



Frequently asked questions (FAQ's):

Q.No.1. Define water activity?

Ans:- The extent of water available to microbial cells is expressed as water activity. It represents the ratio of the water vapour pressure of the food to the water vapour pressure of pure water under the same conditions.

Q.No.2. Why is irradiation considered as a non-thermal technique?

Ans:- Irradiation is considered as a non-thermal technique because a maximum dosage of 10 kGy represents a low amount of energy equivalent to that needed to raise the temperature of 1 g water by 2.4°C.

Q.No.3. Why are UV-radiations used only for surface sterilisation of meat?

Ans:- Among the non-ionising radiations, ultraviolet radiations of 2650Å are most bacteriocidal in nature, but due to poor penetration power, they are used only for surface sterilization of meats.

Q.No.4. What is cold shortening?

Ans:- Cold shortening can often be seen in beef and mutton, when the meat, still in its pre-rigor phase, reaches a temperature of 10°C or lower. These conditions cause irreversible contractions of the muscle tissue which toughen the meat even after prolonged ripening.

Q.No.5. What is the main function of salt as a curing ingredient?

Ans:- The main function of salt in cured products is to provide desirable flavour.

Q.No.6. What are perigotype factors?

Ans:- In cured meat products, nitrite reacts with proteins when heated to form compounds called perigotype factors that inhibit the development of spores of *Clostridium botulinum*.

Q.No.7. What is freeze drying?

Ans:- If the water vapour pressure of food is held below 4.58 Torr (610.5 Pa) & the water is frozen, the solid ice sublimates directly to vapour without melting when food is heated. This process is known as freeze drying.

Q.No.8. What is injection curing?

Ans:- Injection curing is the curing process in which concentrated solution of curing ingredients is injected in meat by needles or is pumped in meat via artery.

Q.No.9. What are the different causes of meat spoilage?

Ans:- The quality of meat and meat products degrade as a result of digestive enzymes, microbial spoilage and fat oxidation.

Q.No.10. How does chilling in air reduce the bacterial growth?

Ans:- Chilling in air reduces carcass surface temperature and enhances carcass drying; both of which reduce the growth of bacteria.

Q.No.11. Frozen poultry and pork are said to have less storage life than buffalo meat, beef, mutton and chevon. Explain?

Ans:- Storage life of pork and poultry is less than buffalo meat, beef, mutton and chevon because of relatively high amount of associated unsaturated fat, which is prone to rancidity development.



Q.No.12. How does fast freezing produce better quality meat than slow freezing?

Ans:- Fast freezing produces better quality meat than slow freezing because during slow freezing, formation of large ice crystals damages the cell and results in protein denaturation.

Q.No.13. What is the basic function of nitrates and nitrites as a curing ingredient?

Ans:- Nitrates and nitrites, either potassium or a sodium salt, are used to develop cured meat colour. They impart a bright reddish, pink colour, which is desirable in a cured product.

Q.No.14. Define 12D reduction?

Ans:- 12D reduction means that processing time will reduce the amount of the bacteria by 12 decimal logarithmic cycles.

Q.No.15. What will happen if the interior of the cans is not lacquered during canning?

Ans:- If the interior of the cans is not lacquered, there may be discoloration due to the reaction of H_2S (produced from the meat proteins) with the plate metals.

