

CONTENTS

Preface	ix
1. Lipid Oxidation in Foods; An Overview	1
 MECHANISMS OF FREE-RADICAL PROCESSES	
2. Mechanisms of Lipid Oxidative Processes and Their Inhibition	14
3. Lipid Oxidation in Muscle Foods via Redox Iron	33
4. Mechanism of Nonenzymic Lipid Peroxidation in Muscle Foods	55
5. Role of Lipoxygenases in Lipid Oxidation in Foods	74
6. Relationship Between Water and Lipid Oxidation Rates: Water Activity and Glass Transition Theory	93
7. Lipid Oxidation: Effect on Meat Proteins	104
 PREVENTION OF LIPID OXIDATION	
8. Maillard Reaction Products and Lipid Oxidation	122
9. Chemical and Sensory Evaluation of Flavor in Untreated and Antioxidant-Treated Meat	140
10. Prevention of Lipid Oxidation in Muscle Foods by Nitrite and Nitrite-Free Compositions	161
11. Lipid Oxidation of Seafood During Storage	183
12. Seafoods and Fishery Byproducts: Natural and Unnatural Environments for Longer Chain Omega-3 Fatty Acids	208
 METHODOLOGIES FOR ASSESSING LIPID OXIDATION PRODUCTS	
13. Gas Chromatographic Analyses of Lipid Oxidation Volatiles in Foods	232
14. Characterization of Off-Flavors by Aroma Extract Dilution Analysis	266
15. Sensory Evaluation of Lipid Oxidation in Foods	279
 PROCESSING EFFECTS ON LIPID OXIDATION	
16. Influence of Food Processing on Lipid Oxidation and Flavor Stability	292
17. Factors Affecting Lipid Autoxidation of a Spray-Dried Milk Base for Baby Food	302
18. Effect of Lipid Oxidation on Oil and Food Quality in Deep Frying	310
19. Effect of Storage on Roasted Peanut Quality: Descriptive Sensory Analysis and Gas Chromatographic Techniques	322
20. Changes in Lipid Oxidation During Cooking of Refrigerated Minced Channel Catfish Muscle	344
Author Index	351
Affiliation Index	351
Subject Index	352