

## MIDDLE SCHOOL QUESTIONS

What is the difference between a primal and sub-primal cut of meat?

A primal cut (also known as wholesale cut) is the whole chuck or shoulder, rib whole loin or whole round, when the primal cut is divided into smaller sections usually by separating out major portions, sub-primal result, examples of sub-primal cuts of beef are the top round, whole tenderloin and rib eye.

Quality grade is a predictor of palatability or how desirable the meat is in flavor, juiciness and tenderness.

The factors used in beef quality grading are maturity and marbling evaluated at the 12<sup>th</sup> rib of the carcass.

Marbling is the fine spec of fat deposited within the muscle. It is also called inter-muscular fat.

The degrees of marbling that correspond with a quality grade are:

<u>Marbling</u>	<u>Quality Grade at A Maturity</u>
Traces (Tr)	Standard (St)
Slight (Sl)	Select (Se)
Small (Sm)	Low Choice (C-)
Modest (Mt)	Average Choice (Co)
Moderate (Md)	High Choice (C+)
Slightly Abundant (SAB)	Low Prime (P-)
Moderately Abundant (MAB)	Average Prime (Po)
Abundant (Ab)	High Prime (P+)

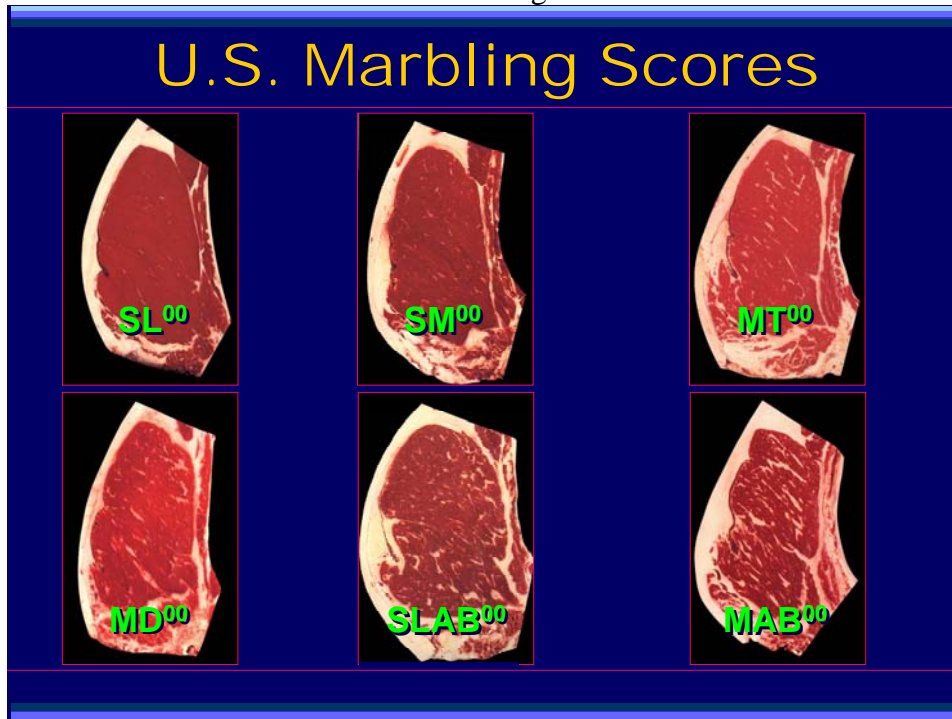
Maturity is an evaluation of the physiological age of the animal at the time of harvest.

Maturity scores and corresponding estimated chronological ages are:

Maturity Score	Estimated Age
A	9 to 29 months
B	30 to 42 months (2 ½ - 3 ½ years)
C	42 to 72 months (3 ½ - 6 years)
D	72 to 96 months (6 - 8 years)
E	Over 96 months (greater than 8 years)

Only carcasses with a maturity score of A or B can quality grade Prime, Choice, Select or Standard. Carcasses with a maturity score of C, D, or E with grade Commercial, Utility, or Cutter.

Below is the USDA standard for marbling Score

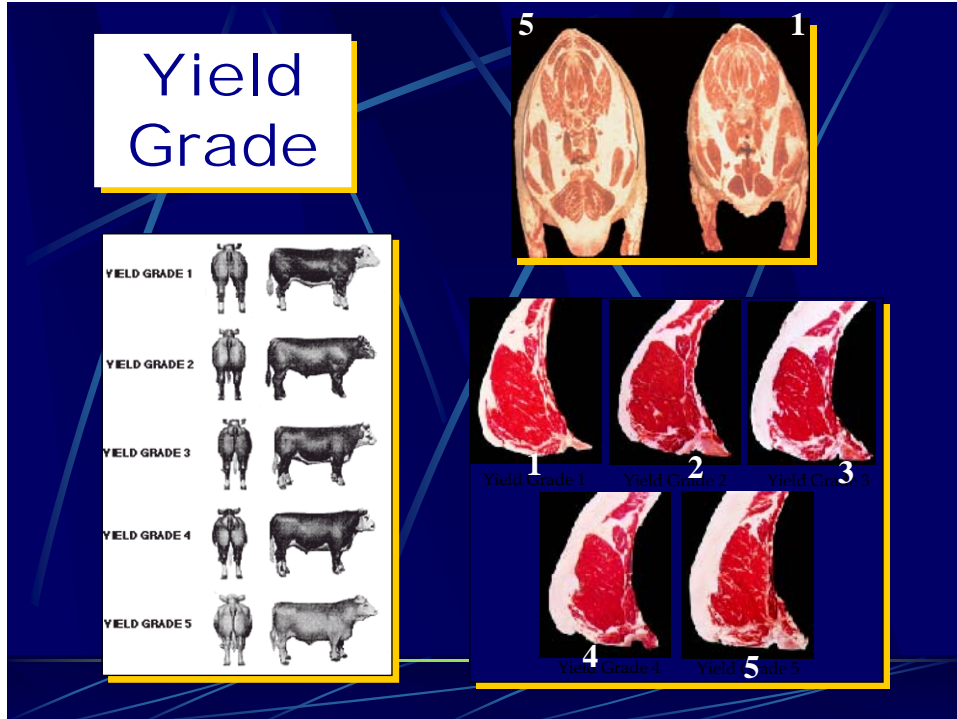


Yield grade is an estimation of the yield of boneless trimmed meat that will be derived from a beef carcass.

The Yield Grades are a numerical score from 1 to 5 with 1 being the leanest, highest yielding and 5 being the fattest, lowest yielding.

The factors used in yield grading are fat over the rib eye measured at the 12<sup>th</sup> rib, rib eye area also measured at the 12<sup>th</sup> rib, carcass weight and kidney, pelvic and heart fat (KPH).

What quality grades of beef are usually found in retail markets?  
Choice and Select.



Fat over the rib eye is used to establish a preliminary yield grade. The more fat over the rib eye, the higher the yield grade. Of all the yield grade factors fat has the most impact on final yield grade.

Fat over the rib eye	Preliminary yield grade	Fat over the rib eye	Preliminary yield grade
.1	2.25	.5	3.25
.2	2.50	.6	3.50
.3	2.75	.7	3.75
.4	3.00	.8	4.00

Necessary rib eye area is based on carcass weight. Rib eye areas smaller than required by a carcass weight results in increasing the yield grade. If rib eye is larger then the yield grade is lowered.

Percent of carcass weight in kidney, pelvic and heart fat (KPH) have a negative impact on carcass yield. The higher the percent of KPH the higher the yield grade. A carcass with 3 ½ percent KPH results in no adjustment to the final yield grade.

When judging beef primals or sub-primals from the rib and loin emphasis is placed on quality (marbling and color). However, when placing beef rounds more consideration is given to cutability.

What grades of beef are usually found in retail meat markets?  
Most often USDA Choice, however, USDA Select may also be found.

What is a dark cutter?  
A dark cutter refers to the dark appearance of the lean in some beef carcasses. This usually results from long times of stress.

What percent of the beef in the United States grades USDA Prime?

About 5% of which a vast majority is sold through “White Table Cloth” restaurants such as Ruth’s Chris Steak House.

What is the difference between USDA graded beef and USDA Inspected beef?

Graded beef only pertains to the palatability and cutability of the meat. It is a voluntary service that a packer can choose to participate. However, the packer must pay the USDA for this service.


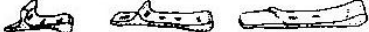


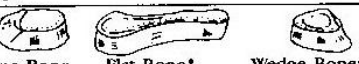


Inspected beef only signifies if the meat is wholesome. It gives no indication of the palatability or yield of the meat. Inspection is mandatory and is paid for by tax dollars.

Is there a simple way to recognize the many cuts of meat?

Many cuts are named after bone structure. All species have the same basic bone structure.

Many of the modern cuts are boneless, therefore, muscle color, size and texture must be used.

### BONES IDENTIFY SEVEN GROUPS OF RETAIL CUTS

<b>Shoulder Arm Cuts</b>	 Arm Bone
<b>Shoulder Blade Cuts</b> (Cross Sections of Blade Bone)	 Blade Bone (near neck)    Blade Bone (center cuts)    Blade Bone (near rib)
<b>Rib Cuts</b>	 Back Bone and Rib Bone
<b>Short Loin Cuts</b>	 Back Bone (T-Shape) T-Bone
<b>Hip (Sirloin) Cuts</b> (Cross Sections of Hip Bone)	 Pine Bone (near short loin)    Flat Bone* (center cuts)    Wedge Bone† (near round)
<b>Leg or Round Cuts</b>	 Leg or Round Bone
<b>Breast or Brisket Cuts</b>	 Breast and Rib Bones

\*Formerly part of “double bone” but today the back bone is usually removed leaving only the “flat bone” (sometimes called “pin bone”) in the sirloin steak.  
 †On one side of sirloin steak, this bone may be wedge shaped while on the other side the same bone may be round.

	Lamb	Beef	Pork
Color	Dark red	Cherry red	Grayish pink

Size	<b>BEEF</b> is larger than <b>PORK</b> which is larger than <b>LAMB</b>
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Why is identification of bone shape and cut important when buying meat?

They give an indication of the location on the carcass where the cut of meat originated. Cuts from the middle section along the back (rib and loin) are generally more tender than those from the shoulder or leg. This will allow the proper cooking method to be applied to each cut.

What information can be obtained from a uniform identity label?

The kind of meat (specie) such as beef, pork or lamb

The primal (wholesale) cut that the cut originated from. Examples are round, loin, rib, chuck, shoulder, leg, ham.

The retail name such as T-bone, Top Loin Chop, American Style Leg

What is aged meat?

Aged meat is allowing a carcass or primal to undergo a delay prior to fabrication. The purpose of aging is to enhance tenderness and flavor. Industry standard is 14 days minimum while some primals such as the loin or rib can be aged up to 28 days in a controlled environment.

Most aged meat is high quality and therefore sold in upscale steak houses.

What is a fresh ham?

A fresh ham is a misnomer under the guidelines of the Uniform Retail Meat Identity Standards. The name is Pork Leg which implies it has not been cured and smoked. When curing and smoking are applied to the fresh leg it is now labeled Ham.

What is the rack of lamb?

It is the un-split portion of the lamb carcass including ribs 6 through 12. Splitting the rack yields to lamb rib roast.

What primal is the Pork Blade Boston Butt derived?

It is derived from the pork shoulder.

What does the date on a package of meat mean?

It may be either the date the meat was packaged or the last date that freshness is guaranteed for freshness.

What is meant by vacuum packaging of meat?

Vacuum packaging removes the air from the meat thus preventing some bacteria from growing. The process has two advantages which are extending the storage time of the meat and reducing moisture loss.

Why is the color of vacuum packaged meat dark?

Muscle color depends on the amount of oxygen present. Beef muscle in the presence of oxygen in the air will be bright cherry red. Without oxygen the meat will turn dark purple. When vacuum packaged meat is opened and exposed to the oxygen in the air it will turn bright red again. This is called blooming.

How long can meat cooked at home be kept refrigerated?

Home cooked meats can be stored 3 to 5 days in a tightly wrapped package. After this length of time flavor changes may occur due to chemical changes in the meat or bacteria will begin to grow.

Should cooked meats cool to room temperature before placing in a refrigerator?

No, meat should be refrigerated immediately. Many bacteria that cause illness grow best at room temperature.

What temperatures should meat be cooked?

Meat should be cooked at a lower temperature. Cooking at high temperature is detrimental to tenderness. The lower the temperature the less negative impact cooking will have on tenderness. Overcooking meat also has a negative impact on meat tenderness, and juiciness.

What range in temperature should meat be stored?

Meat should be kept at temperatures less than 40°F and 140°F. Most harmful bacteria will not grow outside this range. Remember to keep it hot or cold.

What is BSE?

BSE is Bovine Spongiform Encephalopathy also known by the slang term “Mad Cow Disease” is a neurological disorder of cattle. Only two cases have been found in United States born cattle and neither have been associated with cattle that were slaughtered in an inspected meat facility.

What is Foot and Mouth Disease

A highly contagious viral disease that affects animals with cloven hooves such as cattle, sheep and swine. It does not affect humans even though they can be carriers of the virus on their clothing or equipment.

Irradiated Meat is it safe?

There is no residual radiation nor harmful chemical changes associated with irradiated meat. It is approved for all raw meats and some uncooked sausages. Meat that has been irradiated must state that on the label.