Le Viande (Meat)

Meat may be described as th e edible flesh of animal fit for human consum ption.

Physical Characteristics of Meat:

- Meat is compo sed of the following tissues-
  - Muscular Tissue
  - Adipos e Tissue
  - Skeletal Tissue

Muscular tissues are muscle fibres which are made up of tiny long tubes filled with water, containing various nutrients like proteins, minerals, fats, small amount of carbohydrates, etc. they are in the form of r ubber bands which are joined by tissues (con nective) which are of two types namely:

1. Collagen (white)
2. Elastin (yellow)

Upon application of heat, collagen is converted to gelatine, which make s the meat tender and edible. Whereas, the elas tin hardly gets affected by heat. Either it has to be removed or broken down by pounding in order to make the meat edible.

The higher/larger animals hav e larger muscle fibres and hence takes more time to cook.

Adipose tissues are in the form of fat. It is necessary as it lends flavo ur, moistness and softness. The fat formed between the skin and the flesh is known as Lard; which may be used as a cooking medium and also in making of kebabs and other force meats. The desirable fat present betwee n the muscles is known as 'Marbling/Marble.'

It is the inter layering of fat between the muscles, and the amount of marbling determines the quality of the meat. It is f ound as a shiny sheen or pecks (spots).

Skeletal tissues are in the form of cartilages, tendons, ligaments, soft bonnes, which basically join the bone and the flesh . Majority of them can be eaten. The ined ible parts may be removed during processing.

Chemical Characterist ics of meat:

Meat comprises of wa ter, proteins, and fats, small traces of carbohydrates, minerals, vitamins and pigment .

Myoglobin- Pigment in meat s gives redness. It also depends on the age. For example, Meat of beef i.e. towards the pinki sh side and a full grown cow's meat is more towards purplish red. It is also seen that after slaughtering a cow or a buffalo, the meat tu rns reddish, which is basically due to the oxidati on of the pigment.

There are certain enzymes also and acids which are found in the m eat. They help in shortening the rigor mortis p eriod.

After the animal is slaughtered or dies, the muscles stiffen and hence cannot be cooked. This period is also known as ' ageing'. During the period, the enzymes are still active and they produce various acids mainly lactic acid which helps in softening of the muscles. The enzymes may also be injecte d in the flesh during the rigor mortis and tha t enzyme is known as 'Papain'. This helps in redu cing the rigor mortis period and also tenderising the meat. The length of rigor mortis depends on various factors namely:

1. Species
2. Size of the animal- lar ger takes more time.
3. Age of the animal- vea l has less than beef.
4. Climate- less in hot and more in cold countries.
5. Feed- nutritious meal less and vice versa.

During the rigor mortis, the c arcass is hung on hooks in large cold rooms at a temperature of about 1°-2°C.

PRE-SLAUGHTERING AND SLAUGHTERING STEPS

Slaughter house – Abbatoirs (equipped with slaughtering e quipment, medical facilities, cold rooms enclosures of keeping animals, the procedure should be followed as per International Laws.)

i. Inspection- It is made sure that the animal is not suffering from any kind of disease or infe ction. Abbatoirs are located in the peripherry (out-skirt) of the city. They are made sure if the animal is fit.

ii. Resting- It is m ade to rest, fed and given plenty of food a nd water to drink. This reduces the anxiety (stress) levels which will help in reducing the rigor mortis period.

iii. Fasting- Anima l is allowed to fast for about 12-14 hours. Th is will clean up the bowels or intestine i.e. means minimum bacterial activity will be there. Also stored glycogen gets

converted into lactic acid which reduces the pH of the meat/body an d will help in preserving the body for a longer time.

iv. Washing- The animal is taken into enclosures/ rooms where lukewarm water is sprayed on the animal. This will wash away the super ficial dirt and also makes the ani mal feel comfortable.

v. Stunning- Foll owing outdated methods of stunning are-

a) Hamm er

b) CO_2chamber

c) Cartrid ge/ bolt (rubber bullet)

d) Electric Tongs (60V-70V unconscious for 20 minutes .)

vi. Sticking-

Halal- Muslims

Jhatka- Sikh

Kosher- Jews

Jugular and ca rotid are cut off and blood gushes; the anim al dies. The blood is collected and disposed off.

vii. Flaying- Removal of skin

Air is blown between flesh and the skin with a high presssure and it comes out.

viii. Ageing- The meat is hung on the hooks for the rigor mortis period.

Ante mort em:

The tenderizin g solution (PAPAIN) is introduced in the jugular area of the animal for even distribution of throughout the

body tissue this tenderizing process has been approved as successfully increasing the tenderness of beef.

At present beef subjected to ante mortem enzyme process is being produced commercially and marketed as “protein”.

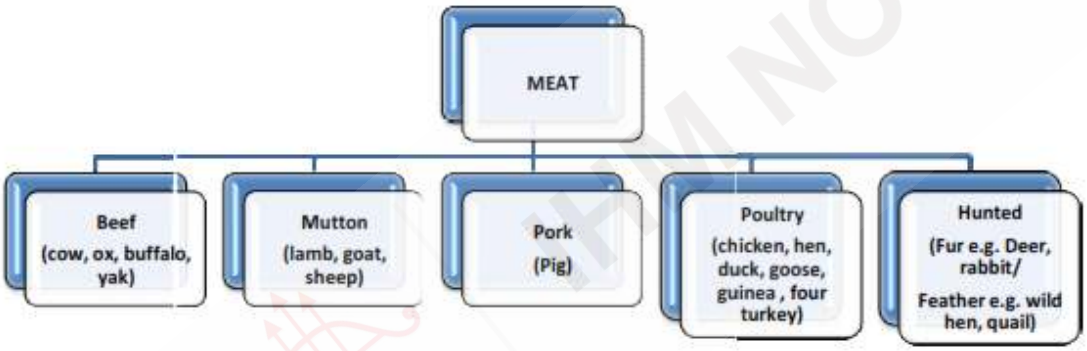
Tough cuts of meats that have been treated by this met hod can be cooked

by dry heat m ethod.

Acid material:

Adding acid material to the meat does not increases its t enderness. Neither soaking meat i n vinegar for 48 hours nor praising it has increased its tenderness.

CLASSIFICATION OF MEAT:



Cuts of Meat (Poultry):	
ENGLISH	FRENC H
Chicken	Poulet
Duck	Le Can ard
Turkey	Dinde
Goose (Hens)	L'oie
Guinea Fowl	La Partridge

Cuts of Chicken

Supreme

Carcass (Le Carcass) Parson's Nose

Breast (Poitrine) Wings (Aile)

Winglet (Aileron)

Thigh (Gras de Cuisse) Drumsticks (Pilon)

OFFALS

ENGLISH		FRENC H
Brain		Cerveau
Heart		Coeur
Kidney		Rognonn/ un rein
Liver		foie
Tail		Queue
Tripe		Gras d oubles
Trotters		Pieds
Sweet Breads		Ris
Lungs		Mou
Tongue		Langue

- Ram or Hogget- a male lamb under 1 year.

- Eve-female lam b under 1 year.

- Kid lamb/ agn eled- male or female of a sheep who is 30-600 days old.

- Spring or yearl ing- a lamb between 2-6 months.

- Mutton-lamb above 12 months.

- Steaks- Steaks are thick juicy pieces of meat which are either grilled or pan-fried. Traditio nally, steaks are associated with beef but nowadays chicken
    - and fish steak s also occupy a culinary space. Juicy steaks are obtained from the delicate cuts of beef such as filet and sirloin (Aloyau)

Most Common Steaks are-	
A=> Chateau briand steaks	(350g to 1kg) 2-4 people
B=> Filet steaks	(100-150g) 4 pieces
C=> Tournedo steaks	(60-80g) 6-8 pieces
D=> Mignon steaks	(30-40g) 2-4 pieces

Other steaks are-

- T-Bone
- Porter House
- Entrecoté
- Double Entrec oté

STAGES OF PAN FRYING AND GRILLING STEAKS:

Aubleu- very r arely done (20 sec per side)

Saigant- rare d one (2 mins / side) (pinkish from inside)

A point- mediu m done (4 mins/ side) (juices are clear)

Bien cuit- well done (8 min/side)

PORK-

Charcuterie- It is an art of transforming pork into various products such as sausages, ham, gammon, and bacon. These are all cured p ork products.

Ham- Ham is a cured and smoked leg of pig/ pork.

Gamm on- Gammon is the cured and smoked leg of pork whereby, the leg is disjointed after the curing and smoking process. Whereas in case of ham, the leg is first disjointed and then cure d and smoked.

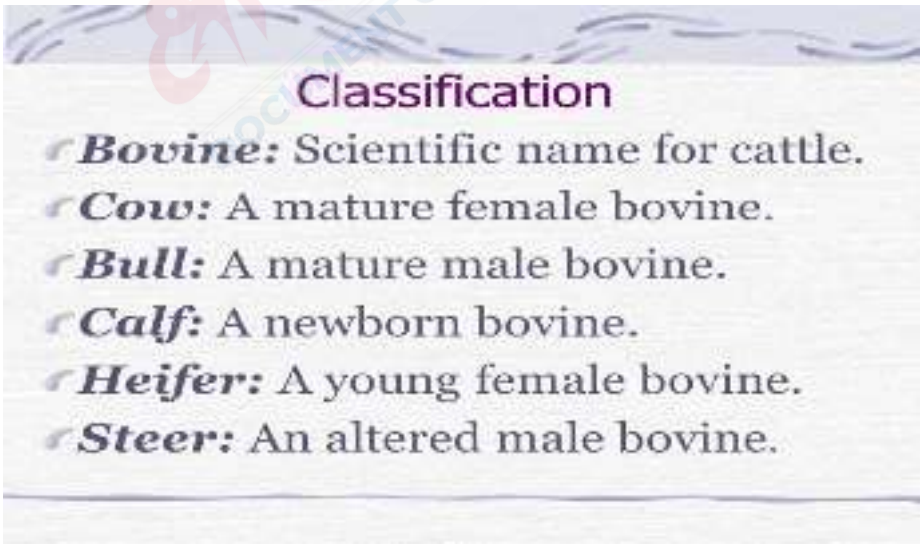
Bacon- Bacon is the cured and smoked part of belly portion of the pork.

Green Bacon- Green Bacon is the unsmoked i.e. only cured part of bacon.

Canadian Bacon- It is the cured and smoked bacon obtained from the loin po rtion of the pork.

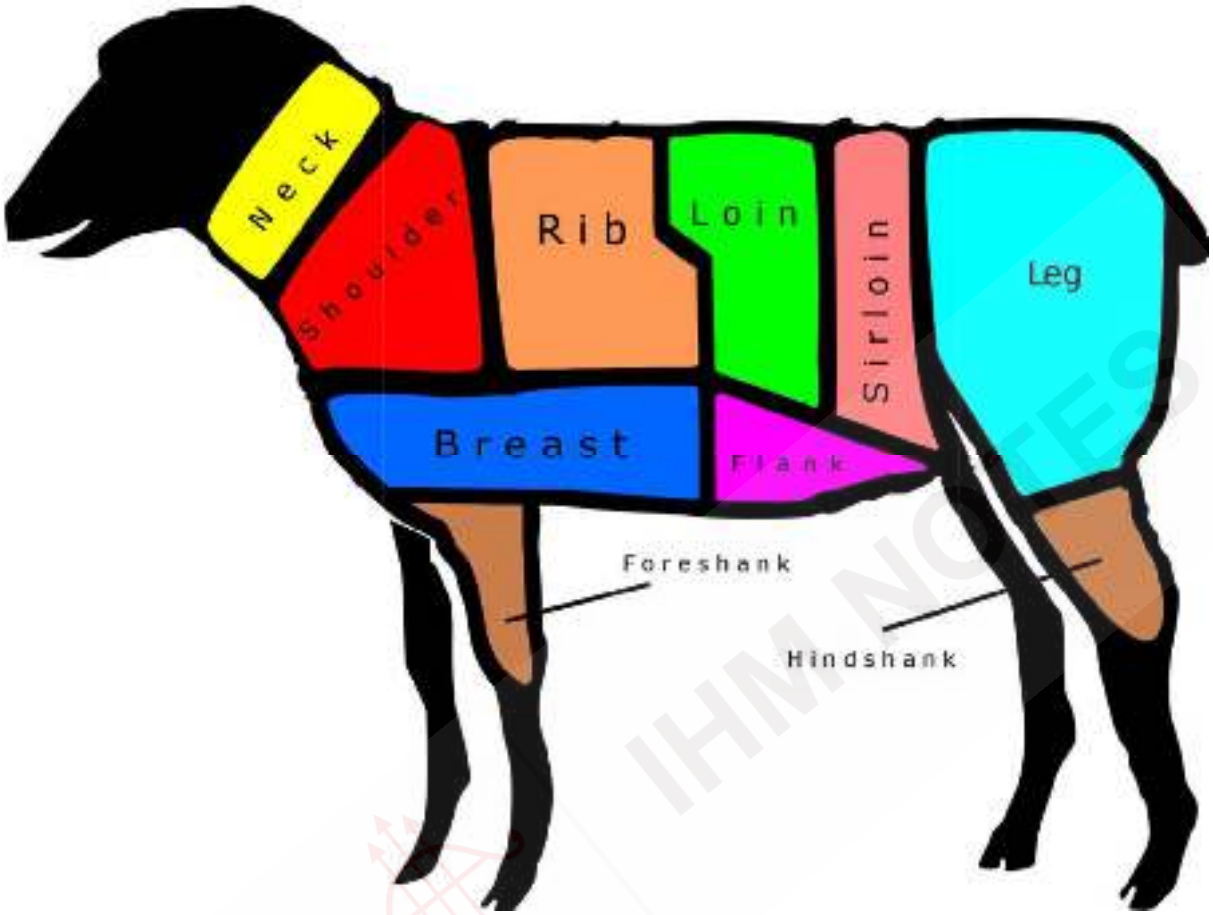
Jowl- J owl is the cheek of the pig.

Classification of Cattle



CUTS OF MEAT

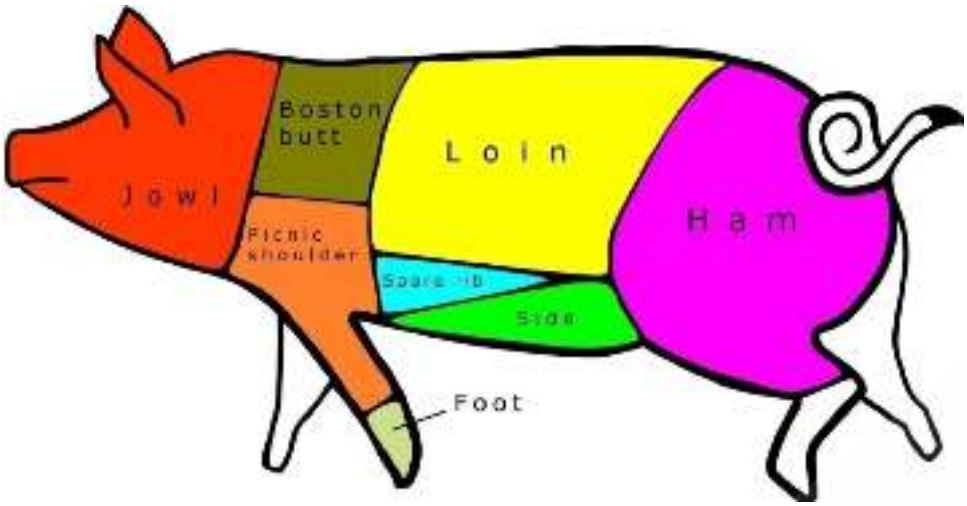
LAMB/MUTTON



LAMB/MUTTON CUTS AND THEIR USES:

	CUT	WEIG HT	METHOD OF COOKING	FRENCH NAME
1	LEG	1.5 KG	ROASTING	LE GIGOT
2	SADDLE	3.5 KG	ROASTING , GRIILING, SHALLOW FRYING	LE SALLE
3	BEST END	2 K G	ROASTING , GRIILING, SHALLOW FRYING	LE CARRE
4	BREAST	1.5 KG	ROASTING , STEWING	LE POITRINE
5	SHOULDER	3 K G	ROASTING	LE EPAULE
6	MIDDLE NECK	2 K G	STEWING	LE COLLET
7	SCRAGE END	½ KG	SYEWING	LE COUTE DE COUVERTE

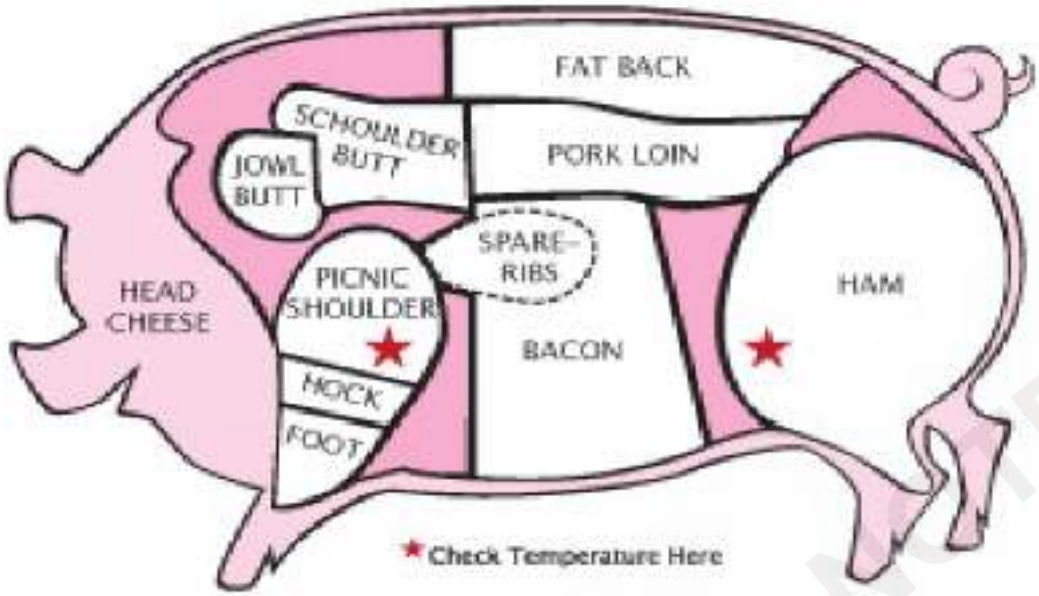
PORK



CUTS OF PORK

	CUT	WEIG HT	METHODS OF COOKING	FRENCH NAME
1	HEAD	2 K G	BROILLING	LE TETE
2	SPARE RIB	2 K G	ROASTING, GRILLING	BASSE COTE
3	SHOULDER	4 K G	ROASTING	L' EPAULE
4	LOIN	6 K G	ROASTING, GRILLING, SHALLOW FRYING	LA LONGE
5	BELLY	3 K G	BOILING, PATE & SAUSAGES	LE POITRINE
6	LEG	7 K G	ROASTING,BOILING	LE CUISSOT
7	TROTTERS	1 K G	BOILING	LA PIED
8	FILLET (INTERNAL CUT)	1.5 KG	SAUTE	LE FILET

Ham/Bacon/Gammon



Ham

Ham is the cure hind leg of a pig, smoked or salted and smoked to pres erve it. The ham in the most cases is a cut rathe r long into the loin to give it a banjo shape . Dry cured by the rubbing in of salt, or wet cured in brine, most hams are smoked and hu ng to dry. A good ham should be plump with a n ample, through not too thick, layer of fat under the rind. Pork shoulder is cured in the same way, but it is not entitled to be called ham ; the flavour is not so good, but it can be used in cooked ham dishes.

The curing of ham involves t wo main operations, salting and smoking. T he hams are either salted in brine or dry salt, o r rubbed over with dry salt , saltpetre, and sugar and left for three days well covered with this mixture. Alternatively, the brine is injected into the veins

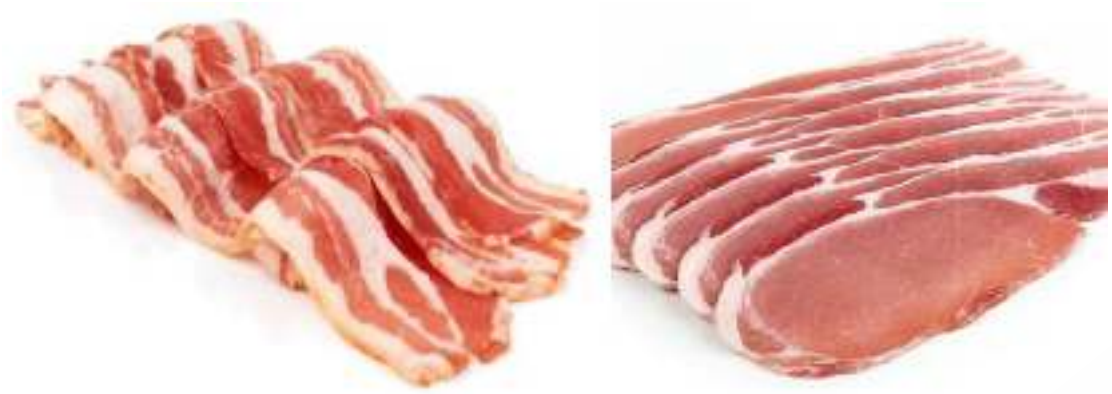
before the joints are boned. The salted joints are then put into brine, washed, brushed, and dried, and finally smoked in special chambers, starting with light smoke w hich grows denser as the operation proceeds. Th is treatment varies according to the type of ham, and whether it is to be eaten cooked or raw. The characteristic flavours of both raw and cooked hams vary with the type of salt. The curing process, and the breed, diet, and ag e of the pig.

Bacon:

Bacon is cured flesh of a bac on weight pig which is specifically reared forr bacon because its shape and size yields econo mic bacon joints. Bacon is cured either by dry salting and then smoking or by smoking in br ine followed by smoking. Bacon has a very high protein value, and one can make many tasty dishes from it by frying, grilling, or boiling.

Green bacon is brine cured b ut not smoked; it has a milder flavour but soes not keep as long as smoked bacon.

Depending on the degree of salting, during the curing process bacon join ts may or may not require soaking in cold water for a few hours before being cooked.

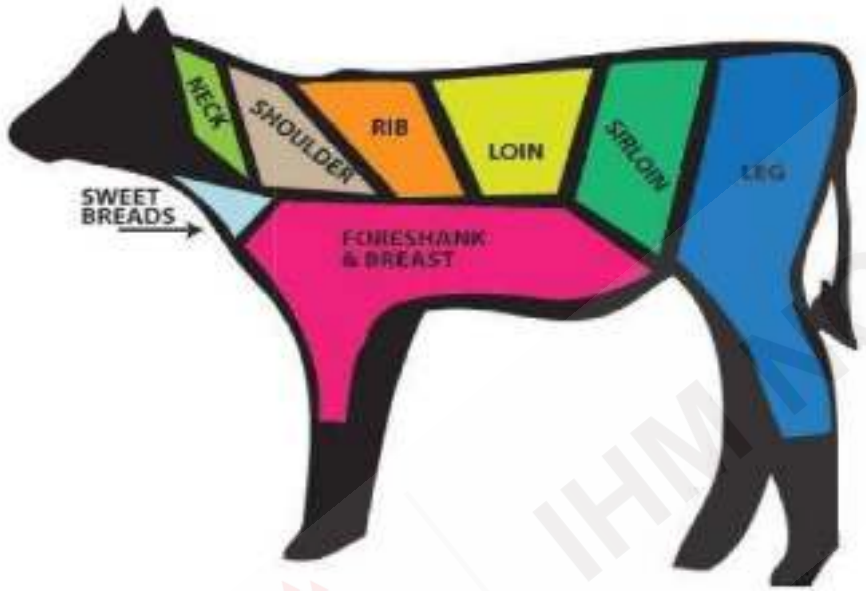


GAMMON:

Gammon is cut off from the side of a cured porker. It is cut from the carcass after brining; whereas ham is cut from th e carcass and brined separately. Gammo ns are suitable for boiling, braising and baking and may be served hot or cold. The best-kno wn gammon types are Danish (green and smoked), Wiltshire (green and smoked), etc.

VEAL

Veal is the meat of calves, i n contrast to the beef from older cattle. However, most veal comes from young males of dairy breeds who are not used for breeding . Generally, veal is more expensive than beef from older cattle.

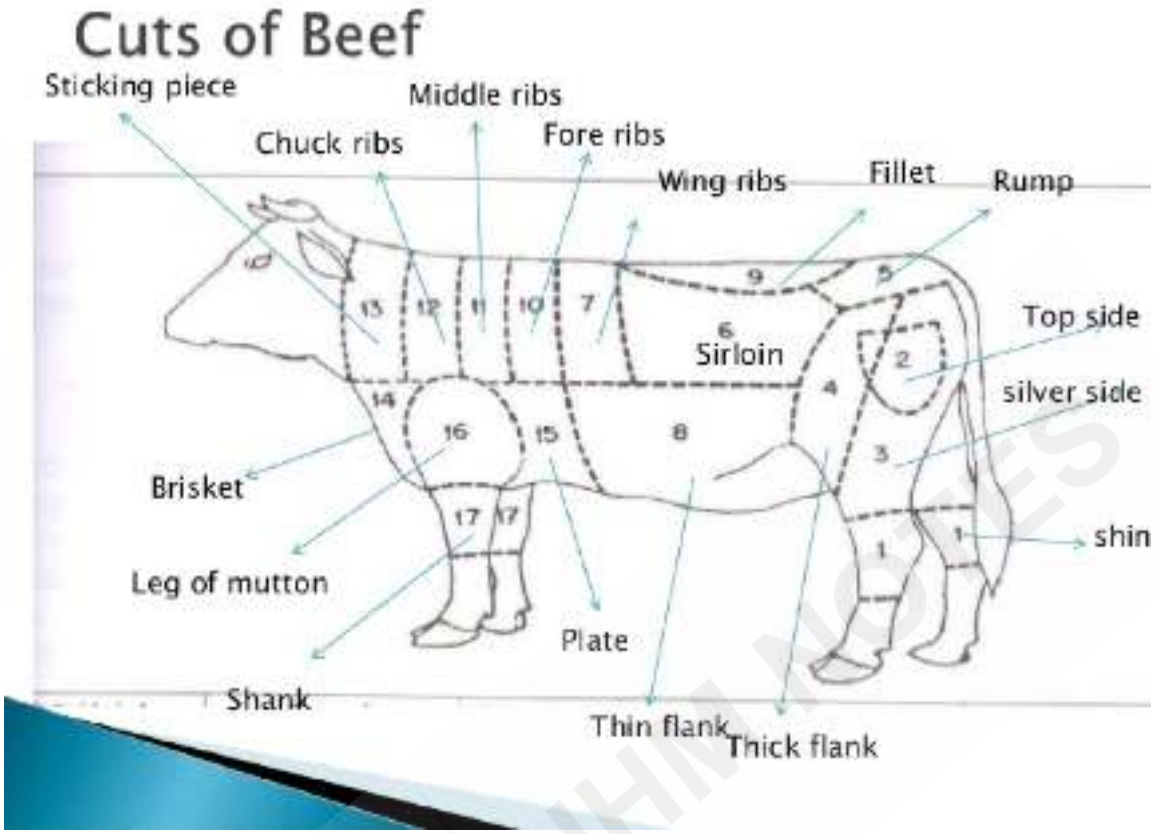


Veal - Le Veau (48 kg appro)

Cuts of Veal

English	French	Uses
1) Scrag	1) Le Collet	1) St, Glacier
2) Neck End	2) Les Basses côtes	2) Ra, St, Stocks
3) Best End	3) Le Carré	3) R, Rs, Fs
4) Loin	4) La Longe	4) R, Rs, Fs
5) Chump & Rump	5) La Quasi	5) Rs, R, Cas
6) Leg	6) Le Cuissot	6) R, Rs, Fs
7) Breast	7) La Poitrine	7) St, R (Stuffed)
8) Shoulder	8) L'épaule	8) R, Rs, St
9) Knuckle	9) Le Jarret	9) Stock, Mince, St (Osso Buco)

BEEF:



	CUT	WEIGHT	METHOS OF COOKING	FRENCH NAME
1	SHIN	9 KG	CLARIFICATION OF CONSOMME	JAMBE
2	TOPSIDE	7 KG	ROASTING	TRANCHE (TENDER)
3	SILVER SIDE	10 KG	BOILING, SALTING	GITE A LA NOIX
4	THICK FLANK	4 KG	BRAISING	TRANCHE
5	RUMP	7 KG	ROASTING, FRYING, GRILLING	CULOTTE DE BOEUF
6	SIRLOIN	9 KG	ROASTING, FRYING GRILLING	ALLOYAU DE BOEUF
7	WING RIB	6 KG	ROASTING	COTE DE BOEUF
8	THIN FLANK	4 KG	STEWING AND MINCING	BAVETTE
9	FILLET	3 KG	ROASTING, FRYING, GRILLING	FILLET DE BOEUF
10	FORE RIB	6 KG	ROASTING	COTES

11	MIDDLE RIB	8 KG	BRIAISNG, STEWING	COTES
12	CHUCK RIB	5 KG	STEWING	COTES
13	STICKING PIECE	10 KG	STEWING, MINCING	COLLIER
14	PLATE	5 KG	STEWING, MINCING	POITIRINE
15	BRISKET	6 KG	FRESH BOILING	POITRINE
16	LEG OF MUTTON	11 KG	STWEING, MINCING	TALON DU COLIER
17	SHANK	7-8 KG	CLARIFICATION OF CONSOMME	JAMBE

CUT 1-9 IS DRIVED FROM HIND QUARTER
CUT 10-17 IS DRIVED FROM FORE QUARTER

TENDER LOIN / FILLET OF BEE F

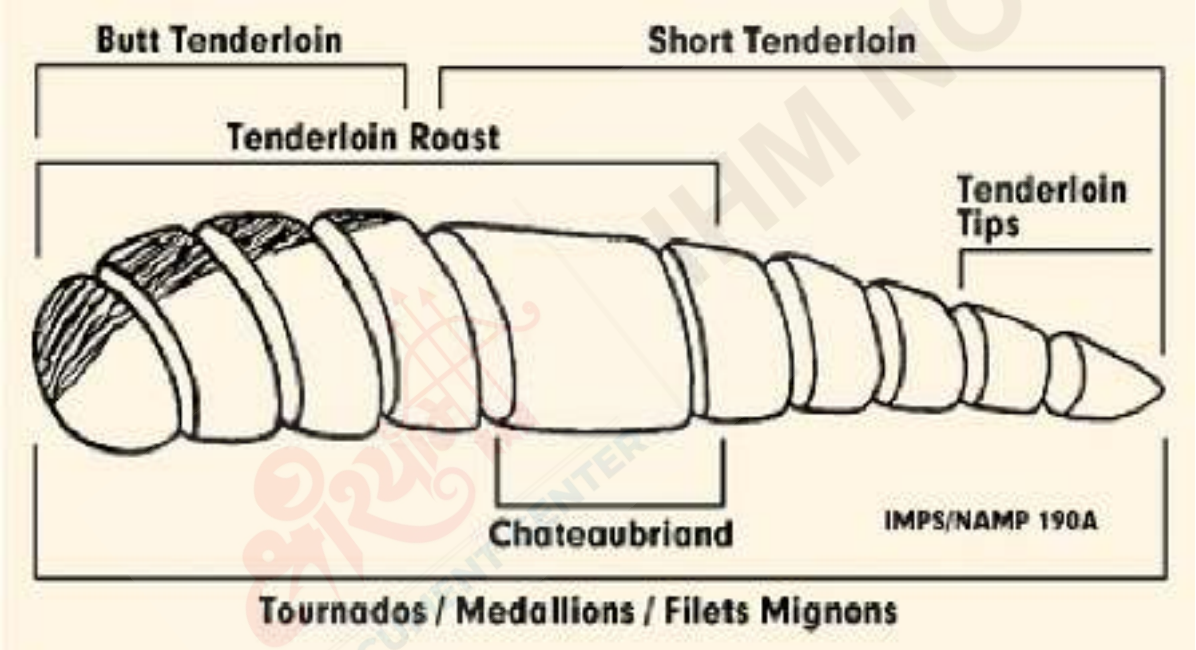
A beef tenderloin, known as an eye fillet in Australasia, filet in France, and fillet in the United Kingdom and So uth Africa, is cut from the loin of beef.

The tenderloin is an oblo ng shape spanning two primal cuts: the short loin (called the sirloin in Commonwealth countries) and the sirloin (called the rump in Commonwealth
countries). The tenderloin sits beneath the ribs, next to the backbone. It has two ends: the butt and the "tail". The smaller, p ointed end—the "tail"—

starts a little past the ribs, growing in thickness until it ends in the "sirloin" primal cut, which is closer to the bu tt of the cow. This muscle does very little work, s o it is the most tender part of the beef.

CUTS OF TENDER LOIN

The three main "cuts" of the te nderloin are the butt, the center-cut, and the tail. The butt end is usually suitable for carpaccio, as the eye can be quite large; cutting a wh ole tenderloin into steaks of equal weight will yield proportionally very thin steaks from the b utt end. The center-cut is suitable for portion-controlled steaks, as the diameter of the eye remains relatively consistent. The center -cut ca n yield the traditional filet mignon or tenderl oin steak, as well as the Chateaubriand steak and b eef Wellington. The tail, which is generally unsuitable for steaks due to size inconsistency, can be used in recipes where small pieces of a t ender cut are called for, such as beef Stroganoff.



Chateaubriand:

Cut from the head of t he fillet, and more than two portions between 300 gm-1 kg can be obtained.

Fillet steak:

4-5 steaks cab be obta ined each of 100-150 gm per steak.

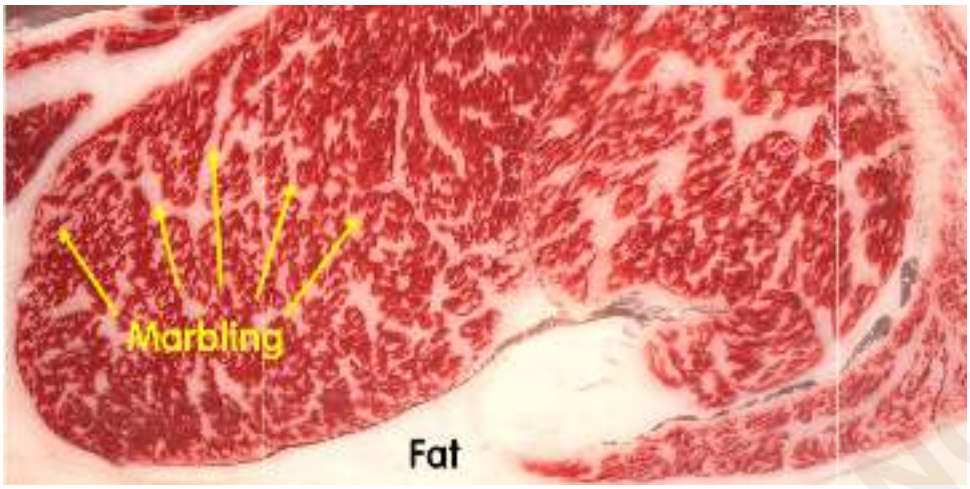
Tournedo steak:

Approximately 6-8 pieces of 100 gm each, steaks can be tied with butcher string to hold shape like a medallion.

Fillet Mignon:

This is cut into juliennes or minced according to its intended use fo r.

Marbling of fat in meat:



Marbling simply refers to the fat found within a cut of meat and between the muscle fibers themselves. A high-quality steak will have a lot of marbling, while a lean cut will have very little or no visible marbling. The fat should be pure white and hard, and the best is when it's distributed evenly throughout the entire cut of meat, as in the picture ab over.

Kobe beef from Waagyu Cow (most expensive and tasty beef in terms of marbling, flavour and texture.

POULTRY:

IME CUTS OF POULTRY:

CUTS:	DESCRIPTION :	USAGE:
BREAST	These can be obtained boneless or with rib cage bone attached to them.	Chicken is an ideal meat for practically any method of coo king. However, the most preferred one s are grilling, pan frying, sautéing, or d eep frying.
SUPREME	This is the tenderloin of the chicken and is very tender and lean and hence called supreme.	Can be sautéed, grilled, or pan fried. This is the preferre d cut for oriental satay's too.
WINGLET	This is the c ut having wing bone and flesh attached to it. Flesh is delicate and juicy, ideal for most types of cooking methods.	Preferably coated w ith flour and deep fried, often used in making of chicken stock, bufflo chicke n wings are large wings bbq'ed and tossed in sauce, chicken lollipop are also famous from oriental type of cuisines.
DRUMSTICKS	These are leg s of chicken which are cub shaped.	This can be used whole or even deboned, stuffed, and then cooked. In Indian cooking, it is used in making *tangdi/ kalmi* kebab.
THIGH	This is the part above the drumstick join ing the hip bone	Can be deboned or used whole. Ideal for grilling, bbq'ing, and deep-frying. In Indian cooking, it is used in making *tikka's* and kebabs.

Type of Poultry:

Duck

Turkey

Squab

Goose

The birds hunted for game or eating purpose falls under game birds.

Classification of Poultry:

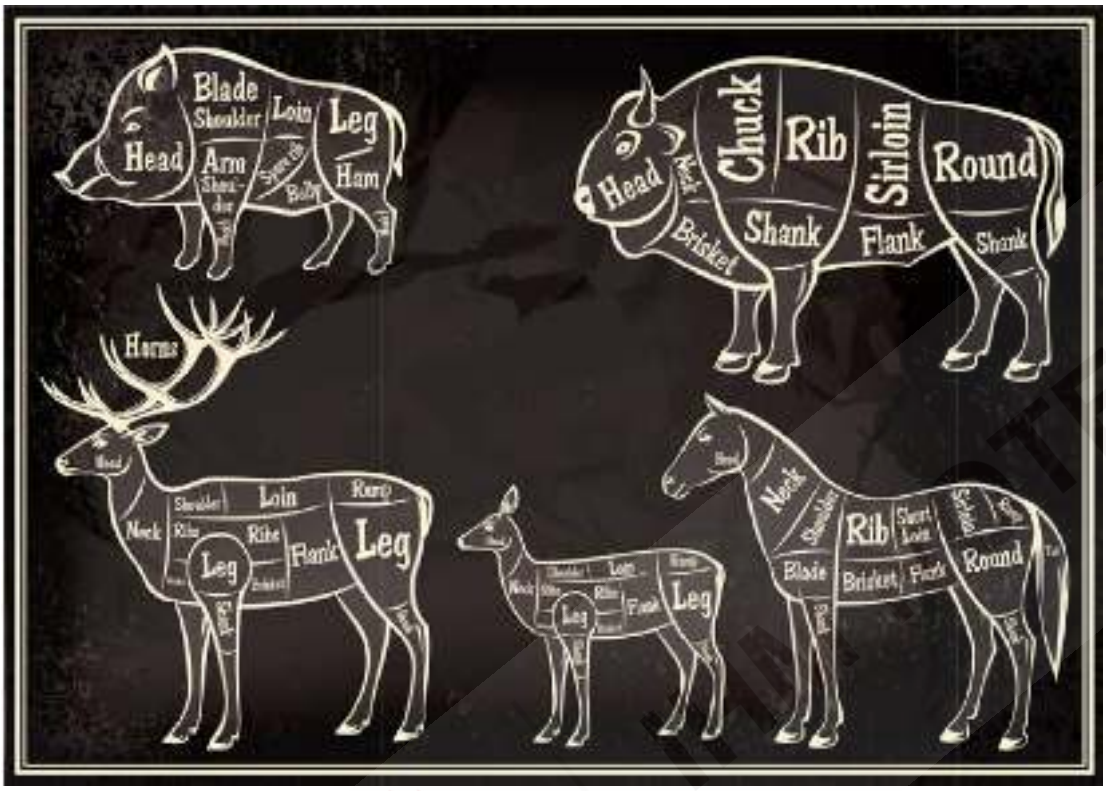
POUSSIN	SPRING CHI CKEN	BROILER	BOILING FOWL	CAPON
Chicken weighing 300-400 gm.	Chicken weighing 400-500 gm.	Chicken weighing between 1-1.5 kg and even to 9 week old.	A mature hen of 1 year of age and weighing between 1.5 – 2 kg.	Castrated male roosters, that are 4- 5 months old and weighing between 3-4 kg.

POULTRY PROCESSING:

1. SINGING.
2. DRESSING
3. TRUSSING
4. SPATCHCOCKING
5. BASTING
6. JOINTING
7. FRENCHING

GAME MEAT:

Game animals/Furred Game



Game Birds/ Feathered Game s:

Game or quarry is any animal hunted for sport or for food. The type and range of animals hunted for food varies in different parts of the world. In

some countries , game is classified, including legal classification with respect to licences required, as either "sm all game" or "large game"

The type and range of animals hunted for food varies in different parts o f the world. This is influenced by climate, animal diversity, local taste and locally accepted views about what can or cannot be legitimately hunte d. Sometimes a distinction is also made between varieties and species of a particular animal, such as wild turkey and domestic turkey. Fish caught for sport are referred to as game fish. The flesh of the animal, when butchered for co nsumption is often described as having a "gamey" flavour. This difference in taste can be attribu ted to the wild diet of the animal, which usually results in a lower fat content compared to d omestic farm raised animals.

In some countries, game is classified, including legal classification with respect to licences required, as either "small gam e" or "large game". A single small game licence may cover all small game species and be subject to yearly bag limits. Large game are often subject to individual licensing where a separate licence is required for each individual animal taken.

Interior Temperatures of Coo ked Meats

Meat	Rare	Medium	Well done
Beef	140°F(60°C)	160°F(71°C)	170°F(77°C)
Lamb	140-150°F(60-66°C)	160°F(71°C)	170°F(77°C)
Veal	--------	--------	170°F(77°C)
Pork	--------	--------	165-175°F(74-79°)

RIGOR MORTIS

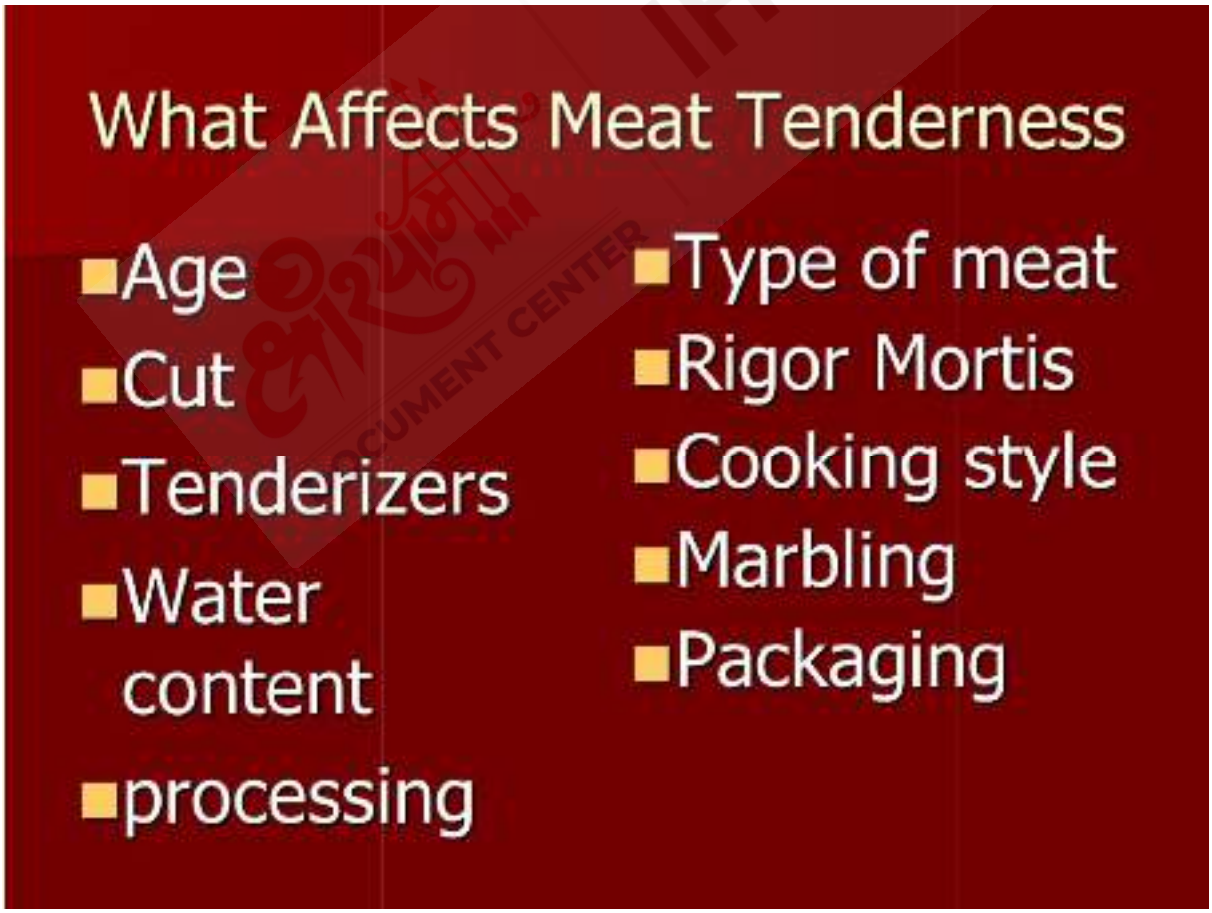
Rigor Mortis is a condition th at occurs in the body soon after death. This is characterized by muscle spasm and the stiffening of muscles and occurs not only in Human beings but also in animals.

We know that all living beings respire and there are two types of respiration, aerobic and anaerobic. Aerobic respiratio n takes place in the presence of Oxygen and the end product is Carbon Dioxide. This would ta ke place normally and produces ATP (Adeno sine Try Phosphate), which is a high c hemical bond energy compound derived fro m Amino Acids and provide energy for body func tions.

Anaerobic respiration takes place in the absence of oxygen and its end pr oduct is Ethyl Alcohol. In animals, the end product of anaerobic respiration is Lactic Acid which when

accumulated in the carcass d ecreased the pH and stiffens the muscles.

In living animals, the myoglob in stores oxygen in the muscles. When the a nimal is slaughtered, the external source of oxygen is cut off and the tissues use t he stored oxygen to continue aerobic respiratio n and subsequent ATP and Carbon Dioxide p roduction. Within a few minutes, the store of o xygen is depleted and the tissues now opt for anaerobic respiration, which then results in the accumulation of Lactic Acid in the muscles. Hence the acidity of the cells increases and the pH decreases. This in turn causes the muscles to stiffen. This condition is known as Rig or Mortis. This condition is aided by the fact that the supply of ATP is cut off and hence ther e is no energy for the tissue to work. The Lactic Acid gradually breaks up into lactate and water and indicates the end of Rigor Mortis an d the production of water. This is characterized b y bloating of the carcass.



Offal (Variety Meats)

Offal, also referred to as variety meats, is the name for internal organs and entrails of a butchered animal. The word does not refer to a particular list of edible organs, which varies by culture and region, but includes most internal organs excluding muscle and bone. Some cultures shy away from offal as food, while others use it as everyday food or in delicacies.
Some offal dishes are considered gourmet food in international cuisine. This includes foie gras, pâté, and sweetbreads. Other offal dishes remain part of tradition al regional cuisine and may be consumed especially in connection with holidays such as the Scottish tradition of eating haggis on Robbie Burns Day. Intestines are traditionally u sed as casings for sausages.

Depending on the context, offal may also refer to those parts of an anima l carcass discarded after butchering or skinning. Offal not used directly for human or animal food is often processed in a rendering plant, producing material that is used for fert ilizer or fuel or, in some cases, it may be added to commercially produced pet food.

The following table lists the m ost common types of offal from the various species.

Species	Common Offal	Uses/Notes
Beef	Heart	Beef offal is more commonly retailed
	Liver	
	Kidney	
	Tongue	
	Tripe	
	Oxtail	The only external offal meat
Veal	Heart	
	Liver	Veal offal is more commonly served in restaurants than other types.
	Kidney	
	Tongue	
	Brains	
	Sweetbreads	Thymus gland
Pork	Liver	Pork offal is stronger in flavour; the liver is most commonly used in pâté.
	Heart	
	Kidney	
	Intestines	Used for sausage casings
	Skin	Used to make cracklings or chicharron
	Blood	Used for blood sausage and black pud ding
Lamb	Liver	Lamb offal is milder in flavour
	Heart	
	Kidney	
	Tongue	
	Intestines	Used for sausage casings
Chicken	Heart, Liver, Gizzard	These three are often referred to as giblets as a whole.
Duck/Goose	Liver	fatty livers.