



Distinction between meats of different animals

Commercial cheat of meats include three types :

- Commercial cheat in species.
- Commercial cheat in sex.
- Commercial cheat in quality of meat.

There are several methods for distinction between different types of meats: -

1-Differentiation between the carcasses of slaughtered animals .

2-Muscle specifications, which include :-

- Color, textures, presence of fat, muscle fibers and smell of meat.

3-Fat specifications, which include :-

- Color, textures and quantity.

4-Chemical methods.

5-Modern techniques including ELISA and PCR.

Differentiation between the carcasses of slaughtered animals:

Feature	sheep	Goats
Tail	large	small
Odor	rumen odor	steroid odor
Thigh	U shape	V shape
Subcutaneous tissues	not viscous	viscous with hair adherence



Muscle and fat specifications:

Cattle:-

- Veal is the meat of calves.
- Veal can be produced from calves aged 6 to 7 months.
- Beef is the meat from older cattle.
- Mainly from bulls and steers.
- Cow meat is usually obtained from older animals that are no longer required for breeding or producing milk.
- Newborn calves meat have pale red color with watery appearance.
- Veal has light red color, fine texture, smooth taste and more tender.
- The color of the beef has become darker and the structure and taste has also changed.
- Muscle fibers thick and have smooth texture.
- Fat white to yellow (depend on age) with smooth texture.
- Marbling: Refers to the intramuscular fat that is evenly dispersed within the meat.
- Marbling is a measure of quality.

Buffalo:-

- Dark brown color meat with thick muscle fibers more than beef.
- Fat has milky white color with rough and granular texture.

Differences between cattle and buffalo meat:-

1. While the fat with the buffalo meat is milky white, fat in a cow or bull meat is yellowy white.
2. Buffalo meat is darker in color than beef.
3. Bones of buffalo are harder than cow.

Sheep:

- Lamb is the meat of young sheep before they have 1 year.
- Mutton is the meat of sheep, usually 24 months or older.
- Lamb can vary in color from pink to pale red whereas mutton is slightly darker in color.
- Muscle fibers thin or lean and smooth.
- Lamb has a finer texture than mutton.
- Fats accumulated in the tail.



- Fat has a white color with soft texture.

The differences between mutton and cattle meat:

1. The total amount of meat you'll get in a piece of mutton will be less than in beef.
2. Lamb meat specifically has a much stronger smell than beef.
3. Mutton is a lot tender than beef, which is more chewy.

Goat :

- Goat males characterized by the odor like steroid which transfer from skin to carcass after slaughtering during dressing.
- Color of meat light pink to bright red darker than mutton.
- Goat meat is actually lower in calories, total fat, saturated fat, and cholesterol than not just lamb and beef meats, but also turkey and chicken meat.
- Goat fat is viscous so we notice some hairs stick to their carcasses.

Horse:

- Meat color is dark red to brown, and when exposed to air becomes blue to black, the muscle fibers are very fine and solid with no fat combining muscle.
- Meat contains a large amount of glycogen giving it a sweet taste .
- Fats have golden yellow color and oily textures.
- When cooking a certain amount of horse meat, yellow gold spots will appear on the surface of the liquid due to fat color.

Dogs meat: Blackish red color.

Rabbits meat: Squirrel red in color.

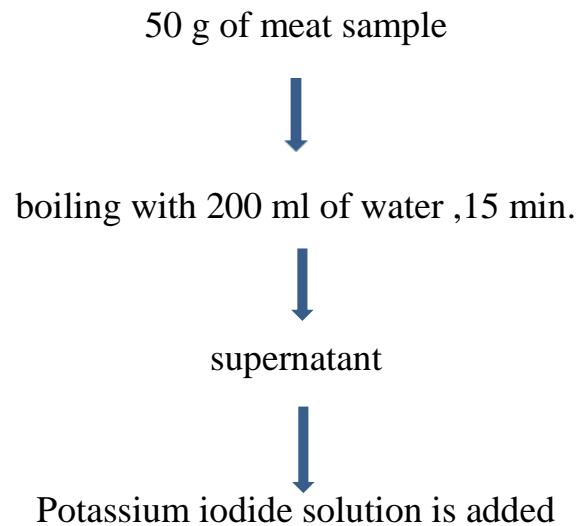
Embryos meat:

- Dark red in color.
- Muscle fibers are smooth and soft, contain a high proportion of glycogen.



Chemical methods:

Detection of glycogen: -



Result:

- Negative result → purple color → horse meat is not present.
- Positive result → dark brown color → horse meat is present.

