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Nota di contenuto	Cover; Title Page; Copyright; Dedication; Preface; Contributors; Part 1: Broodstock Improvement; Chapter 1: Genomic Tools for Understanding the Molecular Basis of Production-Relevant Traits in Finfish; OVERVIEW; TARGETED, TRAIT-RELEVANT GENE DISCOVERY; THE APPLICATION OF MICROARRAY TECHNOLOGY IN FINFISH AQUACULTURE AND RESEARCH; Chapter 2: Advances in Genomics and Genetics of Penaeid Shrimp; INTRODUCTION; EST COLLECTION AS AN APPROACH TO GENE DISCOVERY IN SHRIMP; MEDIUM- TO HIGH-THROUGHPUT STUDIES OF DIFFERENTIAL EXPRESSION AND GENE DISCOVERY; RNAi-BASED APPLICATIONS IN SHRIMP AQUACULTURE: FROM REVERSE GENETICS TO CONTROL OF DISEASESMARKERS, GENETIC MAPS, AND LARGE INSERT GENOMIC LIBRARIES IN SHRIMP; ANALYTICAL CHALLENGES IN GENOMICS AND GENETICS OF SHRIMP; CONCLUDING REMARKS; ACKNOWLEDGMENTS; Chapter 3: Genetic and Genomic Approaches to Atlantic Halibut Broodstock Management; INTRODUCTION; PRODUCTION OF ALL-FEMALE STOCKS OF ATLANTIC HALIBUT; PEDIGREE ANALYSIS; HALIBUT GENETIC LINKAGE MAP; QUANTITATIVE TRAIT LOCI; BROODSTOCK SELECTION; FUTURE DIRECTIONS; ACKNOWLEDGEMENTS

Chapter 4: Prospects and Pitfalls of Clonal Fishes in the Postgenomic Era  
BACKGROUND; CLONAL LINES: A REPEATABLE EXPERIMENTAL SYSTEM; GENETIC ANALYSES USING CLONE CROSSES; UTILIZATION OF DNA OR RNA FROM CLONES; CASE EXAMPLES OF POTENTIAL FOR UTILIZING CLONES IN AQUACULTURE-RELATED RESEARCH; CONCLUSION; Part 2: Molecular Cytogenetics; Chapter 5: Application of Fluorescence In Situ Hybridization (FISH) to Aquaculture-Related Research; INTRODUCTION; LOCALIZATION OF REPETITIVE SEQUENCES, TRANSPOSONS, AND TRANSGENES; IDENTIFICATION AND CHARACTERIZATION OF SEX CHROMOSOMES  
CHARACTERIZATION OF INTERSPECIFIC HYBRIDS AND CHROMOSOME SET MANIPULATED FINFISHASSIGNMENT OF GENETIC LINKAGE GROUPS TO SPECIFIC CHROMOSOMES (GENOME MAPPING); IDENTIFICATION OF PATHOGENS IN CULTURED SHELLFISH, FISH, AND WASTEWATER GENERATED BY AQUACULTURE; FUTURE APPLICATIONS; Part 3: Fish Health; Chapter 6: The Application of Genomics, Proteomics, and Metabolomics to Studies of Fish Health; INTRODUCTION; STUDIES OF PATHOGEN BIOLOGY; HOST-PATHOGEN INTERACTIONS; APPLICATIONS OF GENOMICS AND PROTEOMICS TO VACCINE DEVELOPMENT; CONCLUDING REMARKS  
Chapter 7: Antimicrobial Peptides and Their Potential as Therapeuticants in AquacultureOVERVIEW; PHYSICAL PROPERTIES OF ANTIMICROBIAL PEPTIDES; DISTRIBUTION OF ANTIMICROBIAL PEPTIDES; EXPRESSION OF ANTIMICROBIAL PEPTIDES; ACTIVITIES OF ANTIMICROBIAL PEPTIDES; THERAPEUTIC POTENTIAL OF ANTIMICROBIAL PEPTIDES; FUTURE DEVELOPMENTS; ACKNOWLEDGMENTS; Chapter 8: Adaptive Immunity in Finfish: A Physiological Perspective; INTRODUCTION; THE IMMUNE SYSTEM AS A WHOLE INTEGRATIVE DEFENCE MECHANISM; MH RECEPTORS; ANTIGEN PRESENTATION IN THE ADAPTIVE IMMUNE RESPONSE; MH SEQUENCES AND THEIR APPLICATIONS  
CYTOKINES AND CHEMOKINES AS MEASURES OF IMMUNE RESPONSES

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#### Sommario/riassunto

This important book looks at a broad spectrum of biotech research efforts and their applications to the aquaculture industry. Aquaculture Biotechnology provides key reviews that look at the application of genetic, cellular, and molecular technologies to enable fish farmers to produce a more abundant, resilient, and healthier supply of seafood. Aquaculture Biotechnology is divided into seven sections and nineteen chapters that cover topics ranging from broodstock improvement to fish health and gene transfer. With chapters provided by leading researchers and skillfully edited by to

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