MODULE NO: 15 TECHNOLOGY OF INTERMEDIATE MOISTURE AND DRIED MEAT PRODUCTS

INRTODUCTION

- Result of the dehydration or drying of lean meat.

Natural conditions or in an artificially created environment.

PROCESSING PROCEDURES FOR DRY AND SEMI-DRY SAUSAGES

1.Fermented Dry Sausage:-

- **Formulation and Blending**
- **Stuffing**
- **Fermentation**
- **Heating and Drying**
- **Smoking**

THE KEY CONSIDERATIONS

1.30-40% moisture loss.

2.Fat smearing over lean tissue minimized

3.Raw meat mix Temp. 25-28°F

4.Meat mix temperature at stuffing 25-30°F

5.Meat visual defects should be minimized

FERMENTED DRY SAUSAGE

- The product is formulated to about 28-32% fat.
- The maximum amount of beef allowed in product labeled as "pepperoni"
- Not "beef pepperoni" is 55%.
- Most processors use a minimum 60% pork.

FERMENTED SEMI-DRY SAUSAGES

Example

Summer sausage, Lebanon bologna and thuringer

- Do not lose as much water (10-15% loss) as dry sausages (30-40% loss).
- The drying occurs during fermenting and cooking
- lower pH (<4.8).
- a fermentation period of 12-16 hours at 100°F

FERMENTED SEMI-DRY SAUSAGETYPE

- Chemically Acidified Sausages-

  formulated with chemical acidulants

- Non-Acidified Dried Sausages

  Not fermented or acidified

DRIED WHOLE MUSCLE PRODUCTS

Muscle products are mostly dry cured

Example

- ✓Prosciutto,
- ✓Parma and country ham dried pork bellies (Pancetta),
- ✓Dried pork shoulders (coppa)
- ✓Dried beef rounds

PROCESS OF DRIED MUSCLES PRODUCTS

- Dry Curing
- Pickle Curing
- Injection Curing
- Burning
- Ripening
- CO_2 Gassing

CHANGES DURING PROCESSING: DRY HAM

- Depend upon manufacturing differences are particle size
- lower moisture content (22-24%),
- water activity (<0.80)
- moisture protein ratio (0.75:1.0 or less)

PROCESS MONITORING OF SHELF-STABLE DRIED MEATS

1. Microbiological monitoring
2. Moisture content and moisture/protein ratio
3. Water activity
4. PH
5. Product weight throughout process

Contd…

6. Air circulation velocity and uniformity

7. Temperatures

8. Relative humidity during process.

FINAL PRODUCTS: DRIED SHELF-STABLE MEATS

Combination of following characteristics:-

- Low pH/higher acidity
- Low water activity
- Inherent microflora in non-cooked products

Suggested readings

- Kerry JF, Kerry J, Ledward DA. 2002. Meat Processing: Improving Quality. Woodhead Publishing. P359-303.
- Rao S. M. Chander R. and Sharma A. (2005).Development of Shelf-stable Intermediatemoisture Meat Products Using Active Edible ChitosanCoating and Irradiation. *Journal of food science* Vol. 70, Nr. 7.
- Kanatt SR, Chawla SP, Chander R, Bongirwar DR. 2002. Shelf-stable and safe intermediate moisture (IM) meat products using hurdle technology. J Food Prot 65:1628–31.