

CONTENTS

One Gene to Whole Pathway: The Role of Norsolorinic Acid in Aflatoxin Research

J. W. BENNETT, P.-K. CHANG, AND D. BHATNAGAR

I. Introduction.....	1
II. Discovery.....	2
III. Aflatoxin Biosynthetic Pathway.....	3
IV. Enzymology.....	6
V. Molecular Genetics.....	7
VI. Strain Degeneration.....	10
VII. Reverse Genetics and Norsolorinic Acid.....	11
VIII. Conclusions.....	12
References.....	13

Formation of Flavor Compounds in Cheese

P. F. FOX AND J. M. WALLACE

I. Introduction.....	17
II. Glycolysis.....	20
III. Lipolysis.....	27
IV. Proteolysis.....	31
V. Catabolism of Amino Acids.....	45
VI. Chemistry of Cheese Off-Flavors.....	70
References.....	75

The Role of Microorganisms in Soy Sauce Production

DESMOND K. O'TOOLE

I. Introduction.....	87
II. Types and Composition of Soy Sauce.....	89
III. Aroma and Flavor of <i>Shoyu</i>	100
IV. Soy Sauce Production.....	101
V. Effect of Water Activity on Microorganisms.....	119
VI. Yeasts.....	122
VII. Bacteria.....	125
VIII. Production and Metabolism of Amino and Organic Acids in <i>Moromi</i>	126
IX. Production and Fate of Other Substances.....	130
X. Possible Role of Metal Ions in Soy Sauce Production.....	133
XI. Conclusion.....	140
References.....	143

Gene Transfer Among Bacteria in Natural Environments

XIAOMING YIN AND G. STOTZKY

I. Introduction.....	153
II. Transformation.....	154
III. Conjugation.....	166
IV. Transduction.....	177
V. Concluding Remarks.....	195
References.....	198

Breathing Manganese and Iron: Solid-State Respiration

KENNETH H. NEALSON AND BRENDA LITTLE

I. Introduction.....	213
II. Respiration: Organismal and Environmental.....	214
III. Metal-Reducing Bacteria in Captivity.....	219
IV. Reduction of Metals by Iron and Manganese Reducers.....	221
V. Electron Transport In Metal Reducers.....	229
VI. Metal-Reducing Bacteria in Natural Environments.....	231
VII. Summary.....	235
References.....	237

Enzymatic Deinking

PRATIMA BAJPAI

I. Introduction.....	241
II. Enzymes Used in Deinking.....	242
III. Performance of Enzymes in Deinking.....	245
IV. Effect of Enzyme on Pulp Yield and the Quality of Fiber and Paper.....	256
V. Possible Mechanisms of Enzymatic Deinking.....	258
VI. Factors Affecting Enzymatic Deinking.....	261
VII. Benefits of Enzymatic Deinking.....	263
VIII. Current Research Needs.....	263
IX. Conclusions.....	265
References.....	266

Microbial Production of Docosahexaenoic Acid (DHA, C22:6)

AJAY SINGH AND OWEN P. WARD

I. Introduction.....	271
II. Biosynthesis of Polyunsaturated Fatty Acids.....	278
III. Potential Microorganisms for DHA Production.....	283
IV. Kinetics of Microbial Growth and DHA Production.....	289
V. Factors Affecting Microbial DHA Production.....	294
VI. Downstream Processing.....	304
VII. Epilogue.....	305
References.....	307
INDEX.....	313
CONTENTS OF PREVIOUS VOLUMES.....	323