

# **Preservation of Meat and Poultry Products (Preservation Techniques, Luncheon Meats, Meat Loaves, Meat Spreads, Canned Meat Products, Maintenance of Eggs, Soups, Gravies, Sauces, Sausage with Machinery, Equipment Details & Factory Layout) 2nd Edition**

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Food preservation is a method of maintaining foods at a desired level of properties or nature for their maximum benefits. Preservation usually involves preventing the growth of bacteria, yeasts, fungi, and other micro-organisms (although some methods work by introducing bacteria, or fungi to the food), as well as retarding the oxidation of fats which cause rancidity. There are various methods of preservation chilling, freezing, curing, smoking, dehydration, canning, radiation preservation etc. Chilling is most widely used method for preservation for short term storage of meat because chilling or refrigeration slows down the microbial growth and enzymatic as well as chemical reactions. Freezing is the method of choice for the long term preservation of meat. It has advantage of retaining most of the nutritive value of meat during storage. Meat smoking was known to man as an aid in preservation for a long time. Smoke contains a large number of wood degradation products such as aldehydes, ketones, organic acids, and phenols etc. which exert bacteriostatic affect besides imparting characteristic smoky flavour. Canning is a process of preservation achieved by thermal sterilization of product held in hermetically sealed containers. Canning preserves the sensory attributes such as appearance, flavour and texture of the meat products to a large extent. Freeze drying of meat is a satisfactory process of dehydration preservation due to better reconstitution properties, nutritive quality and acceptability. It involves the removal of water from the frozen state to vapour state by keeping it under vacuum and giving a low heat treatment. Maintaining or creating nutritional value, texture and flavour is an important aspect of food preservation, although, historically, some methods drastically altered the character of the food being preserved. Meat and poultry products are chilled immediately after slaughter to acceptable internal temperatures which insure the prompt removal of the animal heat and preserve the wholesomeness of the products. As such, due to the recent up gradation of preservation techniques, the preservation industry is also growing almost at the same rate as the food industry which is about 10 to 12% per year.

Some of the major aspects of the book are principles of various preservation techniques, standards and quality control measures for meat, meat food products order, eating quality and sensory evaluation of meat, preservation of poultry meat, utilisation of poultry industry by products, mixed poultry by products meal, structure, composition and nutritive value of eggs, luncheon meats, meat loaves, and meat spreads, barbecue style pork loaf using non fat dry

milk, canned corned beef products, salisbury steak with textured vegetable protein, general instruction to be observed for processing canned items under steam or under the combination of steam and water pressure, spaghetti and meat balls in tomato sauce with cheese, etc. Different preservation techniques are being developed to satisfy current demands of economic preservation and consumer satisfaction in nutritional and sensory aspects, convenience, absence of preservatives, low demand of energy and environmental safety. The present book contains various processes of meat and poultry preservation. All the entrepreneurs, technocrats, persons evolved in meat and poultry processing will be benefited from this book.

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#### 11.2.1 Selecting Ingredients

#### 11.2.2 Grinding Meat Ingredients

#### 11.2.3 Blending the Meat and Non-Meat Ingredients

#### 11.2.4 Stuffing and Filling

#### 11.2.5 Smoking

#### 11.2.6 Packaging and Storage

## 12. PLANT LAYOUT DESCRIPTION-SAUSAGE MANUFACTURING

### 12.1 Reception and Storage Area

### 12.2 Meat Preparation Area

### 12.3 Meat Grinding Area

### 12.4 Mixing Area

### 12.5 Emulsification Area

### 12.6 Stuffing Area

### 12.7 Linking and Hanging Area

### 12.8 Cooking/Smoking Area

### 12.9 Cooling Area

### 12.10 Packaging Area

### 12.11 Storage and Dispatch Area

### 12.12 Quality Control Lab

### 12.13 Waste Management Area

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### 13.1 General Instruction to be Observed for Processing Canned Items under Steam or under the Combination of Steam and Water Pressure

#### 13.1.1 General Instructions

#### 13.1.2 Retort Procedure During Cooking and Chilling Operations

##### 13.1.2.1 Exceptions to the Above Rules

### 13.2 Brown Gravy (Retort Type)

#### 13.2.1 Procedure

### 13.3 Brown Gravy

#### 13.3.1 Procedure

#### 13.3.2 Suggested Process

#### 13.3.3 Suggested Uses

### 13.4 Brown Gravy with Sliced Beef (Semi-cold Pack)

#### 13.4.1 Prepare Beef Slices

#### 13.4.2 Prepare Gravy

#### 13.4.3 Suggested Process

### 13.5 Bee and Gravy (Cold Pack) (70% Beef, 30% Gravy)

#### 13.5.1 Procedure

#### 13.5.2 Suggested Process

### 13.6 Beef and Gravy (Cold Pack)

#### 13.6.1 Procedure

#### 13.6.2 Suggested Process

### 13.7 Sliced Beef in Gravy (for 100-Gallon Batch)

#### 13.7.1 Procedure

### 13.8 Swiss Steak in Gravy

#### 13.8.1 Prepare Meat

#### 13.8.2 Prepare Gravy

- 13.8.3 Fill and Close
- 13.8.4 Suggested Process
- 13.9 Beef Stew Canned with Pre-cooked Gravy or Cold Gravy
  - 13.9.1 Pre-Cooked Gravy Procedure
    - 13.9.1.1 Pack and Process
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    - 13.9.2.1 To Make Cold Gravy
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  - 13.9.3 Suggested Process for Either Type of Gravy
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  - 13.10.1 Procedure
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  - 13.11.1 Procedure
  - 13.11.2 Suggested Process
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  - 13.12.1 Prepare Meat
  - 13.12.2 Prepare Gravy
  - 13.12.3 Pack
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  - 13.13.1 Procedure
  - 13.13.2 Suggested Process
- 13.14 Georgia Hash (Cold Pack)
  - 13.14.1 Procedure
  - 13.14.2 Process
- 13.15 Hungarian-Style Beef and Vegetable Dinner (Cold Pack)
  - 13.15.1 Procedure
  - 13.15.2 Suggested Process
  - 13.15.3 For Pork and Vegetable Dinner
- 13.16 Hungarian-Style Goulash (Hot Pack)
  - 13.16.1 Prepare Meat
  - 13.16.2 Prepare Gravy
  - 13.16.3 Fill and Close
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- 13.17 Hungarian Beef Goulash (Cold Pack)
  - 13.17.1 Procedure
  - 13.17.2 Suggested Process
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  - 13.18.1 Procedure
  - 13.18.2 Suggested Process
- 13.19 Lima Beans with Ham (Hot Pack)
  - 13.19.1 Prepare Hams
  - 13.19.2 Prepare Lima Beans
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- 13.20 Creamed Chipped Beef
  - 13.20.1 Process
- 13.21 Creamed Chipped Beef (Hot Pack)
  - 13.21.1 Procedure
  - 13.21.2 Suggested Process

- 13.22 Stuffed Green Peppers in Tomato Sauce
  - 13.22.1 Prepare Filling
  - 13.22.2 Prepare Sauce
  - 13.22.3 Assemble, Fill Cans, and Close
  - 13.22.4 Suggested Process
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  - 13.23.1 Procedure
  - 13.23.2 Suggested Process
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  - 13.24.1 Procedure
  - 13.24.2 Suggested Process
- 13.25 Canned Ham Saled Spread
  - 13.25.1 To Prepare Meat
  - 13.25.2 To Prepare Dressing
  - 13.25.3 Combine, Fill, and Process
- 13.26 Meat Balls in Tomato Sauce (Institutional Pack in no. 10 Tins)
  - 13.26.1 Prepare Meat Balls
  - 13.26.2 Prepare Sauce
  - 13.26.3 Fill, Close, and Process
  - 13.26.4 Suggested Process
  - 13.26.5 Chill
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  - 13.27.1 Prepare Meat Balls
  - 13.27.2 Prepare Gravy
  - 13.27.3 Fill, Close, Process, and Chill
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  - 13.28.1 Prepare Meat Balls
  - 13.28.2 Prepare Sauce
  - 13.28.3 Fill, Close, Process
  - 13.28.4 Suggested Process
- 13.29 Spaghetti and Meat Balls in Tomato Sauce with Cheese
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  - 13.29.2 Prepare Sauce
  - 13.29.3 Prepare Spaghetti
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  - 13.29.5 Suggested Process
- 13.30 Spaghetti Meat Sauce (Hot Pack)
  - 13.30.1 Procedure
  - 13.30.2 Suggested Process
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  - 13.31.2 Fry or Broil
    - 13.31.2.1 To Fry
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  - 13.32.2 Prepare Cheese Sauce
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- 13.32.4 Pack
- 13.32.5 Suggested Process
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  - 13.33.1 Prepare Meat
  - 13.33.2 Prepare Egg Noodles
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  - 13.34.1 Prepare Pork and Beans
  - 13.34.2 Prepare Sauce
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  - 13.35.1 Prepare Beans
  - 13.35.2 Prepare Meat Balls
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  - Vacuum Meat Tumbler
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  - Vacuum Meat Bowl Cutter for Sausage or Can Food

- Meat Tenderizer
- Vacuum Filler
- Sausage Peeler
- Meat Mixer
- Sausage Cooking Vat
- Double Chamber Vacuum Packaging Machine
- Semi-Automatic Tray Sealer
- Smoke Chamber
- Sausage Clipping Machine
- Automatic Thermoforming Packing Machine
- Sausage Stuffer / Filler
- Automatic Digital Meat Flattening Machine
- Air Chiller
- Can Seamer

## About NIIR

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