



Junior Stockman's Club

GARY D. FIKE

COUNTY EXTENSION DIRECTOR

What Is This All About?

- ▶ Learn more about livestock projects (nutrition, selection, management) through fun and learning activities
- ▶ Help build skills that you will use in your projects through knowledge learned
- ▶ Discover more about other species that you do not show
- ▶ Find out more about the commercial industry
- ▶ Understand the economics of your projects
- ▶ Quiz bowls to improve your command of livestock knowledge
- ▶ Career ideas for you in your future!
- ▶ Have fun!

Build Around Major Livestock Species

- ▶ Beef
 - ▶ Sheep
 - ▶ Swine
 - ▶ Market Goat
- ▶ Nutrition, what to feed, how much, feed i.d., rate of gain, target gain, feed efficiency, what is the right weight for a market animal?
 - ▶ Management – target dates for breeding females, for market livestock,
 - ▶ Meat cut identification, judging, evaluation
 - ▶ Care – health, vaccines, treatments
 - ▶ Selection/evaluation/appraisal
 - ▶ Quality Assurance
 - ▶ Economics – how much did your project cost? How much will you get, less premium money?

1st Activity – Breed I.D.

- ▶ Swine Breeds – Duroc, Hampshire, Berkshire, Yorkshire, Landrace, Hereford, Poland China, Spot, etc.
- ▶ Sheep Breeds –
 - ▶ Meat Type – Hampshire, Suffolk, Dorset
 - ▶ Fine Wool Type – Rambouillet, Merino, Lincoln, etc.
- ▶ Goat Breeds (meat)
- ▶ Beef Breeds
 - ▶ Continental – Simmental, Charolais, Chianina, Maine Anjou, Gelbvieh, etc.
 - ▶ English – Hereford, Angus, Red Angus, Shorthorn
 - ▶ Bos indicus cattle – Brahman and Zebu-type breeds and composites



First Exercise: English Breeds of beef cattle – Bos taurus



- ▶ Hereford
- ▶ Brought to U.S. from England in 1843 to Kentucky for statesman Henry Clay's Kentucky farm.
- ▶ Red with white face, underline/belly, white tail switch.
- ▶ 2nd largest breed registry in U.S.
- ▶ Docile

English Breeds of Beef Cattle



- ▶ Red Angus
- ▶ Same cattle genetically, as Angus, but different hide color and have their own breed association (Commerce City, Colorado).
- ▶ Fourth largest breed registry in the U.S.
- ▶ Solid red in color.
- ▶ Known for docility, quality of beef, and maternal traits (calving ease, milk, etc.)

English Breeds of Beef Cattle



- ▶ Angus
- ▶ Largest beef breed in the U.S. in terms of registration numbers. Headquarters in St. Joseph, MO.
- ▶ Solid black, polled (no horns)
- ▶ Came from Scotland to the US (Victoria, Kansas) in 1873; imported by George Grant.
- ▶ Known for meat quality and maternal traits.

English Breeds of Beef Cattle



- ▶ Shorthorn
- ▶ May be red, white, or roan (mixture of red and white hairs).
- ▶ Minor breed in the U.S.
- ▶ Came from England in 1783 to Virginia; known as "Durham" or "Durham Reds" for a period of time.
- ▶ Headquarters in Kansas City, MO.
- ▶ Known for high quality meat and milking ability (a line of milking Shorthorns exists in the dairy industry).

Continental Breeds of Beef Cattle



- ▶ Simmental
- ▶ Originated from Switzerland. Semen imported into the US in 1971. Third largest breed registry in the US. Headquarters in Bozeman, Montana.
- ▶ Large framed, heavy boned, heavy muscled cattle; used for both meat and milk in Europe.
- ▶ Cattle originally yellowish to red with white markings. Simm-Angus may be either mostly black or red.
- ▶ Twinning is more common in Simmentals than other breeds.

Continental Breeds of Beef Cattle



- ▶ Charolais (pronounced SHAR-lay)
- ▶ From France. Imported to the US in 1934 via Mexico.
- ▶ All white, heavy muscled, lean, growth, and heavy boned cattle. Limited marbling for beef quality unless crossbred with English breeds.
- ▶ Fifth largest breed registry in the US.

Continental Breeds of Beef Cattle



- ▶ Gelbvieh (pronounced GELP-fee)
- ▶ From Germany, imported to the US in
- ▶ Heavy muscled, lean cattle, originally solid, yellowish-red in color. "Balancers" are a composite between Angus/Red Angus and Gelbvieh.
- ▶ Females in this breed known for reaching puberty very early in life, at 5-6 months sometimes.

Continental Breeds of Beef Cattle



- ▶ Limousin (pronounced like a limousine you drive!)
- ▶ Originally from France, came to US in
- ▶ Solid red in color; wide muzzle
- ▶ VERY heavy muscled cattle
- ▶ Crossed with Angus, known as Lim-Flex
- ▶ Meat is lean, not much marbling

Continental Breeds of Beef Cattle



- ▶ Maine-Anjou (MANE- anjoo)
- ▶ From France, red and white spotted cattle.
- ▶ Definitely have one of the more desirable phenotypes, but commercially are not widely used.



Continental Breeds of Beef Cattle



- ▶ Chianina – pronounced KEY-uh-NEEN-uh
- ▶ From Italy
- ▶ HUGE frame scores on the purebreds, which are white to gray in color.
- ▶ Crossed with Angus to be known as ChiAngus
- ▶ Minor breed, commercially; big in the show ring.

Continental Breeds of Cattle



- ▶ Salers (pronounced SAY-leer)
- ▶ Originally this breed is from France
- ▶ Imported to US in 1972
- ▶ Noted for easy calving and mothering ability
- ▶ May also be black, but they were originally dark red in color

Beef Breeds – other – Bos indicus



- ▶ Brahman
- ▶ Gray/silver with darker points, may also be red
- ▶ Originated from Zebu cattle from India to become the American Brahman
- ▶ Loose hide, insect, disease and heat-resistant; utilized in hot climates along the Gulf coast in the US

Beef Breeds - other



- ▶ Santa Gertrudis
- ▶ Developed by the King Ranch, Kingsville, TX
- ▶ $\frac{3}{8}$ ths Brahman x $\frac{5}{8}$ ths Shorthorn
- ▶ With Brahman influence, gets heat, insect and disease resistance; this breed primarily found in the southern US
- ▶ Breed recognized by USDA in 1940 and breed association founded in 1951
- ▶ Considered a minor breed with fewer than 5,000 head registered

Beef Breeds - Other



- ▶ Brangus
- ▶ 5/8th Angus; 3/8th Brahman
- ▶ Angus breeding offers more carcass quality; Brahman added longevity and parasite resistance
- ▶ Brangus cattle were developed and breed association formed in the US in 1949. Headquarters is in San Antonio, TX

Beef Breeds - other



- ▶ Beefmaster
- ▶ Composite breed made of up of $\frac{1}{2}$ Brahman, $\frac{1}{4}$ Hereford, and $\frac{1}{4}$ Shorthorn cattle.
- ▶ Developed by the Lasater Ranch in Texas in early 1900's by crossing Brahman bulls on Hereford x Shorthorn COWS
- ▶ Milk, conformation, carcass and disposition all stressed in selection
- ▶ Cattle survive well in the southern US

Beef Breeds - other



- ▶ Wagyu – (pronounced Why-goo)
- ▶ Origin – Japan
- ▶ Very high marbling, high quality beef
- ▶ Finer boned and lighter muscled than most beef breeds; slow growth rate
- ▶ The beef from Wagyu cattle is served in finer restaurants and is often very highly priced.
- ▶ Have been crossbred with other beef breeds to add muscle and bone

Beef Breeds - other



- ▶ Texas Longhorn
- ▶ Derived from escaped cattle from Spanish explorers. First cattle driven north from Texas to Kansas railheads
- ▶ Noted for easy calving
- ▶ Noted for horn span
- ▶ Color is predominantly red and white spotted or patches of color; some may be black

Now let's see how many you can remember!

- ▶ Breed identification exercise
- ▶ From your sheet, put the number of the picture by the breed name on the sheet
- ▶ No cheating! No looking!

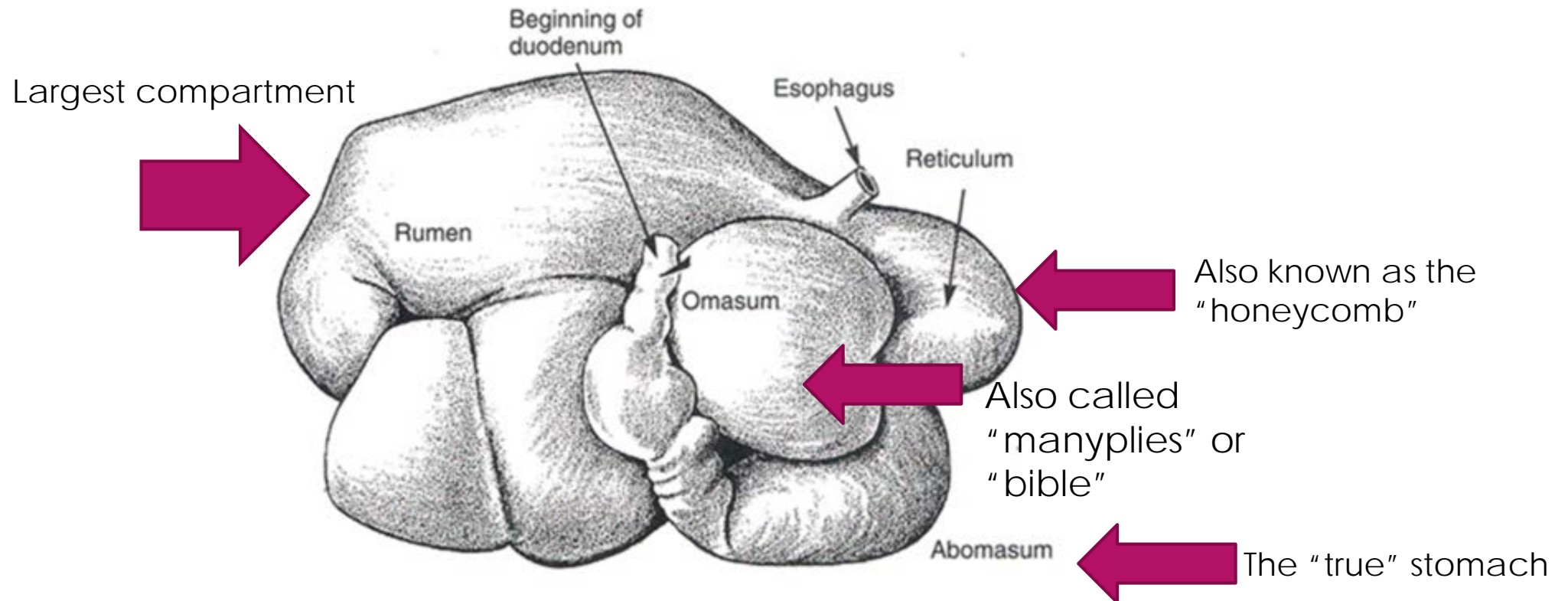
Nutrition: Facts About Cattle

- ▶ Cattle are known as having what type of digestive system? Monogastric or ruminants?
- ▶ How many compartments does a ruminant animal have? 2, 4, 6, or 8? Can you name them?
- ▶ What is the name of the largest stomach compartment?
- ▶ How much feed per day would you expect a 1,200 lb cow eat? 2 lbs, 10 lbs, 30 lbs, 90 lbs?
- ▶ How much would a 600 lb steer eat? 2-3 lbs, 5-7 lbs, 15-18 lbs, 25 lbs PLUS?
- ▶ What is the most common grain fed to feedlot cattle? Wheat, corn, milo, or oats?
- ▶ Name five things you can feed cattle.

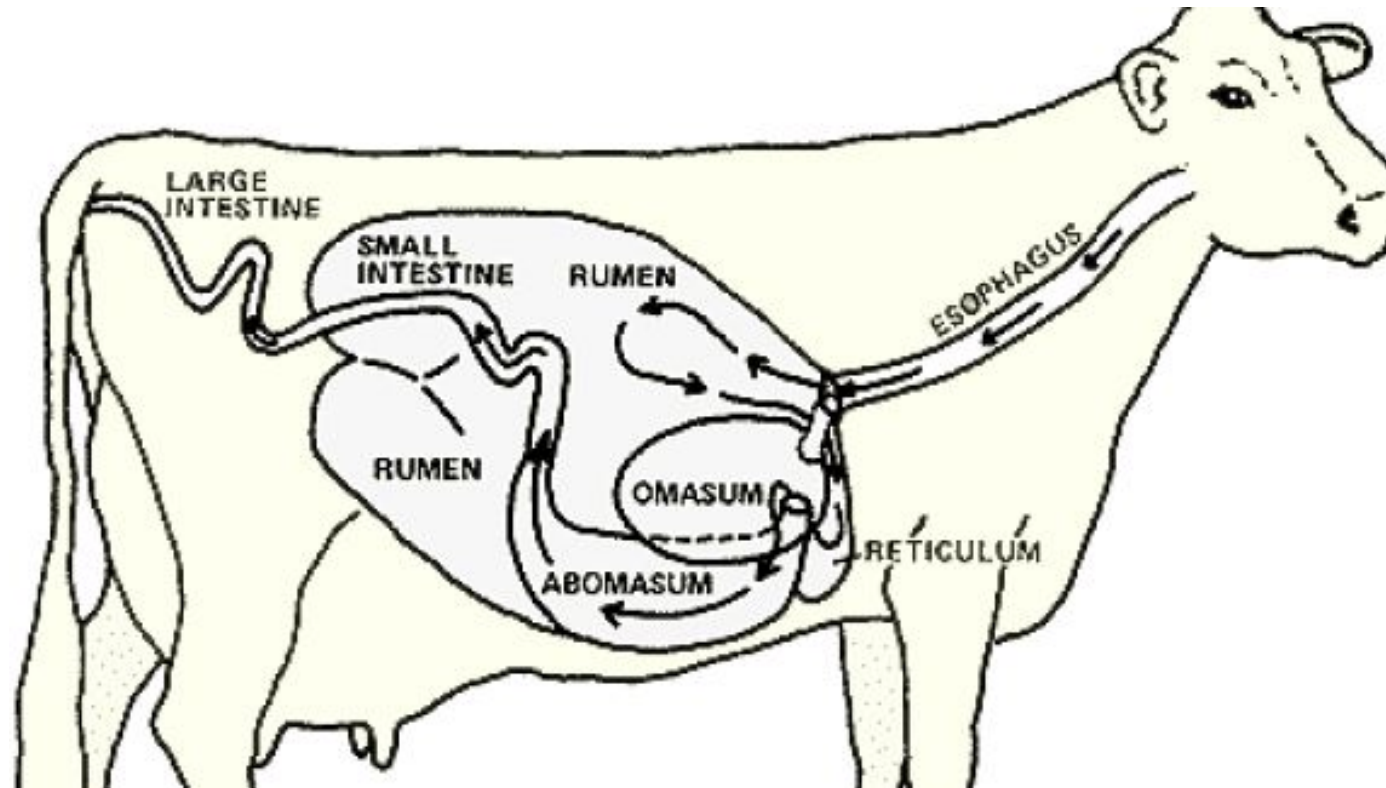
Nutrition: Facts About Cattle

- ▶ Cattle are known as ruminants. Pigs, horses, dogs, cats, humans are known as monogastrics.
- ▶ There are four compartments in the ruminant digestive system: reticulum, rumen, omasum, and abomasum.
- ▶ The rumen is the largest compartment. Sometimes called the “paunch”, this allows the animal to break down and digest fiber (hay, grass, roughages)
- ▶ A 1,200 lb beef cow will generally eat 25 to 35 lbs of feed/day, but it depends upon the quality of the forage.
- ▶ A 600 lb steer should eat 15-18 lbs of feed per day.
- ▶ Corn, milo, oats, alfalfa, prairie hay, brome hay, straw, fescue, and any manner of other feeds like distiller’s grains, dried distillers grains, corn gluten feed, corn gluten meal, etc.

The Ruminant Digestive Tract



The Ruminant Digestive Tract



Feed Identification - #2 Yellow Corn



- ▶ Number 1 feed grain in the U.S. is #2 Yellow corn.
- ▶ U.S. grows 12-15 billion bushels per year; Iowa #1 state followed by Illinois then Nebraska; Kansas is #6
- ▶ Many uses: livestock feed, ethanol production, sweetener, co-product feeds
- ▶ 56 lbs per bushel; 8-10% protein, high in energy
- ▶ Grown in every state in the union

Feed Identification - Oats



- ▶ Oats – cereal grain, planted in the early spring, harvested in early-mid-summer.
- ▶ 32 lbs per bushel; protein 11-14%
- ▶ Highly fibrous, good for horses, and growing calves; hull is 25-30% of the weight
- ▶ Low in energy than corn, milo, or wheat
- ▶ Most farms used to grow a few acres of oats; not many anymore
- ▶ South Dakota, Minnesota, Wisconsin top three states

Feed Identification - Wheat



- ▶ Hard red winter wheat
- ▶ Kansas #1 state in production
- ▶ 60# per bushel; 10-12 % protein, high energy; similar to corn
- ▶ Higher in protein than corn
- ▶ Used mostly for bread production
- ▶ Other types of wheat for noodles and pasta, other foods
- ▶ Fed to livestock in limited quantities
- ▶ Highly fermentable, can cause digestive upsets if fed in too high of quantities

Feed Identification – Milo or Grain Sorghum



- ▶ Milo, also known as grain sorghum is primarily used as feed for livestock and for ethanol production
- ▶ Kansas #1 state in milo production by far, with Texas as a distant #2
- ▶ 56 lbs/bushel
- ▶ Hard seed coat, must be ground or flaked to be digested by livestock
- ▶ 10% crude protein, similar to corn in energy content

Feed Identification - Soybeans



- ▶ Generally do not feed soybeans whole to animals, but they can be.
- ▶ High in oil content (20%), which is used for cooking, baking, in biodiesel and in some plastics, paints, varnishes
- ▶ Soybean meal (80%) is used as a protein supplement in beef and swine diets

Feed Identification – Soybean meal



- ▶ Co-product of soybean oil production; used for cooking oil and food production
- ▶ High in protein; 44-48% protein
- ▶ Mixed with a lot of swine and beef cattle diets
- ▶ 85% of the soybean crop is crushed for oil and meal

Feed Identification – Dried Distillers Grains



- ▶ A by-product of corn or milo, usually
- ▶ Left over after alcohol is removed to make ethanol blended with gasoline
- ▶ Very palatable feed; fairly high in protein and in fiber

Feed Identification – Prairie Hay



- ▶ Prairie hay, or native hay consists of a mixture of native grasses
- ▶ Included: big bluestem, little bluestem, Indiangrass, sideoats grama, buffalograss, and switchgrass
- ▶ Low in protein, high in fiber, best suited for beef cow diets

Feed Identification - Bromegrass hay (Smooth brome)



- ▶ Bromegrass is a “tame” grass – cool season grass
- ▶ Needs nitrogen fertilization to produce well
- ▶ Waterways and hay meadows
- ▶ Hay best suited for beef cows and growing calves
- ▶ Higher protein than prairie hay

Feed Identification – Alfalfa hay

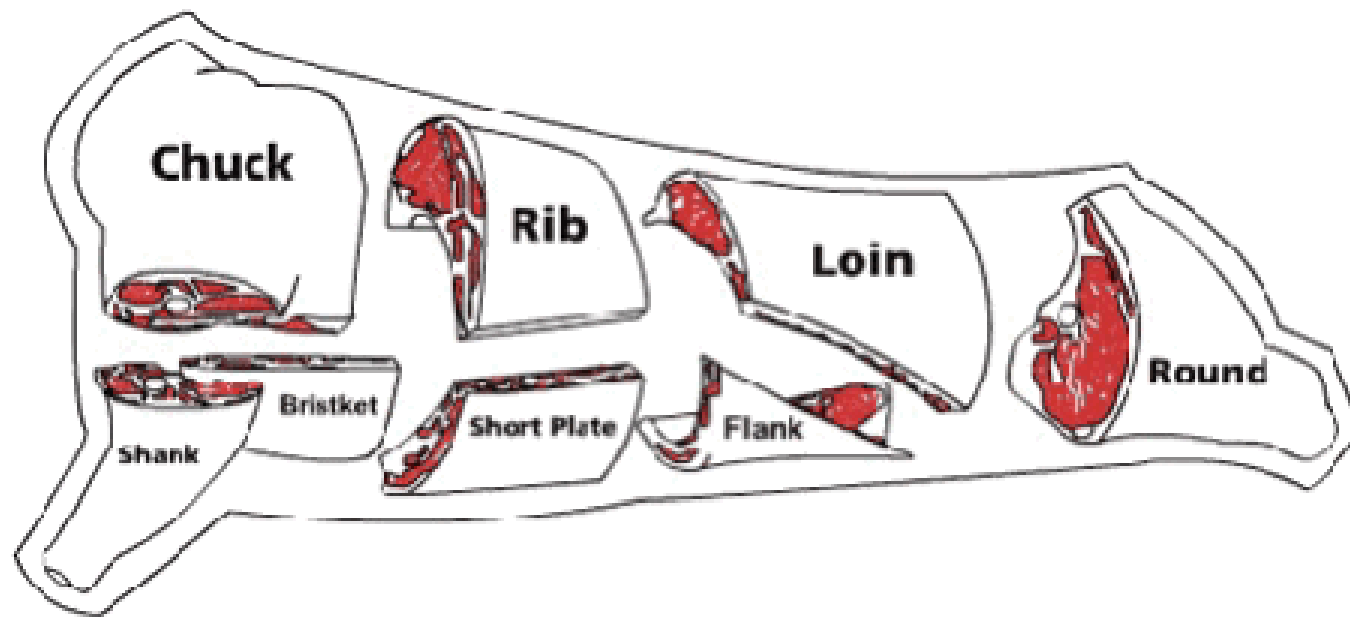


- ▶ Alfalfa is planted (tame), but a perennial crop (3-5 cuttings per growing season)
- ▶ Legume hay, fixes nitrogen into the soil
- ▶ High in protein, higher than most other hays
- ▶ Most fed to dairy cattle, horses.
- ▶ Feeding straight alfalfa can be problematic in cattle

Facts About Cattle

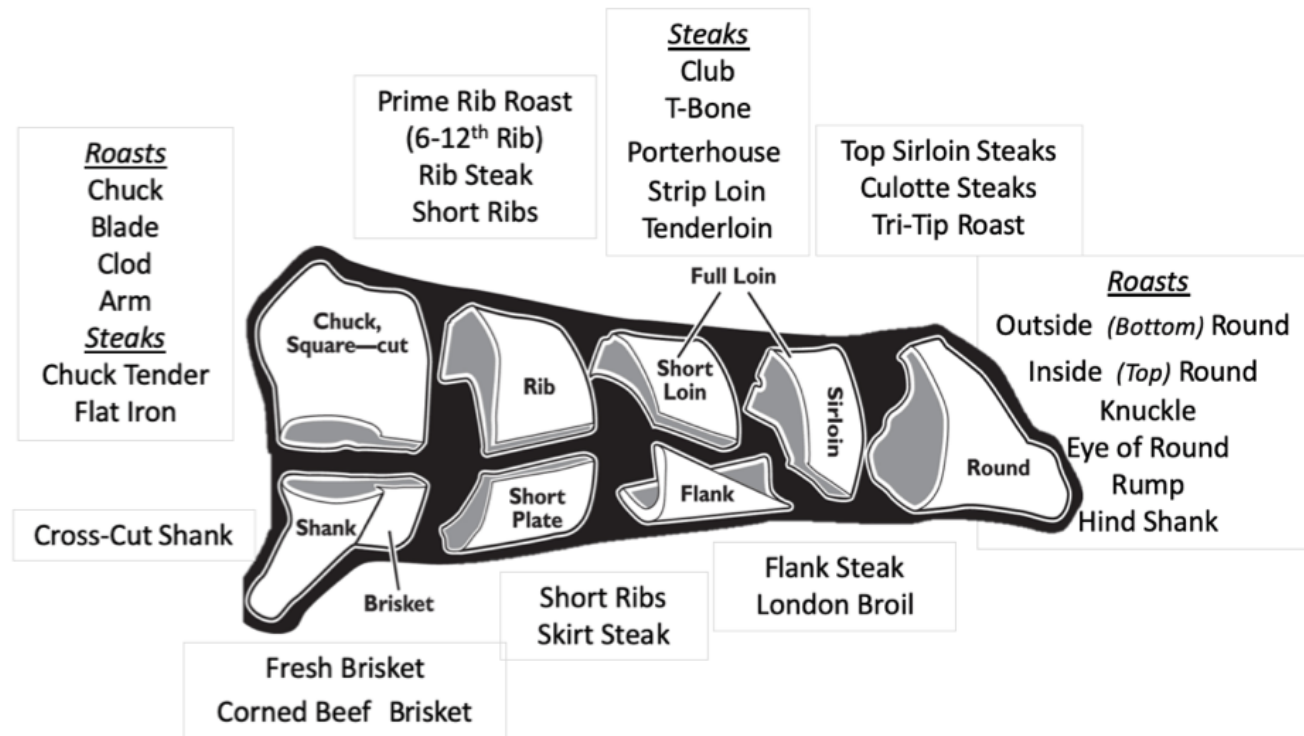
- ▶ The meat from cattle is known as _____
- ▶ A mature, intact beef male is known as a _____
- ▶ A male that has been castrated is known as a _____
- ▶ A mature female who has not yet had a calf is called a _____
- ▶ A set of twins born to a female in which one is a bull calf and the other is a heifer calf, the heifer calf is known as a _____
- ▶ A bull that gets castrated late in life or in which the castration was not done correctly is known as a _____

Beef Carcasses

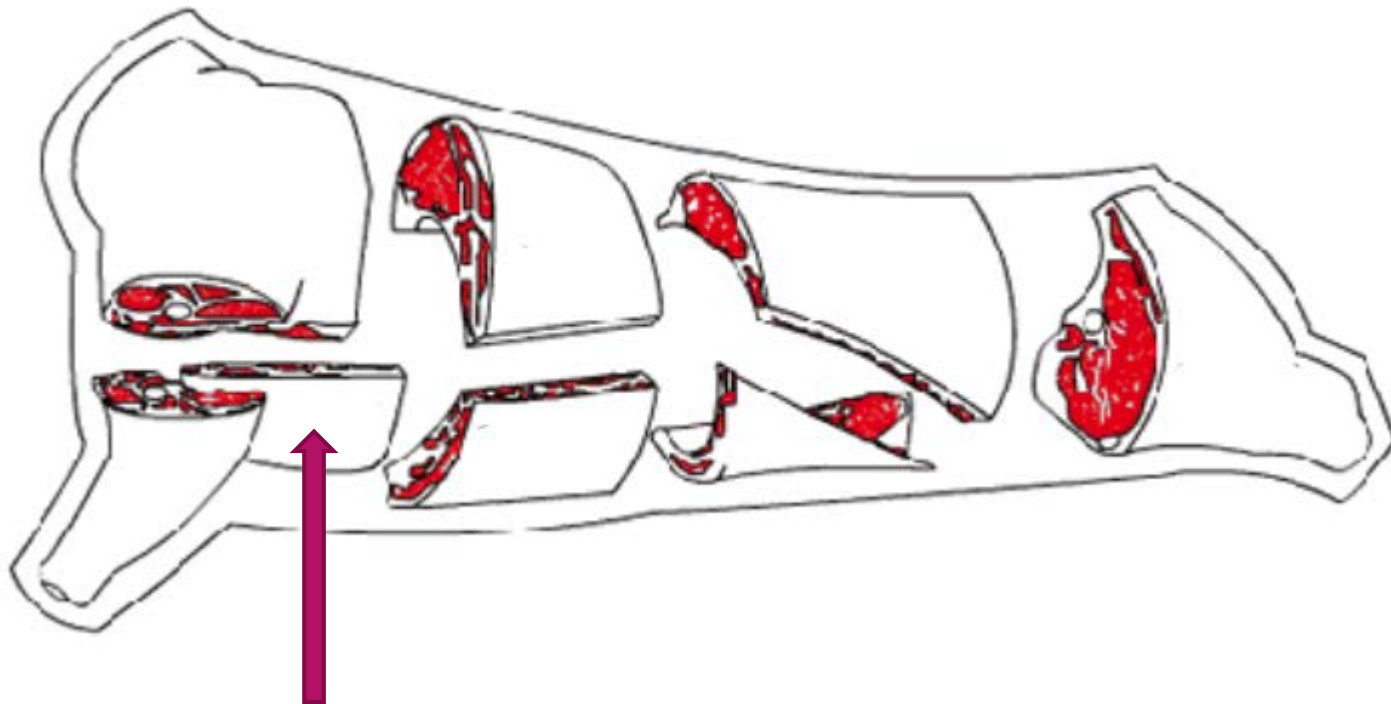


Beef Carcass

Beef Carcass



Cuts from the Brisket

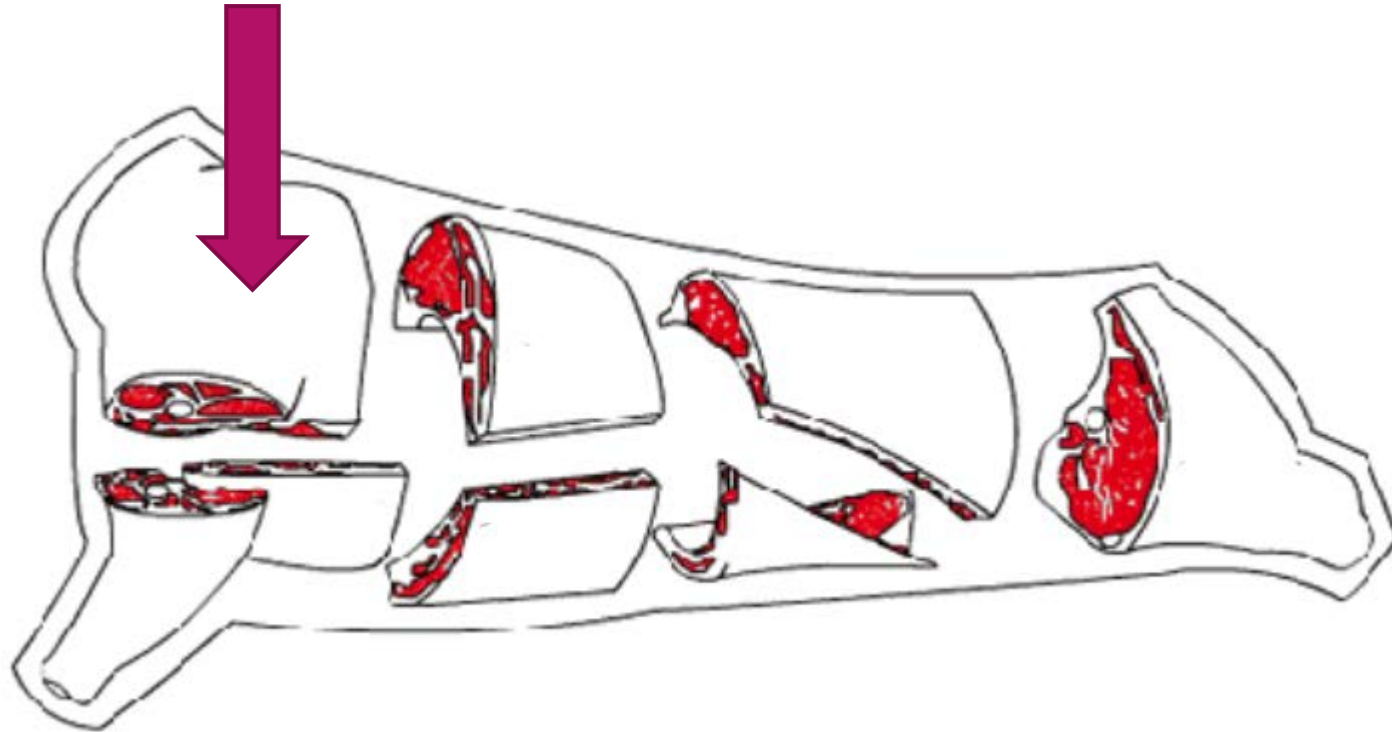


Beef: Meat I.D.



Whole beef brisket
From the brisket primal cut
Cookery method: moist

Cuts From the Chuck



Beef: Retail Cut I.D.



7-bone pot roast
From the chuck
Cookery method: moist

Beef: Retail Cut I.D.



Blade roast
From the chuck
Cookery method: moist

Beef: Retail Cut I.D.



Chuck Eye Roast, boneless
From the Chuck
Cookery method:
Dry/Moist

Beef: Retail Cut I.D.



Chuck eye steak, boneless
From the Chuck
Cookery method: dry

Beef: Retail Cut I.D.



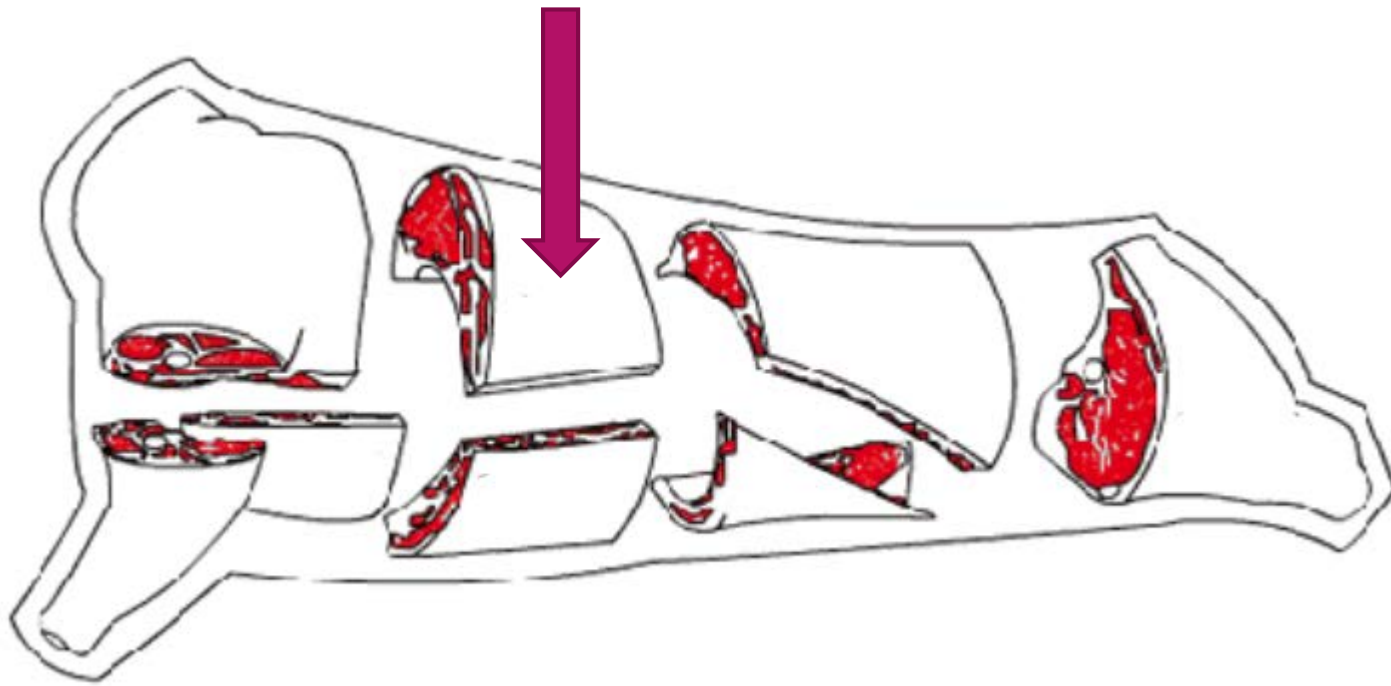
Top Blade Steak, aka "Flat Iron steak"
From the chuck
Cookery method: Dry

Beef: Retail Cut I.D.



Shoulder Pot Roast, boneless
From the chuck
Cookery method: Dry/Moist

Cuts From the Rib



Beef: Retail Cut I.D.



Ribeye Roast
From the Rib
Cookery method: Dry

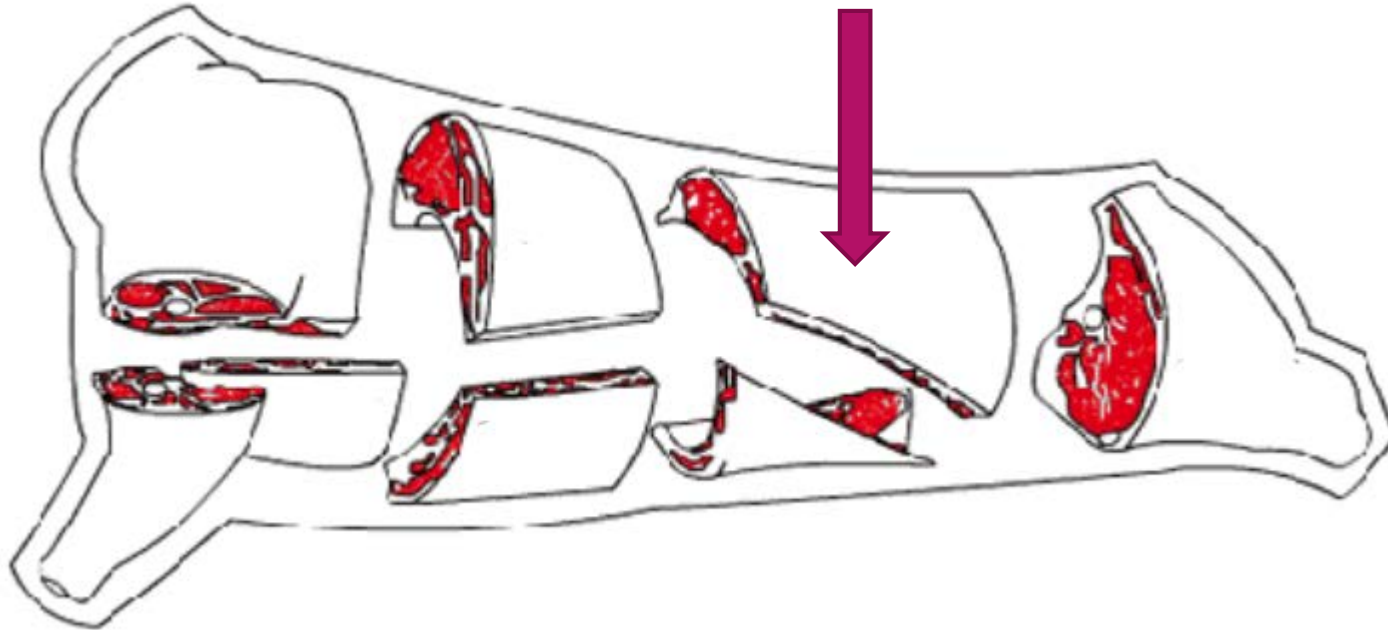


Beef: Retail cut I.D.



Ribeye Roast, bonless
From the Rib
Cookery method: Dry

100



Beef: Retail Cut I.D.



Porterhouse steak
From the Loin
Cookery method: dry

Beef: Retail Cut I.D.



T-bone steak
From the Loin
Cookery method: dry

Beef: Retail Cut I.D.



Tenderloin Roast
From the Loin
Cookery method: Dry

Beef: Retail Cut I.D.



Tenderloin Steak
From the Loin
Cookery method: Dry

Beef: Retail Cut I.D.



Top Loin Steak (NY Strip)
From the Loin
Cookery method: dry

Beef: Retail Cut I.D.



Top Loin Steak, boneless
From the Loin
Cookery method: Dry

Beef: Retail Cut I.D.



Top Sirloin Steak (Cap on)
From the Loin
Cookery method: Dry

Beef: Retail Cut I.D.



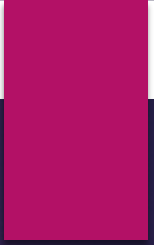
Top Sirloin Cap Steak
From the Loin
Cookery method: Dry

Beef: Retail Cut I.D.



Top Sirloin Cap Steak: Cap
off
From the Loin
Cookery method: Dry

100

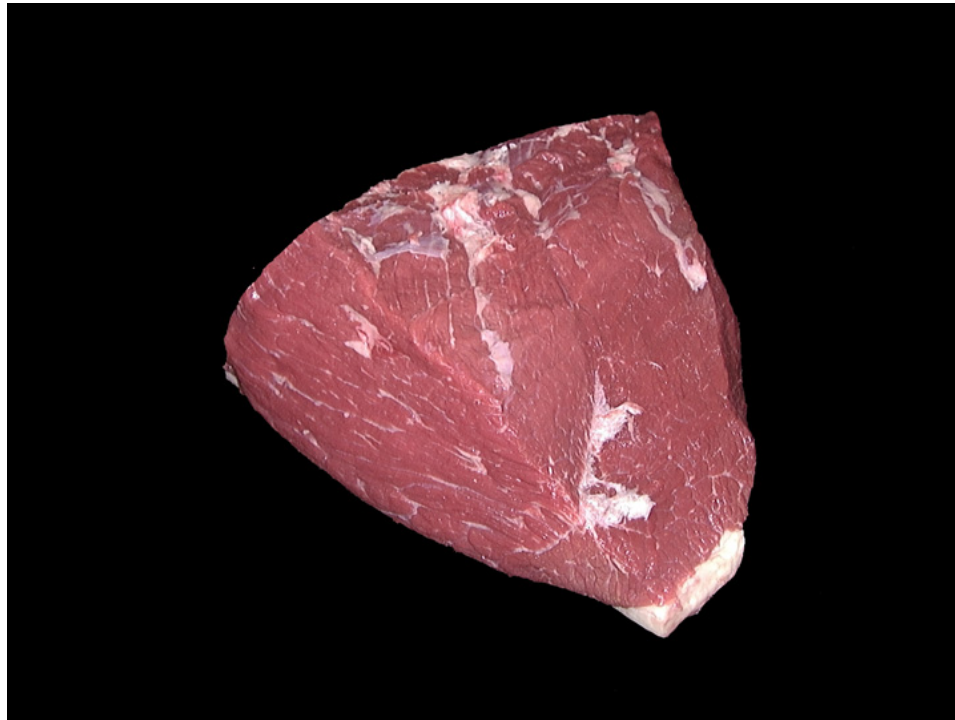


Beef: Retail Cut I.D.



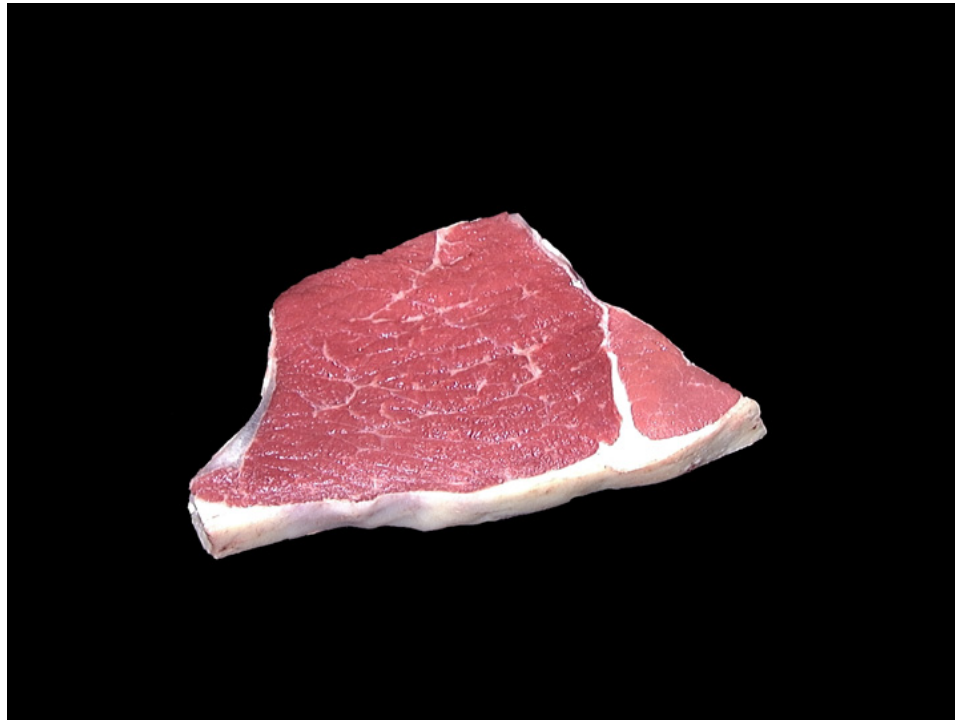
Bottom Round Roast
From the Round
Cookery method:
Dry/Moist

Beef: Retail Cut I.D.



Bottom Round Rump
Roast
From the Round
Cookery method:
Dry/Moist

Beef: Retail Cut I.D.



Bottom Round Steak
From the Round
Cookery method: Moist

Beef: Retail Cut I.D.



Eye of Round Roast
From the Round
Cookery method: Dry/Moist

Beef: Retail Cut I.D.



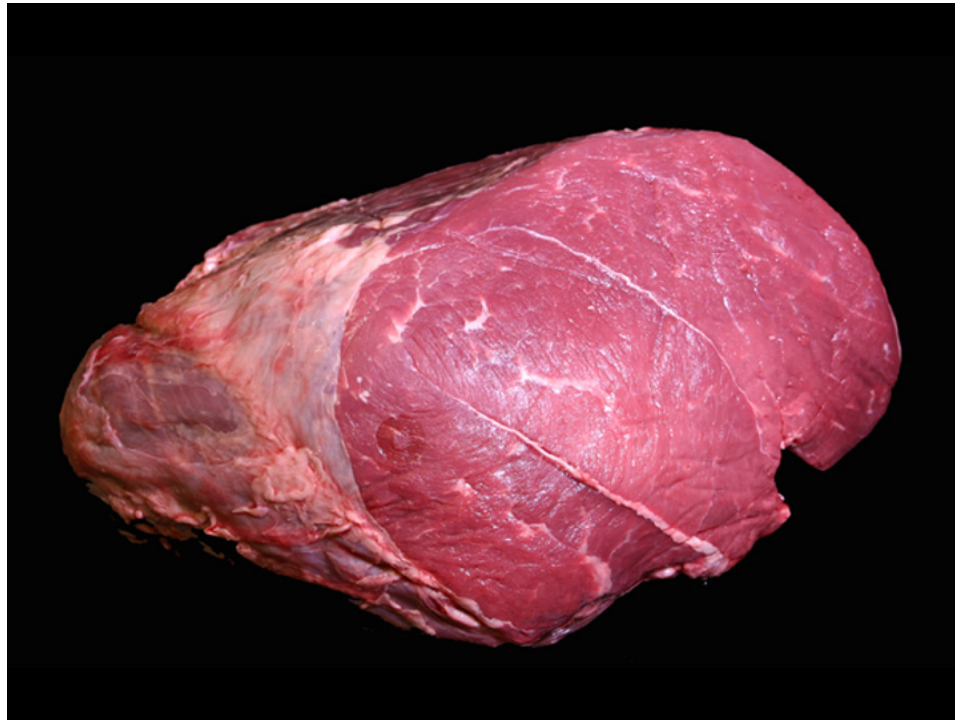
Eye of Round Steak
From the Round
Cookery method:
Dry/Moist

Beef: Retail Cut I.D.



Round Steak
From the Round
Cookery method: Moist

Beef: Retail Cut I.D.



Tip Roast
From the Round
Cookery method: Dry/Moist

Beef: Retail Cut I.D.



Top Round Roast
From the Round
Cookery method: Dry

Beef: Retail Cut I.D.



Top Round Steak
From the Round
Cookery method: Dry

Beef: Retail Cut I.D.



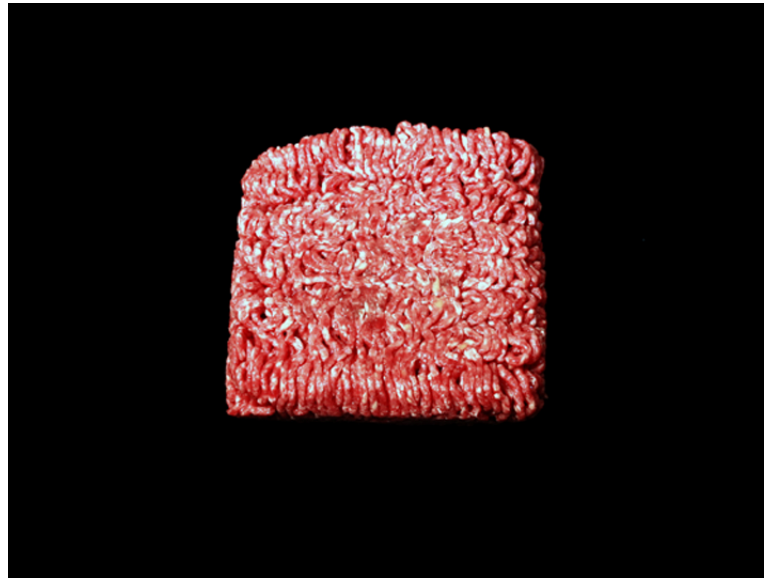
Beef For Stew
Come from various
places on the carcass
Cookery method: Moist

Beef: Retail Cut I.D.



Cubed Steak
From various places
Cookery method:
Dry/Moist
"Chicken Fried Steak"
"Minute Steak"

Beef: Retail Cut I.D.



Ground Beef: aka
"hamburger"
From various
Cookery method: Dry