

Dept. of Vet .Public Health

//MEAT HYGIENE Course

5th stage:

Bleeding:

- ❖ function of bleeding is to remove more quantity of blood from carcass in few time because blood consider a good medium for growth and multiplication of microorganism

- ❖ ill bleeding (imperfect bleeding) will exposure carcass for fast damage and its nutritional value will decrease and shelf life of carcass storage is decrease.

- ❖ Amount of blood in boody of animal is 1/12 from its weight and during bleeding may be half or more may be get out.

- ❖ In order to complet bleeding animal must be in good health and bleeding process must be done immediately after stunning because different way of stunning cause arteries constriction and increase heart plus and also blood pressure

- ❖ If bleeding is not complete and slaughtering of animal not quick this may be cause blood splashing.

Imperfect bleeding (ill bleeding) :

- + This condition is occur when carcasses of animals which have been slaughtered when almost at point of death or due to condition of fevered nature or to weak heart action due to injury
- + The more common injuries are choking, suffocation, heart failure ,block of intestine
- + Where imperfect bleeding is due to fever ,the carcasses and offal will show evidence of systemic change.

الإدماء غير الكامل Imperfect bleeding :

- يكون لون الذبيحة غامقاً.
- عند عمل قطع في منطقة الإبط يشاهد امتلاء الأوردة بالدم.
- بروز الأوعية الدموية تحت الجلد لاحتقانها بالدم.
- تكون الأحشاء الداخلية محتقنة ومترهلة .
- امتلاء الأوردة بين الضلوع بالدم.
- تكون العقد الليمفاوية مملوءة بالدم
- يكون البطين الأيسر للقلب ممتلئاً بالدم وعادة ما يكون متجلطاً.



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Sings of incomplete bleeding:-

- 1- congested subcutaneous blood vessels.
- 2-Lymph nodes appeared likely covered with blood specially prescapular L.n. but with out enlargement.
- 3- congested axillary's blood vessels, and inter costal blood vessels
- 4- Meat appearance congested flabby and the carcass appear dark in colour.
- 5- Left ventricle of the heart full with blood.
- 6- congestion in the inter organs special (liver, Kidney and lung).

7- Oozing blood in the place when use cut or incision in the masseter muscle

Slaughtering of animal after death:

1. Sign of normal incision is not seen
2. All veins under skin of head filled with blood
3. Colour of muscle dark
4. There is green colour in abdomen wall and fat surrounded kidney and liver become superficial
5. Right ventricle fill with blood then ventricle become empty with out blood and abdomen cavity contain undesirable odour

Signs of sufficient or good bleeding:-

A- Carcass

- 1- Not congested subcutaneous blood vessels, axillary's B.V. and intercostals B.V.
- 2- Meat appearance not congested.

B-Internal organs:-

- 1- Heart:-Left ventricle completely empty from blood.
- 2-There is no congestion in the inter organs special(liver, Kidney and lung).

Determination efficiency of bleeding

1-Physical method

1-Blotting paper test

Aim:

To check the efficiency of bleeding by 'Blotting paper test'.

Materials required

:Meat piece, knife, filter paper

Procedure:

In a block of meat an incision is made, then a stripe of white blotting paper or filter paper was placed in the incision and the paper was removed after 2 minutes.

Result:

:Badly bled meat will stain the paper light or dark red and moisten it irregularly beyond the line of contact with the meat, while well bled meat stain the paper faint pink and not exceed the line of contact.

2- Filter paper pressing test:

Meat piece ,filter paper, put it between two slide and compressed it and closed to squeeze for 3 minuite

Result:

- Paint to faint pink indicate well bleeding(fit)

- Red to dark red bleeding and oozing in filter paper indicate ill bleeding(un fit)

3-Hemoglobin extraction test:

In a clean test tube put 5g of chopped meat and add 10ml of water(few drops of ether may be added) shake well and allow to stand for 10 minutes.

Result:

- faint to faint pink indicate well bleeding(fit)
- red to dark red indicate ill bleeding(un fit)

2-Chemical tests:

Malachite green test : to determination efficiency of bleeding

Reagents : malachite green,,3%H₂O₂

Procedure: In beaker add:

1. 10 gram minced meat
2. 15ml distilled water
3. Allow to stand for 15 minutes
4. Filter through a coarse filter paper

5. Transfer 7ml of the extract into test tube
6. Add 1 drop of malachite green and mix(0.1 gm of Mg+25ml 30%acetic acid+75 ml DW)
7. Add 1 drop of H₂O₂ (3%)
8. Shake the mixture until it foams slightly
9. Leave for 20 minutes then record colour.

Result:

- ❖ Blue colour or clear blue indicate well bleeding (fit)
- ❖ Green yellowish colour or cloudy indicate in complete bleeding (border line)
- ❖ Olive green indicate ill bleeding (un fit)