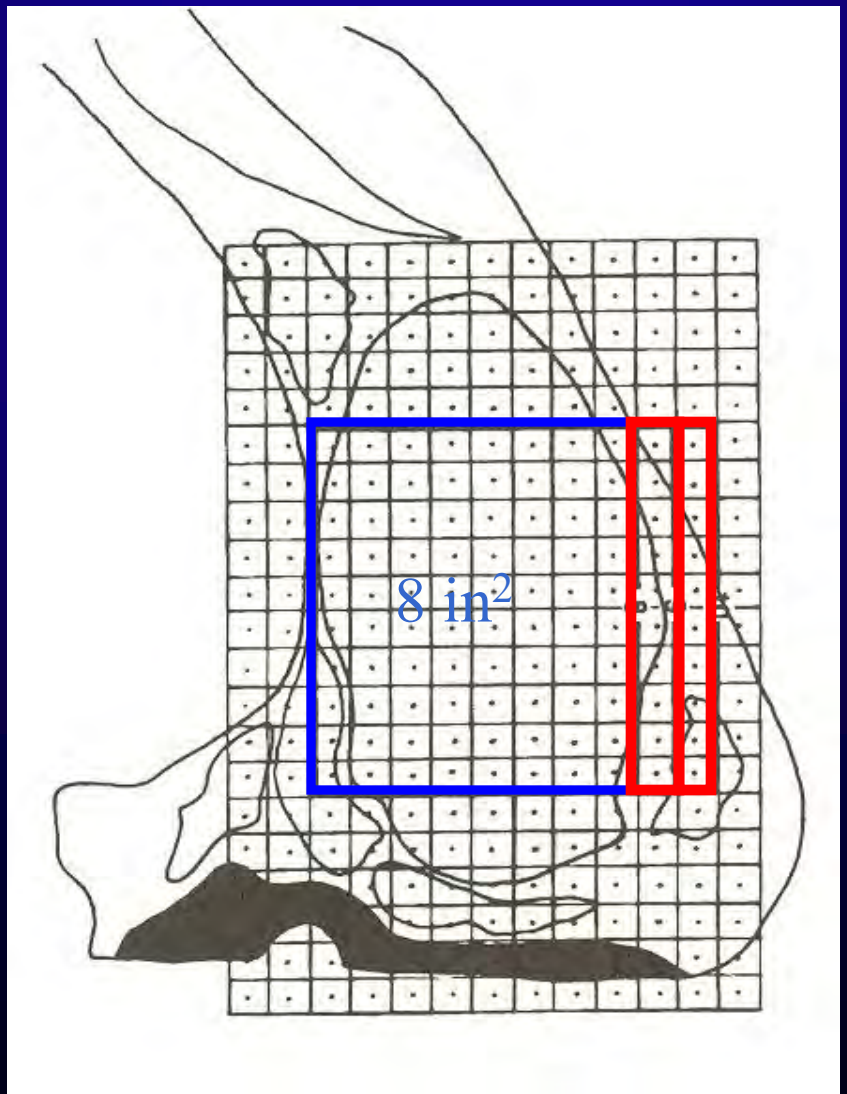
12th Rib Back Fat Thickness

¾ the length of the ribeye



12th Rib Ribeye Area

Each Square is a tenth of an inch

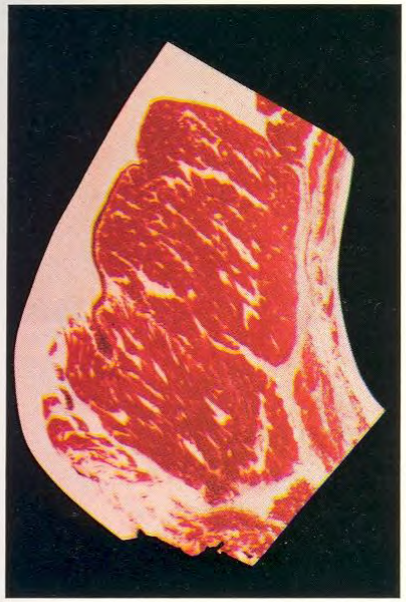


Beef Judging

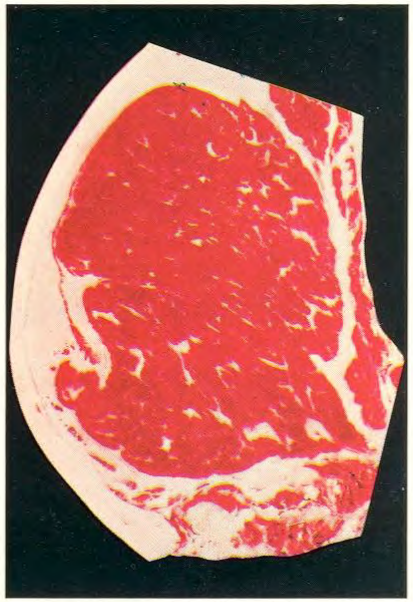
- Beef Carcasses
- Middle Meats (Ribs, Short Loins, Full Loins)
- Rounds

Beef Carcasses - emphasis

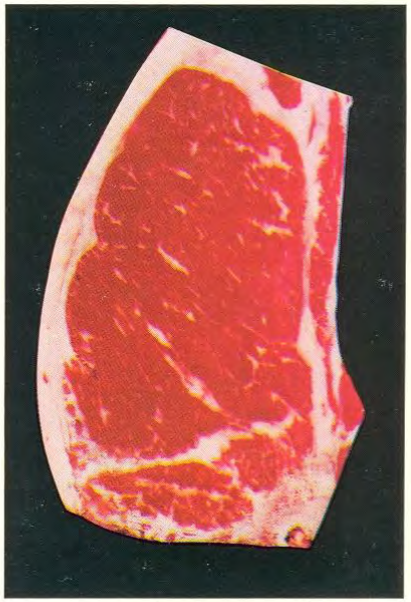
- Generally, ranked on value
  - Quality grade drives initial value
  - Value either stays consistent or not due to differences in cutability



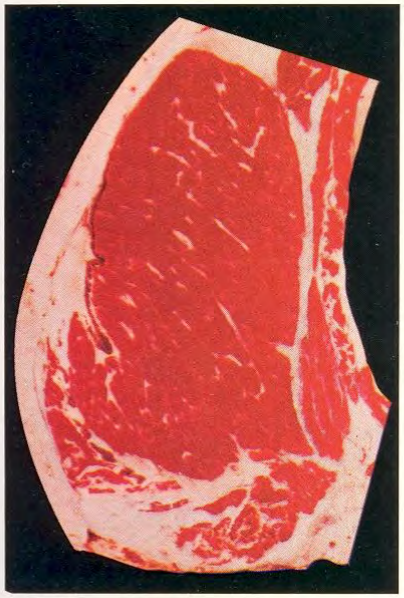
Moderately Abundant



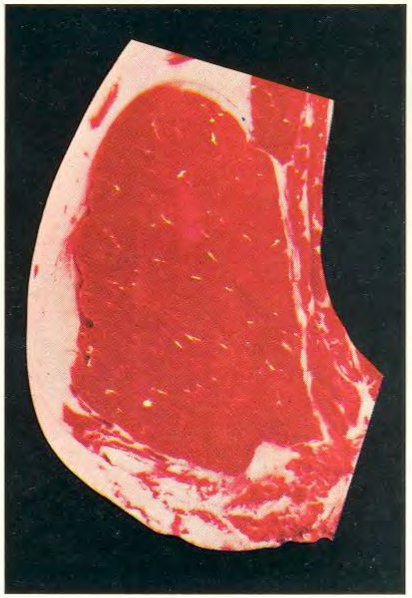
Slightly Abundant



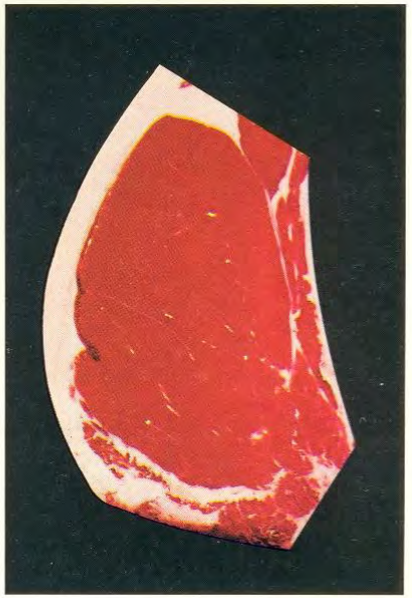
Moderate



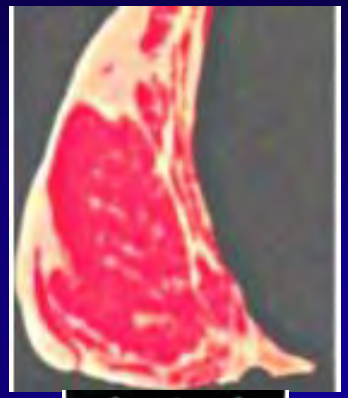
Modest

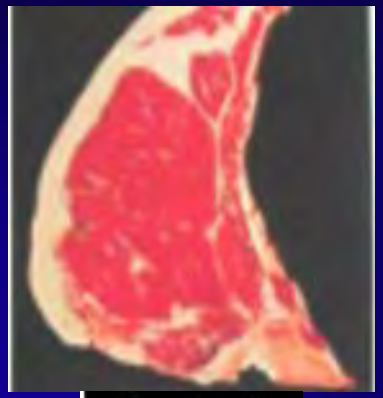


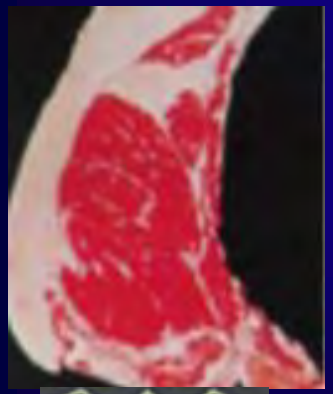
Small



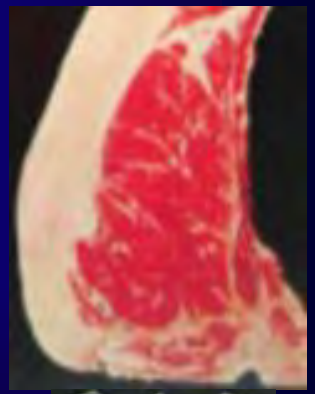
Slight


USDA
YIELD
1
GRADE


USDA
YIELD
2
GRADE


USDA
YIELD
3
GRADE


USDA
YIELD
4
GRADE


USDA
YIELD
5
GRADE

Beef Carcasses - emphasis

- Judges should recognize optimum levels of quality and cutability and understand how to balance traits
- Normally prefer Choice YG 3.5 or better carcasses over Select YG 1's or 2's
- However, Select carcasses will place over Choice is the choice carcass is YG 3.6 or higher

Beef Carcass-common decisions

- Common class:
  1 = Select YG 1 or 2
  1 = Choice YG 4
  2 = Choice YG 1's or 2's
- Select carcass places over YG 4 in the bottom pair due to superior cutability
- Top pair Choice carcasses are sorted based on subtle differences in cutabilit and or quality

Beef Carcass-common decisions

- Strict cutability class containing all Choice or all Select
- Quality class usually contains pairs similar in cutability but different in quality
- Additional scenarios
  - Trimness differences with similar muscling
  - Muscling differences with similar trimness
  - Fat, muscular carcass versus trim, thinly muscled carcass

Terminology

- Muscling
  - Ribeye
  - Round
  - Sirloin
  - Rib
  - Chuck
- Quality
  - Marbling, color
  - Texture, firmness
- Trimness
  - Ribeye
  - Round
  - Sirloin
  - Short loin
  - Loin edge
  - Rib
  - Chuck
  - KPH
  - Cod/udder

Beef Rounds - emphasis

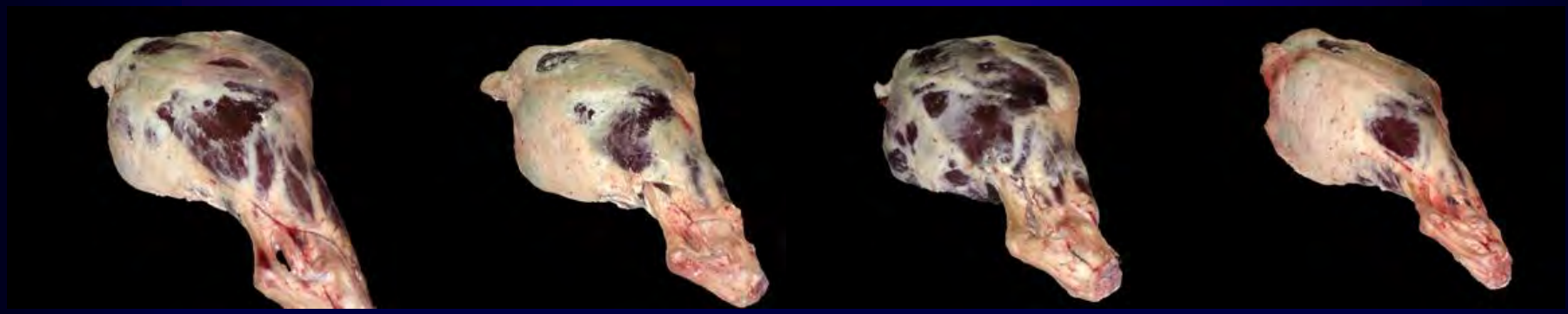
- Placed on trimness first then muscling (Cutability)
- Quality does not play a major role in ranking
  - Quality may be used in questions

Beef Rounds-common situations

- Similar in trimness and placed on muscling
- Similar in muscling, placed on trimness
- A combination of trimness and muscling

Terminology

- Muscling
  - Rump face
  - Knuckle face
  - Cushion
  - Center section
  - Heel
  - Shank
- Quality
  - Marbling, color, Texture, firmness
- Trimness
  - Round face
  - Cushion
  - Center section
  - Heel
  - Cod
  - Flank edge
  - Pelvic fat



Beef Ribs, Short Loins and Loins emphasis

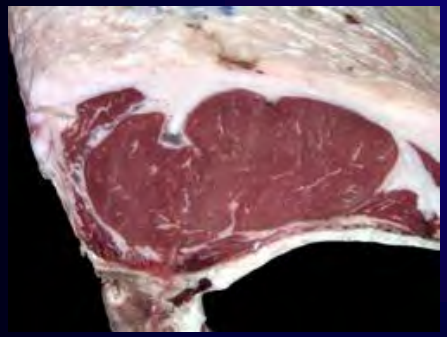
- Generally, placed on value
- However, no lower palatability endmeats (Rounds or Chucks)
- Quality is very important and is emphasized heavily

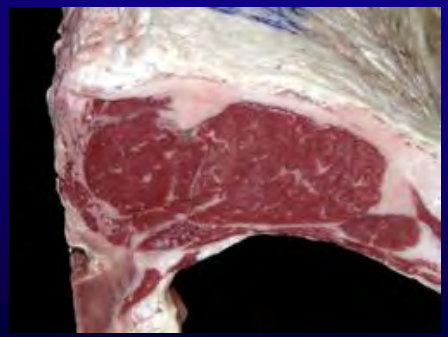
Beef Middle Meats– common situations

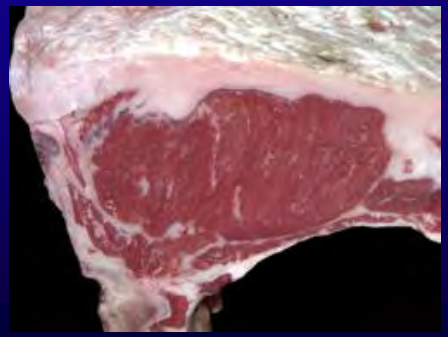
- A common class
  1 = Select YG 1 or 2
  1 = Choice YG 4
  2 = Choice YG 1 or 2's
- Most instances the Select places over the Choice YG 4 in the bottom pair and the top pair is sorted on subtle differences in cutability or quality

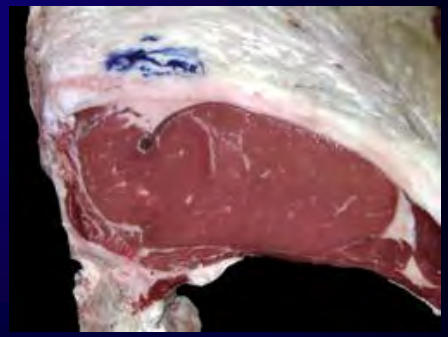
Beef Middle Meats– common situations

- Strict cutability class containing all Choice or all Select
- Quality class usually contains pairs similar in cutability but different in quality
- Additional scenarios
  - Trimness differences with similar muscling
  - Muscling differences with similar trimness
  - Fat, muscular carcass versus trim, thinly muscled carcass









Pork Judging

- Pork carcasses (un-ribbed and ribbed)
- Fresh Hams
- Fresh Center Loins

Pork Carcass Emphasis

- Unribbed Carcasses- Placed on cutability
- Greater emphasis on trimness than muscling
- Begin by ranking carcasses on overall trimness
- Examine each pair for differences in muscling.
  - A full degree of superior muscling compensates for 0.25 fat. Inferior muscling is synonymous with adding .25
- "Thin" muscle not eligible for US#1

Pork Carcass- Ribbed

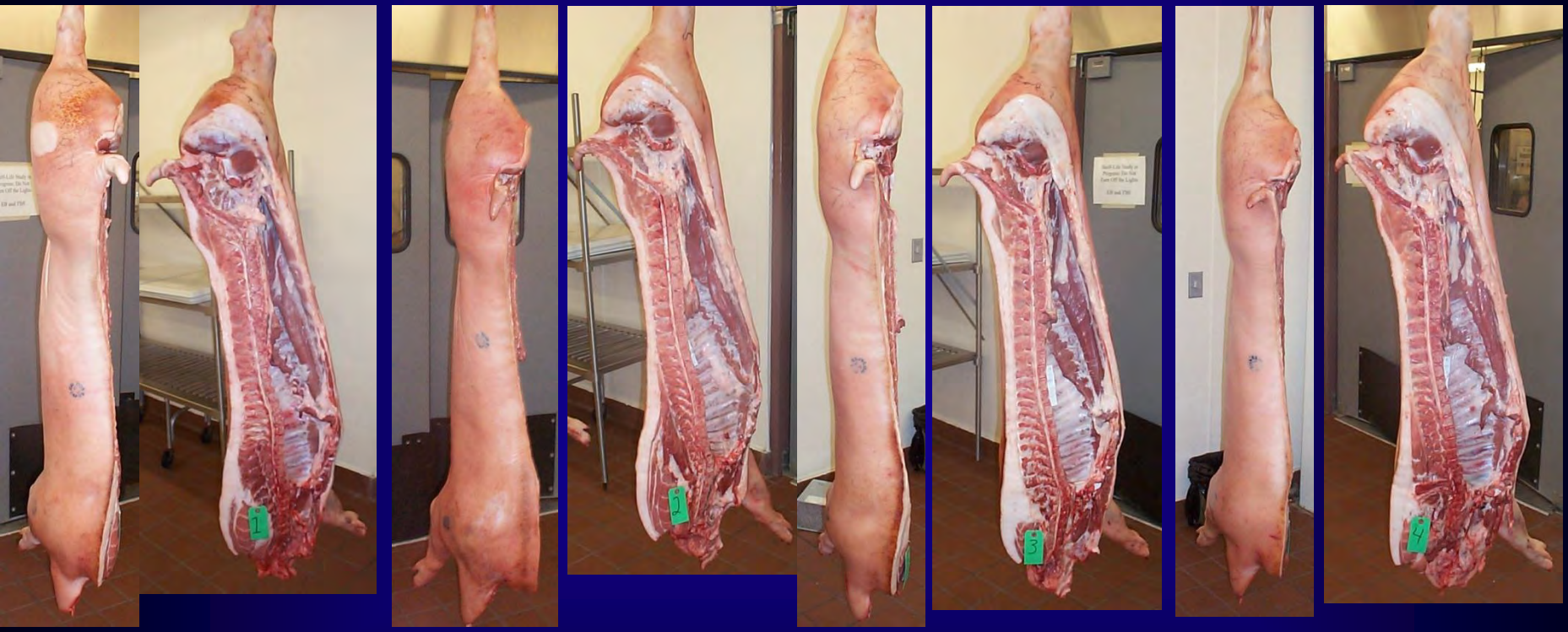
- Utilize fat depth and loin eye size in ribbed carcasses to assess percent muscle.
- Low quality (Pale, Soft, Exudative) pork carcasses should be severely penalized.

Common Situations for Pork Carcasses

- Strictly a cutability class
  - Trim, muscular ham
  - Trim, light muscle ham
  - Fat, muscular ham
  - Fat, light muscle ham
  - Any combination of the above

Pork Carcass Terminology

- Trimness
  - First rib, last rib, last lumbar vertebrae, loin edge, elbow pocket, collar, belly pocket, navel edge, sternum
- Muscling
  - Ham, sirloin, loin, shoulder


1
2
3
4

Fresh Hams

- Cutability is the main factor
- Trimness is generally the most influential factor
- Assess quality relative to acceptability for further processing

Common Situations for Hams

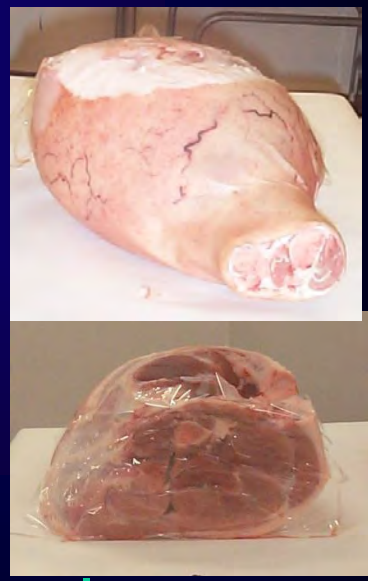
- Strictly a cutability class
  - Trim, muscular ham
  - Trim, light muscle ham
  - Fat, muscular ham
  - Fat, light muscle ham
  - Any combination of the above

Common Situations for Hams

- Similar in trimness, placed on muscling
- Similar in muscling, placed on trimness
- Quality problems
  - Pale, soft and exudative
  - Dark, firm and dry

Fresh Ham Terminology

- Trimness
  - Beneath the butt face, over the rump region, forecushion, collar (center section), cushion, seam
- Muscling
  - Butt face, cushion, center-section, forecushion
- Quality
  - Lean color, marbling, firmness, muscle separation, exudate




1
2
3
4

Fresh Center Loins

- Emphasis
  - Stronger quality emphasis than hams
  - If all acceptable in quality, then cutability still primary importance
  - Quality problems more severely discriminated against
  - Prototype PSE has no processing value

Fresh Center Loin Situations

- Quality problems
  - PSE
  - DFD
- Strictly a cutability class
  - Trim, muscular loin
  - Trim, light muscled loin
  - Fat, muscular loin
  - Fat, light muscled loin
  - Any combination of the above

Fresh Center Loin Situations

- Similar in trimness, placed on muscling
- Similar in muscling, placed on trimness
- Similar in trimness and muscling, placed on quality

Center Loin Terminology

- Trimness
  - Blade end, Lower rib, seam fat, back, sirloin end, tail region, seam fat
- Muscling
  - Blade end, loin eye, back, sirloin end, tenderloin
- Quality
  - Lean color, marbling, firmness, texture, exudation

Retail Cut Judging

- Must know what the cut is and what it is used for (Scenario?)
- Any cut from the loin, rib or rack
  - Quality more important
  - Outliers for cutability
- Any other cut
  - Primarily cutability

Retail Cut Judging

- Retail Purchase Intent
  - COLOR!!!
  - Packaging Attractiveness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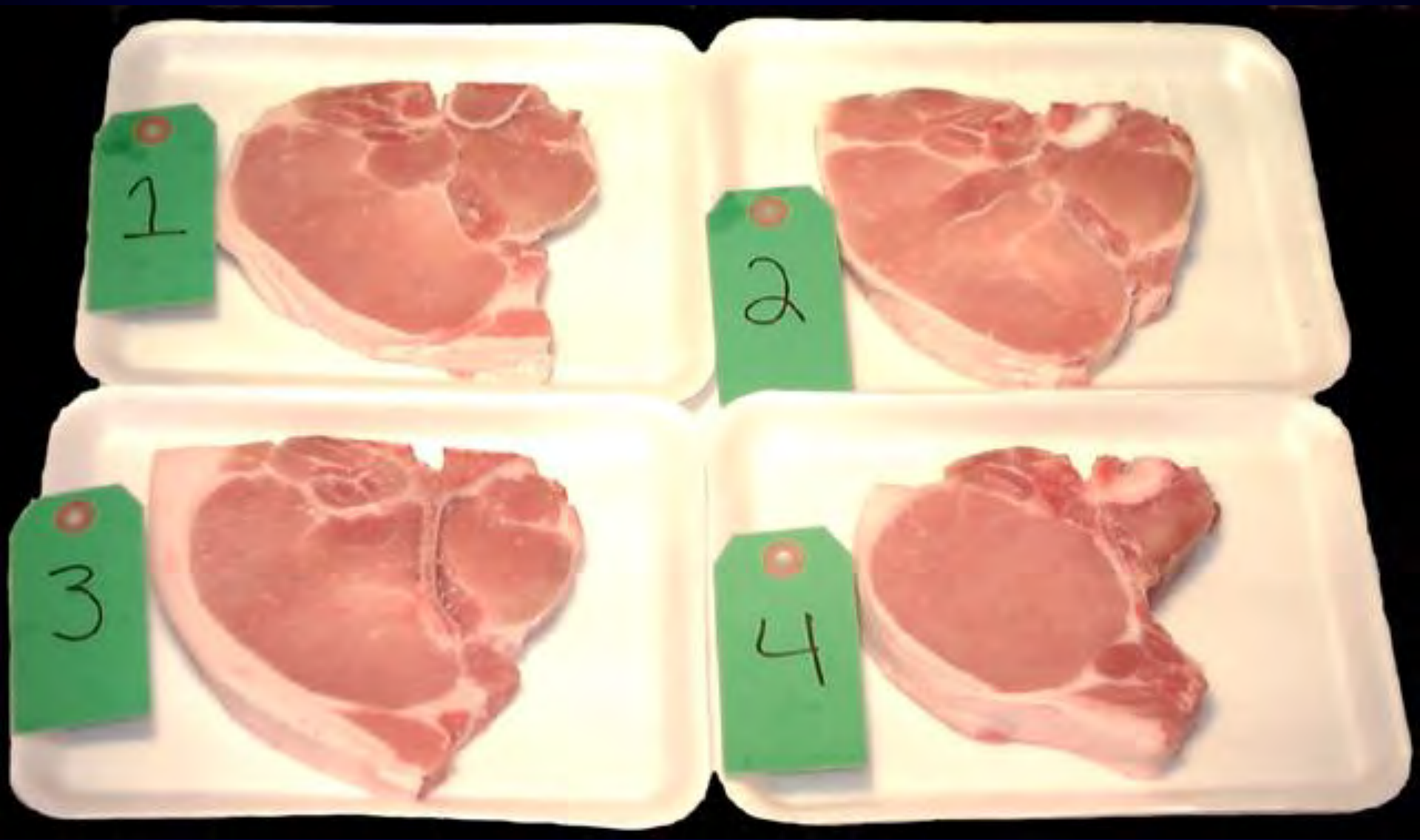
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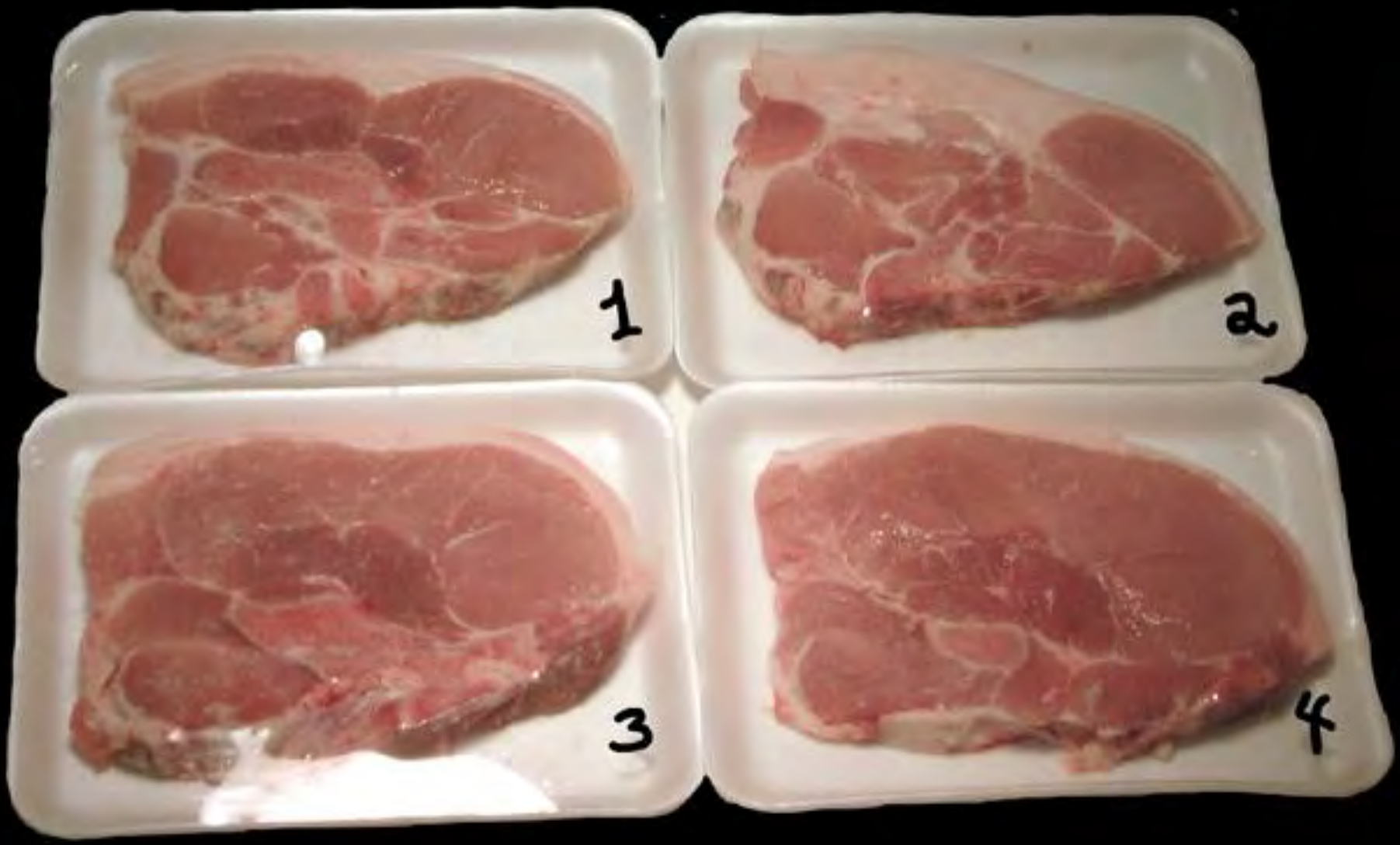
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