

Handbook on Fermented Foods and Chemicals

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About the Book

Numerous foods are prepared by fermentation processes in which one or more kinds of microorganisms are responsible for the characteristic flavour or texture, and sometimes for the keeping quality of the product. The manufacture of fermented food products is carried out on a small scale in homes in every country. Fermented products are more palatable and are not as easily spoiled as the natural products. The microorganisms that produce the desirable changes may be the natural flora on the material to be fermented, or may be added as starter cultures.

The yield of organic acids principally lactic, serve as a preserving agents. Lactic acid fermentation is an anaerobic intramolecular oxidation reduction process. Both homofermentative and heterofermentative lactic acid bacteria participate in food fermentations. In some fermented food products, yeasts and moulds also participate along with lactic acid bacteria.

Most of the reactions in living organisms are catalyzed by protein molecules called enzymes. Enzymes can rightly be called the catalytic machinery of living systems. The real break through of enzymes occurred with the introduction of microbial proteases into detergents.

Most of the enzymes are produced by microorganisms in submerged cultures in large reactors called fermentors. In choosing the production strain several aspects have to be considered. Industrial enzyme market is growing steadily. The reason for this lies in improved production efficiency resulting in cheaper enzymes, in new application fields. Tailoring enzymes for specific applications will be a future trend with continuously improving tools and understanding of structure-function relationships and increased search for enzymes from exotic environments. This field deals with how are the enzymes used and applied in practical processes. A lot of fungal, bacterial and actinomycete strains with potential for producing novel industrial enzymes have been identified.

This book contains sterilization, fermentation processes, aeration and agitation, use of yeast, yeast production, fermentation raw materials, production of bacterial enzymes, bread making methods, effluent treatment, production of actinomycete protease, lactic acid, citric acid. This handbook will be very helpful to its readers who are just beginners in this field and will also find useful for upcoming entrepreneurs, existing industries, food technologist, technical institution etc.

Contents

1. The Development of Inocula for Industrial Fermentations

Introduction

The development of inocula for yeast processes

Brewing

Baker's Yeast

The development of inocula for bacterial processes

The development of inoculum for fungal processes
Sporulation on Solidified Media
Sporulation on Solid Media
Sporulation in Submerged Culture
The Use of the Spore Inoculum
Inoculum Development for Vegetative Fungi
The Effect of the Inoculum on the Morphology of Fungi in Submerged Culture
The development of inoculum for streptomycete processes
The aseptic inoculation of plant fermenters
Inoculation from a Laboratory Fermenter or a Spore Suspension Vessel
Inoculation from a Plant Fermenter

2 An Introduction to Fermentation Processes

Lactate
Acetaldehyde
Acetalactate
Butanediol
Ethanol
The range of fermentation processes
Microbial Biomass
Microbial Enzymes
Microbial Metabolites
Transformation Processes
The chronological development of the fermentation industry
The component parts of a fermentation process

3. Sterilization

Introduction
Medium sterilization
Advantages of Continuous Sterilization over Batch Sterilization
Advantages of Batch Sterilization over Continuous Sterilization
The design of batch sterilization processes
Calculation of the Del Factor during Heating and Cooling
Calculation of the Holding Time at Constant Temperature (121°C)
Richards's™ Rapid Method for the Design of Sterilization Cycles
The Scale Up of Batch Sterilization Processes
Method of Batch Sterilization
The design of continuous sterilization processes
Sterilization of the fermenter
Sterilization of the feeds
Sterilization of Air
The Theory of Fibrous Filters
Filter design

4. Media for Industrial Fermentations

Introduction
Typical media
Medium formulation
Water
Energy sources
Carbon sources

Examples of Commonly Used Carbon Sources
Factors Influencing the Choice of Carbon Source
The Influence of the Carbon Source on Product Formation
Nitrogen sources
Examples of Commonly Used Nitrogen Sources
Factors Influencing the Choice of Nitrogen Source
Vitamin sources
Nutrient recycle
Buffers
The addition of precursors and metabolic regulators to media
Precursors
Inhibitors
Inducers
Oxygen requirements
Fast Metabolism
Rheology
Restricted nutrient levels
Antifoams

5. Aeration and Agitation

Introduction
The oxygen requirements of industrial fermentations
Glucose
Oxygen supply
Determination of $K_L a$ values
Gassing-out techniques
The static method of gassing out
The dynamic method of gassing out
Fluid rheology
Bingham Plastic Rheology
Pseudoplastic Rheology
Dilatant Rheology
Casson Body Rheology
Factors affecting $K_L a$ values in fermentation vessels
The Effect of Air-Flow Rate on $K_L a$
The Effect of the Degree of Agitation on $K_L a$
The relationship between $K_L a$ and power consumption
The relationship between power consumption and operating variables
The Effect of Medium and Culture Rheology on $K_L a$
Medium rheology
The effect of microbial biomass on $K_L a$
The effect of microbial products on aeration efficiency
The Effect of Foam and Antifoams on Oxygen Transfer

6. Mushrooms

Mushrooms and single-cell (microbial) protein
Production of the oyster mushroom, *Pleurotus* Species
Methods of Cultivation
Economics of Industrial Production
Growth of *Pleurotus Ostreatus* on Waste Paper
Growth of *Pleurotus ostreatus* on waste paper

Production of volvariella volvacea: straw mushrooms

Description

Patterns of Production and Consumption

Steps in Production

Factors Controlling Mushroom Production

Harvesting and Preservation

Discussion of Processing Steps

Preservation of Straw Mushrooms

Nutritional Content

New Microbial Strains

Expansion of Straw Mushroom Production

Edible termitomyces and their culture in the laboratory

Collection and Identification of Termitomyces Species

Culture of the Edible Species

Effect of Culture Media on Mycelia Growth

Effect of Light, Temperature, and pH on Mycelial Growth

Spawn Formation

Fruiting Body Formation

Results and Discussion

Isolation in Pure Culture

Effect of Culture Media

Effect of Temperature

Effect of Light

Effect of pH

Spawn and Fruiting Body Formation

7. Use of Yeast in Baking

Historical Introduction

Function of yeast in baking

Leavening

Effect of Yeast on Dough Development

Flavour Development

Forms of yeast used in baking

Compressed Yeast

Active Dry Yeast

Yeast for Home Baking

Yeast of Enrichment

Behaviour of yeast in dough systems

Use of Yeast in Various Dough Systems

Growth of Yeast in Doughs

Accelerated Processing of Yeast-raised Products

Yeast-leavened, Unbaked, Frozen Doughs

Sour Doughs

8. Distillers'™ Yeast

Introduction

Raw materials

Yeast preparation

Distillers'™ Yeast

Inoculation of Yeast Mash from Preceding Mash

Inoculation of Yeast Mash with Laboratory Pure Cultures

Use of Compressed or Active Dry Bakersâ€™ Yeast

Distillersâ€™ fermentations

Contaminants

Distillation

Composition of distilled spirits

9. Brewersâ€™ Yeast

Introduction

General characteristics of brewersâ€™ yeasts

Specific characteristics of brewersâ€™ yeasts

Flocculation

Wild Yeasts

Yeasts Cultivation and Pitching

Nitrogen Metabolism of Brewers; Yeast

Vitamin Requirements

Mineral Requirements

Fermentation of Wort Sugars

Effect of Temperature and Other Variables on Rate and Time of Fermentation

Growth of Yeast

By-products of alcoholic fermentation

Higher Alcohols (Fusel Oils)

Esters

Diacetyl, Acetoin, 2, 3-Butanediol, and 2, 3-Pentanedione

Aldehydes

Glycerol

Acids

Sulfur Compounds

Processing

Generation of Heat

Batch Fermentations and Modified Batch Fermentations

Continuous Fermentation

Microbial Stability of Beer

Adsorption of Isohumolone and Anthocyanins by Yeast

10. Wine Yeasts

History

Wine yeast terminology

Description of species

Natural yeasts and their occurrence in grapes and musts

Fermentation by natural yeasts and by wine yeasts

Production of wine yeast starters

Compressed wine yeast and active dry wine yeast

Biochemistry of wine yeast fermentations

Rate of Fermentation

Effect of Temperature

Fermentable Sugars in Musts and Yield of Ethanol

Effect of Carbon Dioxide Pressure on Fermentation

Effect of Ethanol on Fermentation Rate

Effect of pH on Rate of Fermentation

Sulfur Dioxide

Diethyl Pyrocarbonate (DEPC)

Sorbic Acid and p-hydroxybenzoic Acid Esters
Tannins
Ion-exchange Resins, Antibiotics and Fungicides
By-products of the alcoholic fermentation, flavor compounds, acids and yeast nutrients
Introduction
Alcohols
Aldehydes
Glycerol, 2,3-Butylene Glycol, Acetoin and Diacetyl
Esters
Malic Acid and the Malo-lactic Fermentations
Acids
Nitrogenous Compounds
Sulfur Compounds
Vitamin Requirements of Wine Yeasts
Production of wines
Introduction
Red and White Table Wines
Sherry
Sparkling Wines
Fermentation of Uncrushed Grapes (Maceration Carbonique)
Continuous Fermentation
Cider and Other Fruit Wines

11. Bakers'™ Yeast Production

History
Outline of the manufacturing process
Raw materials
Molasses
Minerals
Vitamins
Nitrogen
Fermentation Activators
Fermentation Inhibitors
Principles of aerobic growth of bakers'™ yeast
Introduction
Concentration of Fermentable Sugars
Limitation of Yeast Growth Rate
Oxygen Requirements and Aeration
Effect of pH
Temperature
Yield Energy, and the Development of Heat
Osmotic Pressure
Yeast Concentration in the Fermenter
Periodicity and Budding
Practice of the aerobic growth of bakers'™ yeast
Fermentation Tanks
Cooling
Aeration Systems
Feed Rates
Sequence of Fermentations
Defoaming

Utilization of Ethanol
Automatic Process Control
Continuous Aerobic Propagation of Bakersâ€™™ Yeast
Harvesting of Yeast Cells
Mixing, Extruding and Packaging Compressed Yeast
Contamination
Stability of Compressed Yeast
Active Dry Yeast

12. Lactic Acid $\text{CH}_3\text{CHOHCOOH}$
From whey by Fermentation
Reaction
Material Requirements
Process
From Lactonitrile
Use Pattern
Miscellaneous
Economic Aspects

13 Citric Acid
From Molasses by Fermentation
Reaction
Material Requirements
Process
By Submerged Fermentation
Use Pattern
Miscellaneous
Economic Aspects

14. A Milk-Bottle Fermentation

15. The Fermentor: An Elaborate Milk Bottle

16. Fermentation Raw Materials

17. A Typical Industrial Fermentation

18. Production of Actinomycete Protease by Solid-State Fermentation and its Application in Dehairing of Goatskin
Introduction
Materials and methods
Isolation of Proteolytic Soil Actinomycetes
Dehairing of Goatskins
Analyses
Determination of Protein
Protease Assay
Results
Isolation of Proteolytic Soil Actinomycetes
Discussion

19. Fermented Vegetables

Introduction

Theory behind fermented vegetables

Indian or oriental fermented vegetables

Fermented vegetables of the west

Advantages of Fermented Vegetables: Disadvantages of Fermented Vegetables

20 Production of Bacterial Extracellular Enzymes by Solid State Fermentation

Introduction

Materials and methods

Bacterial Strains

Enzyme Production in SSF

Amylase Production vs. Incubation Period

Effect of Moisture Level

Effect of Various Additives

Solid State Cultivation in Trays

Enzyme Assays

Results and discussion

21. Fermented Products

General procedure

Tips

Simple Bread

Method

Round bread

Method

Tiger Skin Bread

Method

Seasoned Bread

Method

Malteser Bread

Method

French Bread

Method

Tips

Rich bread

Method

Cinnamon Sugar bread

Method

Other bread

Method

Potato barm bread

Method

Bread (sponge & Dough Method)

Method

Toast/ Rusk

Method

Rusk

Method

Tip

Bun / Roll

Method

Soup Stick

Method

Plaited Bun: Winston

Method

Plaiting with 2-strings

Plaiting with 3-strings

Plaiting with 5-strings

Plaiting with 4-strings

Plaited with 6-strings

Winstone

Tip

Seli Bun

Method

Basic sweet dough

Method

Butterfly bun

Method

Nutty Rolls

Method

Jam filled buns

Method

Cheese cake

Method

Hot cross bun

Method

Dutch bread

Method

German coffee cake

Method

German Coffee Cake (Coconut)

Method

Yeast raised fruit cake

Method

Doughnut

Raised doughnut

Method

Cake doughnut

Method

Combination doughnut

Method

Variation

Fruit finger doughnut

Jam ball doughnut

Masala doughnut

Pitza

Pitza base

Method

Vegetable Pitza

Method

Gravy Pitza

Method

Variations

Chanou Pitza

Method

Assembling (Base and Filling)

Surti Butter

Method

Stuffed Products

Burger

Tip

Variation

Tips

Sandwich

Method

Tips

Variations

Tips

Stuffed rolls

Method

Danish Pastry

Method

Filling Preparation

Variety “ 1

Variety-2

Danish comb

Method

Cinnamon roll

Method

Croissant

Method

Pinwheel

Method

22. Bread Characteristics

Introduction

External characteristic

Volume

Bloom

Crust Colour

Factors Affecting the Crust Colour

Evenness of Bake

Factors Affecting Evenness of Bake

Oven Break

Factors Affecting Oven Break

Internal characteristics

Crumb Colour

Factors Affecting Crumb Colour

Crumb Structure

Factors Affecting Crumb Structure

Crumb Clarity and Elasticity

Crumb Clarity

Crumb Elasticity

Sheen and Texture

Sheen

Texture

Taste and Aroma

Factors Affecting Taste and Aroma

Moistness

Factors Affecting Moistness

Cleanliness

Bread faults

Introduction

External faults

Faults in Volume

Lack of Volume

Excessive Volume

Faults in Crust

Lack of Crust Colour

Dark Crust Colour

Cracking of Crust

Leathery Crust

Hard Crust

Thick Crust

Blisters

Lack of Bloom

Shell Top

Irregularity of Shape

Lack of Cleanliness

Internal faults

Holes and Tunnels

Core, Seams, Streaks & Condensation Mark

Damp, Clamy & Closed Crumb

Dryness and Rapid Staling

Crumbiness of the Crumb

Defects in Taste and Aroma

Summary of bread faults and their causes

Bread diseases

Introduction

Rope

Bacteria Responsible

Symptoms

Sources of Contamination

Moulds

Types

Causes

Preventive Measures

Chemical Inhibitors

Germicidal Ultraviolet Rays

Recommended Bread Making Practices

Cleaning

Raw Material

Fermentation

Baking

Cooling
Contact Surface
Packing
Storage
Re-entry of Stale Bread
Customers
Bleeding Bread
Food Poisoning
Salmonella
Sources
Symptoms
Prevention
Streptococcus
Staphylococci
Variety bread
Introduction
French Bread
Italian Bread
Vienna Bread
Dutch Bread
Raisin Bread
Rye Bread
Egg Twist Bread
Cracked Bread
Process control
Fermentation
Proofing
Staleness in bread
Introduction
What is Staleness?
Characteristics of stale bread
Types
Crust Staling
Causes
Preventive Measures
Crumb Staling
Causes
Improper Quality Raw Material
Improper Bread Processing
Improper Packing and Storage
Retardation
Ingredients
Processing
Freezing
Use of Additives
Bake shop emergencies
Introduction
Yeast problem
Shortage of Yeast
No Yeast in the Dough
Too Much Yeast

Salt problem

Dough without Salt

Too Much Salt

Too Much Sugar, Shortening or Milk

Overweight of Flour or Water

Late Mixing

23. Other Fermented Products

Introduction

Bun goods

Raw Material

Processing

Prepared Mixtures

Pitza base/crust

Raw Material

Processing

Doughnut

Raw Material

Procesing

24. Bread Ingredient

Introduction

Raw material

Flour

Colour

Strength

Tolerance

Water Absorption Power

Uniformity

Diastetic Activity

Effect of Low and High Diastetic Activity on Bread

Preventive Measures

25. Bread Making Methods

Introduction

Conventional methods

Straight Dough Method

Advantages and Disadvantages

Sponge and Dough Method

Advantages and Disadvantages

Salt Delayed Method

Advantages and Disadvantages

No Dough Time Method

Advantages and Disadvantages

Ferment and Dough Process

Mechanical dough development method

Liquid Brew

26. Bread Processing

Introduction

Ingredient selection and formula balancing

Mixing/Kneading
Purpose
Flying Ferment
Process
Importance
Other Preparation
Dough Temperature
Mixing Process
Hand Mixing
Machine Mixing
Slow speed mixing
High speed mixing
Spiral mixing
Mixing Stages
Mixing Time
Flour Quality
Bread Making Method
Dough Temperature and Consistency
Fat and Salt Quantity and Stage of its Addition
Over or Under Mixed Dough
Over Mixed Dough
Under Mixed Dough
Physical and Chemical Changes During Mixing
Physical Changes
Chemical Changes
Bulk fermentation
Physico-chemical Reactions
Under or Over Ferment Dough
Under Ferment Dough
Over Ferment Dough
Knock back
Dough make-up
Scaling
Rounding
Intermediate Proofing
Moulding
Hand Moulding
Machine Moulding
Panning
Tempering the Pan
Greasing/Glazing the Pan
Bread Pan
Proofing
Factor Affecting the Final Proof
Temperature
Relative Humidity
Diastetic Activity of the Flour
Fermentation
Under or Over Proofing
Over Proofing
Under Proofing

Baking
Time and Temperature
Physico-chemical Changes
Oven Rise and Oven Spring
Yeast Activity
Enzyme Activity
Starch Gelatinization
Protein Denaturation
Protein Coagulation
Browning Reaction
Oven Problems
Insufficient Oven Heat
Excessive Oven Heat
Excess Steam
Insufficient Steam
Improper Heat Distribution
Incorrect Pan Spacing
Depanning
Cooling
Slicing
Packing/Wrapping

27. Effluent Treatment

Introduction
Dissolved oxygen concentration as an indicator of water quality
Factory surveys
The strengths of fermentation effluents
Treatment and disposal of effluents
Disposal
Seas and Rivers
Lagoons
Spray Irrigation
Well Disposal
Disposal of Effluents to Sewers
Treatment processes
Physical Treatment
Chemical Treatment
Biological Treatment
Aerobic Processes
Tricking Filters
Towers
Rotating Discs
Rotating Drums
Activated Sludge
Anaerobic Treatment
Anaerobic Digestion
Anaerobic Filters
By-products
Distilleries
Breweries
Amino Acid Wastes

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