

The outer surface of carcasses are always exposed to large quantity of pollution in abattoir , although the clean depended in sanitary methods .

The muscles , fat and bones of healthy animals are almost empty from infection , the pollution were take place in abattoir during chopping of carcasses and supply to costumers .

Sources of contamination:

- 1- Animal condition prior to slaughter ...
 - a- pre-slaughter handling. b- Stresses .c- health condition.
- 2- During slaughter ...
 - a- action of slaughtering. b- Contamination of knives with blood.
- 3- Surface contamination of meat ...
 - a- exterior of the animal 50% skin heavy contamination, dirty animal should not be slaughter.
 - b- b- during preparation of carcasses: such as 1- Evisceration should close the rectum and esophagus, also fasting of the animal help in decreasing of the contamination. 2- During preparation of the carcass, by contaminated water and cloths used for cleaning of the carcass may spread the contamination.
- 4- Handling of meat ... excess of contamination from hands or other cloths.
- 5- In retail market ...
 - a- at butchers shop, by transmitted.
 - b- b- at refrigerators, if not cleaned or disinfected.

*** the meat hygiene depend on number and type of bacteria , so it could be estimation in following point:**

- 1-pathogenic bacteria that can cause disease to costumers .
- 2-some of bacteria cause spoilage in meat and become un healthy for costumers .

*** The factors which have effect on reproduction of bacteria :**

*** A-external factors :**

- 1-Temperature : in all type of bacteria have optimum temperature for their living and reproduction , for example some bacteria live leas 20 c which called psychrophiles but other live in 45 c that is called Thermophiles .
- 2-humidity : the bacteria wil be growth in high humidity (90 %) .
- 3-The oxygen : some of bacteria are aerobic or anaerobic in meats .
- 4-Physical characteristic of meat: if it is increase in distance of meats it will be more exposed to infection especially in environment.

B-Internal factors

- 1- Water activity
- 2- PH
- 3- Oxidation - reduction potential
- 4-growth necessary substance .

Spoilage of meat:

Meat is perishable food, sooner or later will show undesirable changes depending on their bacterial load and environmental condition.

Therefore keeping quality of the product depends on:

- 1- Rate of contaminates.
 - 2- Growth of contaminates, **their depends on ...**
 - A- Associative growth ... if conditions are favorable for all types of microorganisms, bacterial grow faster than yeast and yeast faster than mold.
 - B- environmental conditions ...the environmental conditions determine which of existing contaminates will outgrow others and cause its type of change or spoilage.
- The factors influences the growths of microorganisms are**

1- Physical property of meat, exposed surface of meat has the greatest load of microorganisms.

2- Chemical property of meat, meat is a good medium for microorganisms as it contains different nutrients (protein, fat .etc.).

Types of bacteria and fungi it probably found in meats :

1-pseudomonas sp

2-lactobacillus

3-Proteus

4-Aspergillus

5-penicillium