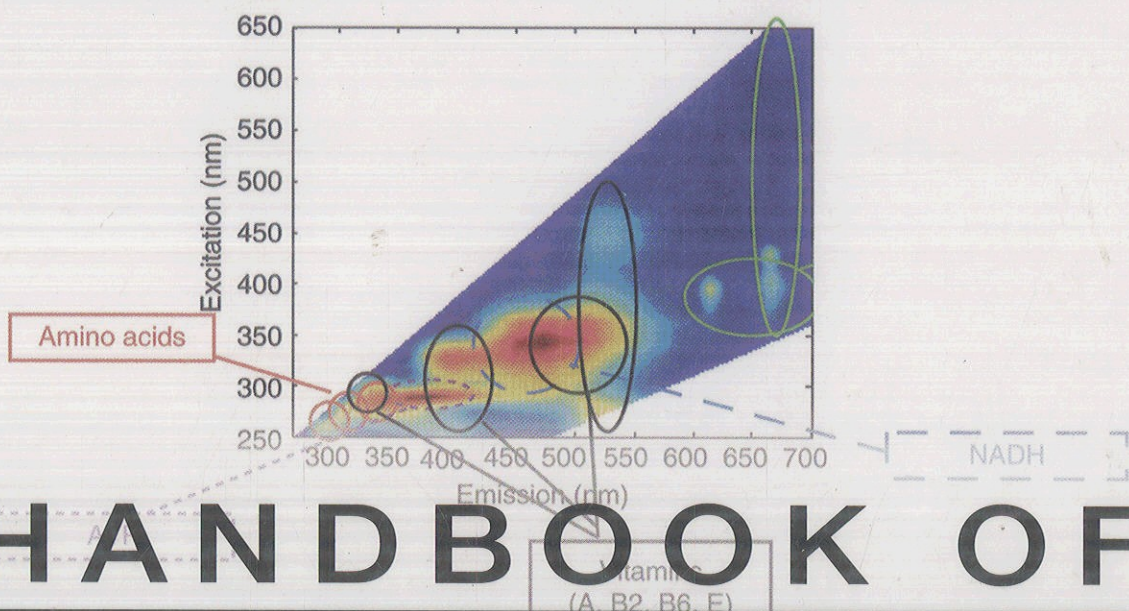
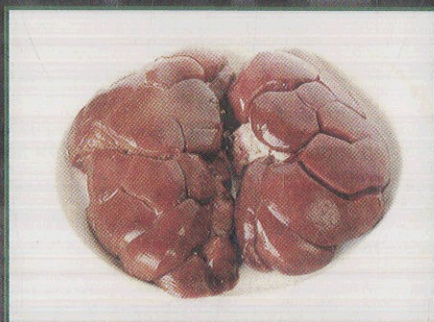
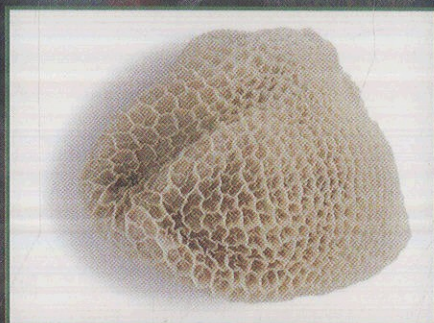




HANDBOOK OF

Analysis of Edible Animal By-Products

Edited by
LEO M.L. NOLLET
FIDEL TOLDRÁ



Contents

Preface.....vii
Editors.....ix
Contributorsxi

PART I *Chemistry and Biochemistry*

Chapter 1 Introduction—Offal Meat: Definitions, Regions, Cultures, and Generalities 3
 Leo M.L. Nollet and Fidel Toldrá

Chapter 2 Food-Grade Proteins from Animal By-Products: Their Usage
 and Detection Methods 13
 Yun-Hwa Peggy Hsieh and Jack Appiah Ofori

Chapter 3 Analysis of Rendered Fats.....37
 Stephen B. Smith and Dana R. Smith

Chapter 4 Analysis of Cholesterol in Edible Animal By-Products..... 43
 Neura Bragagnolo

Chapter 5 Oxidation..... 65
 Mario Estévez, Sonia Ventanas, Rui Ganhão, and David Morcuende

PART II *Technological Quality*

Chapter 6 Color Measurements on Edible Animal By-Products and Muscle-Based Foods..... 87
 *José Angel Pérez-Alvarez, María Estrella Sayas-Barberá,
 Esther Sendra Nadal, and Juana Fernández-López*

PART III *Nutritional Quality*

Chapter 7 Composition and Calories 105
 Karl-Otto Honikel

Chapter 8 Essential Amino Acids..... 123
 María-Concepción Aristoy and Fidel Toldrá

Chapter 9	Fatty Acids	137
	<i>José A. Mestre Prates, Cristina Mateus Alfaia, Susana P. Alves, and Rui J. Branquinho Bessa</i>	
Chapter 10	Vitamins	161
	<i>Young-Nam Kim</i>	
Chapter 11	Minerals and Trace Elements	183
	<i>Guadalupe García-Llatas, Amparo Alegría, Reyes Barberá, and Rosaura Farré</i>	
 PART IV Safety		
Chapter 12	Spoilage Detection	207
	<i>Isabel Guerrero-Legarreta</i>	
Chapter 13	Microbial Foodborne Pathogens	219
	<i>Eleftherios H. Drosinos, Spiros Paramithiotis, and Nikolaos Andritsos</i>	
Chapter 14	Mycotoxins and Toxins	239
	<i>Carla Soler, José Miguel Soriano, and Jordi Mañes</i>	
Chapter 15	Detection of Bone in Meat	247
	<i>Wolfgang Branscheid and Michael Judas</i>	
Chapter 16	Detection of Adulterations: Identification of Animal Species	287
	<i>Johannes A. Lenstra and Stephan A. van der Heijden</i>	
Chapter 17	Detection of Neuronal Tissues and Other Non-Muscle Tissues with Respect to TSE	301
	<i>Ernst Lücker, Mitja Malunat, and Katharina Riehn</i>	
Chapter 18	Residues of Food Contact Materials	315
	<i>Emma L. Bradley and Laurence Castle</i>	
Chapter 19	Growth Promoters	335
	<i>Milagro Reig and Fidel Toldrá</i>	
Chapter 20	Antibiotics	355
	<i>Houda Berrada and Guillermina Font</i>	

Contents

Chapter 21	Environmental Contaminants: Pesticides	377
	<i>Pablo Vazquez-Roig and Yolanda Picó</i>	
Chapter 22	Environmental Contaminants: Heavy Metals	403
	<i>Giovanni Forte and Beatrice Bocca</i>	
Chapter 23	Environmental Contaminants: Polychlorinated Biphenyls in Edible Animal By-Products	441
	<i>José A. Garcia-Regueiro and Massimo Castellari</i>	
Index		449