

MODULE-8



QUALITY ATTRIBUTES OF MEAT

ePathshala
पाठशाला
A Gateway to All Post Graduate Courses



Introduction

- Meat is an animal flesh mammalian species (pigs, cattle, lambs, etc.) that is eaten as food raised and prepared for human consumption, to the exclusion of fish and other seafood, poultry, and other animals
- Usage varies worldwide, depending on cultural or religious preferences. Means different things to different people – between and also within countries/regions. Different criteria at each stage of production chain will change over time.



Perception of meat quality by Consumer

➤ INTRINSIC

At point of sale:

Colour

Fatness

Drip

Nutritional

On cooking:

Aroma

Shrinkage

Exudates

On eating:

Tenderness

Juiciness

Flavour



Factors affecting meat quality

- Pre-slaughter
- Breed
- Genetic
- Sex
- Age
- Feeding
- Handling
- Stunning method

Meat Quality Attributes



- Texture
- Colour
- Tenderness and texture
- Flavour



Texture

- The texture of good quality meat should be even
- Texture of meat depend upon:
 - Breeding
 - Size
 - Age of the animal
 - Individual muscular activity size

Colour



- Dependent on the oxidation-reduction potential of the environment,
- Maturity,
- Chemical state of haemoglobin and myoglobin in meat
- Vacuum-packaged fresh meat is dark purple, indicates that no oxygen is present within the package
- Vacuum packaging of meat assures a maximum shelf life of 15 to 25 days



Tenderness and texture

Tenderness and texture depend upon following factors:

- Size of meat fibres
- Activity of the muscle
- Amount, kind and distribution of connective tissue.
- Degree of natural aging



Flavour

- Flavour of meat is depend up on:
 - Age of the animal
 - Aging (holding of meat after slaughter)
- There are two widely used methods of ageing
 - On the Bone - by hanging carcasses
 - Vacuum packed - ageing.



Meat Storage

- Stored at 28 to 30°F
- Frozen meats should be stored at 0°F
- Ice crystal development due to temperature fluctuations during freezer storage
- Frozen meat products should be packaged in material, which prevent the evaporation of moisture and entrance of air



References:

Charley, H. 1982. Food Science. John Wiley and Sons. New York, NY.

Ingram, M., and Simonson, B. 1980. Meats and meat products. In Microbial Ecology of Foods, Vol. II. Food Commodities. Academic Press. New York, NY.

Labropoulous, A.E., and Kelly, R.F. 1978. Delayed chilling of beef--A review. J. Food Protect. 41:483-485.

Levie, A. 1979. The Meat Handbook, 4th ed. Avi Publishing Co. Westport, CT.

Price, J.F., and Schweigert, B.S. 1971. The Science of Meat and Meat Products. 2nd ed. W.H. Freeman and Co. San Francisco, CA.

Terrell, M.E. 1979. Professional Food Preparation 2nd Ed. John Wiley & Sons. New York, NY.



References:

Haverstock, D. October, 1987. Fresh vs. Frozen: Is One Superior? Restaurant Management. Cleveland, OH.

Hendrickson, R.L. 1978. Meat, Poultry and Seafood Technology. Prentice-Hall, Inc. Englewood Cliffs, NJ.

Liston, J. 1980. Fish and shellfish and their products. In Microbial Ecology of Foods, Vol. II Food commodities. Academic Press. New York, NY.