

Logo

106-E, Kamla Nagar, New Delhi-110007, India.
Tel: 91-11-23843955, 23845654, 23845886, +918800733955
Mobile: +91-9811043595
Email: npcs.ei@gmail.com, info@entrepreneurindia.co
Website: www.entrepreneurIndia.co

Fresh Meat Technology Handbook

Code: NI102	Format: paperback
Indian Price: ₹975	US Price: \$100
Pages: 540	ISBN: 8178330407
Publisher: Asia Pacific Business Press Inc.	

Description

The origin of meat processing is lost in antiquity but probably began when primitive humans first learned that salt is an effective preservative and that cooking prolongs the keeping quality of fresh meat. This book includes the processing of fresh meats, the different curing agents, method of curing, smoking and manufacturing of various meat products such as sausages, canned meat, cured and smoked meats etc. The book is very useful for entrepreneurs, technocrats and those who want to venture in to this field.

Note: This book is also known as 'The Complete Book on Meat Processing And Preservation with Packaging Technology', NI162.

Content

1. MEAT PRODUCT

Curing

Comminution

Smoking

Canning

Freezing

Dehydration

By-Products

2. TENDERNESS

Feed Additives

Balanced Electrolyte Composition

Ante-Mortem Enzyme and other Treatments

Stabilized, Purified Enzyme Preparation
Enzyme and Antibiotic Synergism
Controlled Enzyme Distribution
Uniform Enzyme Distribution
Treated and Standardized Enzyme Solution
Activators of Natural Proteolytic Enzymes
Collagen Diminution Agents
Reversibly Inactivated Enzymes
Pre-Rigor Mortis Enzyme Treatment
Enzyme and Antibiotic Synergism
Tenderization of Connective Tissue
Cold Water Buffered Enzyme Solution
Isotonic Enzyme Solution with Specific Activity
Buffered Enzyme Combined with Gelatin
Pre-Rigor Mortis Injection
Water Injection
Water and Gas Injection
Water and Cellulose Gum Injection
Whole Blood or Whole Milk Injection
Post-Rigor Mortis Enzyme Treatment
Tenderizer Composition
Aerosol Tenderizing Compositions
Enzyme with Higher Sodium Phosphates
Enzyme with Basic Pyrophosphate Salts
Balanced Activity of Papain and Bromelin
Enzyme with Nonlinear Phosphates in Saline
Enzyme and Fat Combination
Gas as Tenderizer Carrier
Inactivation of Enzymes with High Pressure
Carbon Dioxide or Oxygen Atmosphere
Enzyme, Chelating Agent, and Starch
Tragacanth Addition
Meat Pieces with Tenderized Core
Aging at Elevated and Controlled Temperatures
Variable Dew Point Control
Vacuum Packaged Cuts
Diathermal Heating
Controlled Atmosphere
Electron Beam Generator Radiation
Forced Dry Air Circulation

Treatment with Additives

Sodium Chloride and Pyrophosphate Synergism

Increased Injection Level of Sodium

Chloride and Phosphate

Marination and Refrigeration

Sodium Bicarbonate and Vinegar

Treatment with High-Pressure Gaseous Atmosphere

Oxygen

Carbon Dioxide

Solution Application Devices

Automatic Spraying Apparatus

Jet Injection Apparatus

Mechanical Tenderizing

Composite Steaks by Mechanical Method

Composite Steaks by Cryogenic Method

Compressed Cuts Mechanically Tenderized

Action of Supersonic Energy

Isometric Tensioning

Method for Tenderness Measurement

Tenderness Measuring Apparatus

3. FLAVOUR AND TENDRENESS

Simultaneous Flavouring and Tenderizing

Action of Molds and Bacteria

Action of *Thamnidium elegans*

Pre-Rigor Mortis Injection of *Aspergillus niger* Mycelium

Acid Activation of *Thamnidium elegans*

Anta-Mortem injection of *Thamnidium* and *Aspergillus*

Thamnidium and Antibiotic Synergism

Action of *Pseudomonas* and *Achromobacter*

Combined Action of Flavouring and

Tenderizing Agents

Monosodium Glutamate Eliminates Mutton Flavour

Application of Dry Tenderizer and Flavouring Materials

Inhibition of Warmed-Over Flavour

4. FLAVOURING

Meat Hydrolysates and Extracts

Acid Hydrolysis of Water-Insoluble Meat Residue

Fractionation of the Flavour Precursor

Hydrolysis of Meat

Bone Hydrolysates and Extracts

Continuous Counterflow Hydrolysis
Continuous Hydrolysis
Protein Hydrolysate
Synthetic Flavouring
Cysteine and Glyceraldehyde Base
Cysteine and Ribose
Derivatives of Mercapto-Acetaldehyde
a- Ketobutyrate, Inosinate, and Glutamate Base
Nitrite and Amino Acids
Cysteine, Sugar, Inosinate, and Protein Hydrolysate Base
Cysteine, Thiamine and Proteinaceous Substance Base
Ribose, Glycerol, Proline, Cysteine, and Methionine
Amino-Carbonyl Complexes from Protein Hydrolysates
Heat-Treated Slurried Meat and Ascorbic Acid

5. COLOUR

Ante-Mortem Treatment
Adrenalin and Ascorbic Acid
Treatment with Gaseous Atmosphere
Carbon Monoxide
Oxygen Under Pressure
Ammonia
Hemoglobin Base Colouring Compositions
Stable Compositions in Liquid and Paste Form
Compositions in Dry Powder Form
Chemical Treatment
Certified Monoazo Red Dyes
Ascorbate, Phosphate, and Citrate
Ascorbate, Gelatin, and Monosodium Glutamate
Imidazole
Metal Ions Ashed from Biological Tissues
Beta-Carotene
Nicotinic Acid Spray
Mechanical Treatment
Removal of Residual Blood
Protection of Bone Colour of Primal Cuts

6. INTEGRAL TEXTURE

Natural Exudate as Binder
Surface Treatment to Release Exudate
Mechanical Pricking to Release Exudate and
Freezing to Integrate

Compression to Release Exudate
Cryogenic Method
Enzyme Sodium Chloride Binding Action
Salt-Soluble Proteins
Scoring to Release Exudate
Polyphosphate as Bonding Agent
Polyphosphate Injection
Repeated Slow Freezing and Thawing
Binding Agents
Wheat Gluten
Gums
Binding Matrix

7. PRESERVATION : MOISTURE RETENTION AND SURFACE PROTECTION

Long Chain Hydrocarbon Coating
Fatty Alcohol or Fatty Acid Protective Film
Preliminary Ice Coating
Intermediate Glycerol Layer
Intermediate Water Layer
Lactic Acid-Fatty Acid Triglycerides
Water-in-Oil Emulsion Containing Gum
Mixture of Mono- and Diglycerides in Oil
Acetylated Monoglycerides
Plastic Coating
Ethylcellulose Plasticized with Mineral Oil
Ethylcellulose Plasticized with Edible Oil
Plasticized Cellulose Propionate Containing Glycol
Amorphous Polypropylene
Chemical and other Treatments
Sodium Chloride and Phosphate Solution
Injection of Water and Citric Acid
Hydrated Sodium Tripolyphosphate
Coating Powder Containing Syrup and Starch

8. ANTIMICROBIAL TREATMENT

Antibiotics
Ante-Mortem Injection
Ante-Mortem or Post-Mortem Injection
Combined with Air-Tight Packaging
Treated Absorbent Material
Coated or Impregnated Packaging Material

Addition of Nystatin or Myprozine

Various antimicrobial and Antimicrobial Agents

Plant Extracts

Spore Germination with Gibberellin

Sterilization with Nitric Oxide Atmosphere

Ethylene and/or Propylene Oxide to Destroy Trichinae

Increased Acidity to Destroy Foot-and-Mouth Virus

High Pressure Carbon Dioxide or Oxygen Atmosphere

Thermal Decontamination and

Oxygen Impermeable Packaging

Chlorine-Containing Aqueous Spray Solution

Microbial Spoilage Indicator

Design and Compositions

9. IONIZING RADIATION

High Pressure Oxygen Atmosphere to Improve Colour

Combusted Fuel Gas Atmosphere to Improve Flavour

Ante-Mortem Adrenalin Injection to

Retard Enzymatic Deterioration

Antibiotic and Sorbic acid Treatment

Saline Medium to Eliminate off-Flavours

Sodium Chloride and Nitrite or Nitrate as

Bacterial Spore Sensitizers

Sterilization with Carbon Dioxide under Pressure

Sodium Chloride Treatment Prior to Blanching

Irradiation Apparatus

Design of a Resonant Transformer Type Cathode Ray

Irradiator

10. OTHER METHODS OF PRESERVATION

Dehydration Methods

Solvent Dehydration

Drying Without Case Hardening

Preservation of Flavor

Antioxidant Application to Freeze-Dried Meats

Deodorization of Raw Meat

11. PACKAGING AND HANDLING FOR

STORAGE AND TRANSPORTATION

Various Methods of Packaging

Vacuum Packaging and Storage Below 5°C

Hot Carcass Processing and Impermeable Packaging

Vacuum Packaging and Hot Water Spraying

Processing of Partially Cooled Carcass
Controlled Atmosphere Environment
Cryogenic Oxygen-Nitrogen Atmosphere
Carbon Dioxide-Oxygen-Nitrogen Atmosphere

12. COOKING METHODS

Broiling in Oxygen-free atmosphere with
Intense Infrared Heat
Continuous Steam Cooking of Ground Meat
Controlled Electrical Cooking
High Pressure Roasting in Air Medium
Cooking Between Compressed Plates
Roasting in Suspended State
Directory Section

1. MEAT PRODUCT

Curing
Comminution
Smoking
Canning
Freezing
Dehydration
By-Products

2. TENDERNESS

Feed Additives
Balanced Electrolyte Composition
Ante-Mortem Enzyme and other Treatments
Stabilized, Purified Enzyme Preparation
Enzyme and Antibiotic Synergism
Controlled Enzyme Distribution
Uniform Enzyme Distribution
Treated and Standardized Enzyme Solution
Activators of Natural Proteolytic Enzymes
Collagen Diminution Agents
Reversibly Inactivated Enzymes
Pre-Rigor Mortis Enzyme Treatment
Enzyme and Antibiotic Synergism
Tenderization of Connective Tissue
Cold Water Buffered Enzyme Solution
Isotonic Enzyme Solution with Specific Activity
Buffered Enzyme Combined with Gelatin
Pre-Rigor Mortis Injection

Water Injection
Water and Gas Injection
Water and Cellulose Gum Injection
Whole Blood or Whole Milk Injection
Post-Rigor Mortis Enzyme Treatment
Tenderizer Composition
Aerosol Tenderizing Compositions
Enzyme with Higher Sodium Phosphates
Enzyme with Basic Pyrophosphate Salts
Balanced Activity of Papain and Bromelin
Enzyme with Nonlinear Phosphates in Saline
Enzyme and Fat Combination
Gas as Tenderizer Carrier
Inactivation of Enzymes with High Pressure
Carbon Dioxide or Oxygen Atmosphere
Enzyme, Chelating Agent, and Starch
Tragacanth Addition
Meat Pieces with Tenderized Core
Aging at Elevated and Controlled Temperatures
Variable Dew Point Control
Vacuum Packaged Cuts
Diathermal Heating
Controlled Atmosphere
Electron Beam Generator Radiation
Forced Dry Air Circulation
Treatment with Additives
Sodium Chloride and Pyrophosphate Synergism
Increased Injection Level of Sodium
Chloride and Phosphate
Marination and Refrigeration
Sodium Bicarbonate and Vinegar
Treatment with High-Pressure Gaseous Atmosphere
Oxygen
Carbon Dioxide
Solution Application Devices
Automatic Spraying Apparatus
Jet Injection Apparatus
Mechanical Tenderizing
Composite Steaks by Mechanical Method
Composite Steaks by Cryogenic Method

Compressed Cuts Mechanically Tenderized

Action of Supersonic Energy

Isometric Tensioning

Method for Tenderness Measurement

Tenderness Measuring Apparatus

3. FLAVOUR AND TENDRENESS

Simultaneous Flavouring and Tenderizing

Action of Molds and Bacteria

Action of *Thamnidium elegans*

Pre-Rigor Mortis Injection of *Aspergillus niger* Mycelium

Acid Activation of *Thamnidium elegans*

Anta-Mortem injection of *Thamnidium* and *Aspergillus*

Thamnidium and Antibiotic Synergism

Action of *Pseudomonas* and *Achromobacter*

Combined Action of Flavouring and

Tenderizing Agents

Monosodium Glutamate Eliminates Mutton Flavour

Application of Dry Tenderizer and Flavouring Materials

Inhibition of Warmed-Over Flavour

4. FLAVOURING

Meat Hydrolystates and Extracts

Acid Hydrolysis of Water-Insoluble Meat Residue

Fractionation of the Flavour Precursor

Hydrolysis of Meat

Bone Hydrolysates and Extracts

Continuous Counterflow Hydrolysis

Continuous Hydrolysis

Protein Hydrolysate

Synthetic Flavouring

Cysteine and Glyceraldehyde Base

Cysteine and Ribose

Derivatives of Mercapto-Acetaldehyde

α -Ketobutyrate, Inosinate, and Glutamate Base

Nitrite and Amino Acids

Cysteine, Sugar, Inosinate, and Protein Hydrolysate Base

Cysteine, Thiamine and Proteinaceous Substance Base

Ribose, Glycerol, Proline, Cysteine, and Methionine

Amino-Carbonyl Complexes from Protein Hydrolysates

Heat-Treated Slurried Meat and Ascorbic Acid

5. COLOUR

Ante-Mortem Treatment
Adrenalin and Ascorbic Acid
Treatment with Gaseous Atmosphere
Carbon Monoxide
Oxygen Under Pressure
Ammonia
Hemoglobin Base Colouring Compositions
Stable Compositions in Liquid and Paste Form
Compositions in Dry Powder Form
Chemical Treatment
Certified Monoazo Red Dyes
Ascorbate, Phosphate, and Citrate
Ascorbate, Gelatin, and Monosodium Glutamate
Imidazole
Metal Ions Ashed from Biological Tissues
Beta-Carotene
Nicotinic Acid Spray
Mechanical Treatment
Removal of Residual Blood
Protection of Bone Colour of Primal Cuts
6. INTEGRAL TEXTURE
Natural Exudate as Binder
Surface Treatment to Release Exudate
Mechanical Pricking to Release Exudate and
Freezing to Integrate
Compression to Release Exudate
Cryogenic Method
Enzyme Sodium Chloride Binding Action
Salt-Soluble Proteins
Scoring to Release Exudate
Polyphosphate as Bonding Agent
Polyphosphate Injection
Repeated Slow Freezing and Thawing
Binding Agents
Wheat Gluten
Gums
Binding Matrix
7. PRESERVATION : MOISTURE RETENTION AND
SURFACE PROTECTION
Long Chain Hydrocarbon Coating

Fatty Alcohol or Fatty Acid Protective Film
Preliminary Ice Coating
Intermediate Glycerol Layer
Intermediate Water Layer
Lactic Acid-Fatty Acid Triglycerides
Water-in-Oil Emulsion Containing Gum
Mixture of Mono- and Diglycerides in Oil
Acetylated Monoglycerides
Plastic Coating
Ethylcellulose Plasticized with Mineral Oil
Ethylcellulose Plasticized with Edible Oil
Plasticized Cellulose Propionate Containing Glycol
Amorphous Polypropylene
Chemical and other Treatments
Sodium Chloride and Phosphate Solution
Injection of Water and Citric Acid
Hydrated Sodium Tripolyphosphate
Coating Powder Containing Syrup and Starch

8. ANTIMICROBIAL TREATMENT

Antibiotics
Ante-Mortem Injection
Ante-Mortem or Post-Mortem Injection
Combined with Air-Tight Packaging
Treated Absorbent Material
Coated or Impregnated Packaging Material
Addition of Nystatin or Myprozine
Various antimicrobial and Antimicrobial Agents
Plant Extracts
Spore Germination with Gibberellin
Sterilization with Nitric Oxide Atmosphere
Ethylene and/or Propylene Oxide to Destroy Trichinae
Increased Acidity to Destroy Foot-and-Mouth Virus
High Pressure Carbon Dioxide or Oxygen Atmosphere
Thermal Decontamination and
Oxygen Impermeable Packaging
Chlorine-Containing Aqueous Spray Solution
Microbial Spolage Indicator
Design and Compositions

9. IONIZING RADIATION

High Pressure Oxygen Atmosphere to Improve Colour

Combusted Fuel Gas Atmosphere to Improve Flavour

Ante-Mortem Adrenalin Injection to

Retard Enzymatic Deterioration

Antibiotic and Sorbic acid Treatment

Saline Medium to Eliminate off-Flavours

Sodium Chloride and Nitrite or Nitrate as

Bacterial Spore Sensitizers

Sterilization with Carbon Dioxide under Pressure

Sodium Chloride Treatment Prior to Blanching

Irradiation Apparatus

Design of a Resonant Transformer Type Cathode Ray

Irradiator

10. OTHER METHODS OF PRESERVATION

Dehydration Methods

Solvent Dehydration

Drying Without Case Hardening

Preservation of Flavor

Antioxidant Application to Freeze-Dried Meats

Deodorization of Raw Meat

11. PACKAGING AND HANDLING FOR STORAGE AND TRANSPORTATION

Various Methods of Packaging

Vacuum Packaging and Storage Below 5°C

Hot Carcass Processing and Impermeable Packaging

Vacuum Packaging and Hot Water Spraying

Processing of Partially Cooled Carcass

Controlled Atmosphere Environment

Cryogenic Oxygen-Nitrogen Atmosphere

Carbon Dioxide-Oxygen-Nitrogen Atmosphere

12. COOKING METHODS

Broiling in Oxygen-free atmosphere with

Intense Infrared Heat

Continuous Steam Cooking of Ground Meat

Controlled Electrical Cooking

High Pressure Roasting in Air Medium

Cooking Between Compressed Plates

Roasting in Suspended State

Directory Section

About NIIR Project Consultancy Services (NPCS)

NIIR Project Consultancy Services (NPCS) is a reliable name in the industrial world for offering integrated technical consultancy services. Its various services are: Pre-feasibility study, New Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Preparation of Project Profiles and Pre-Investment and Pre-Feasibility Studies, Market Surveys and Studies, Preparation of Techno-Economic Feasibility Reports, Identification and Selection of Plant and Machinery, Manufacturing Process and/or Equipment required, General Guidance, Technical and Commercial Counseling for setting up new industrial projects and industry. NPCS also publishes various technology books, directories, databases, detailed project reports, market survey reports on various industries and profit making business. Besides being used by manufacturers, industrialists, and entrepreneurs, our publications are also used by Indian and overseas professionals including project engineers, information services bureaus, consultants and consultancy firms as one of the inputs in their research.

NIIR PROJECT CONSULTANCY SERVICES

106-E, Kamla Nagar, New Delhi-110007, India.

Tel: 91-11-23843955, 23845654, 23845886, +918800733955

Mobile: +91-9811043595

Email: npcs.ei@gmail.com, info@entrepreneurindia.co

Website: www.entrepreneurIndia.co