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Sequencing; Acknowledgments; Chapter 4 Library Construction for Next Generation Sequencing; Introduction
An Example of SNP Discovery via Pyrosequencing of RRLsConclusions; Acknowledgments; Chapter 5 SNP Discovery through De Novo Deep Sequencing Using the Next Generation of DNA Sequencers; Advantages and Disadvantages of SNP Discovery through EST Data Mining; SNP Discovery Using ESTs Generated by Sanger Sequencing; SNP Discovery Using Transcript Sequences Generated by Next Generation Sequencing; Windows-Based Platforms for EST Assembly and SNP Identification; Summary; Chapter 6 SNP Discovery through EST Data Mining; Quality Assessment Parameters for EST-derived SNPs
Assessment of SNP Distribution in the GenomeQuality Issues of SNPs Generated from Sequencing RRLs; Conclusions; Chapter 7 SNP Quality Assessment; SNP Genotyping Platforms: Chemistries and Detection Methods; SNP Genotyping Platforms: Throughput and Multiplexing; SNP Genotyping Platforms: Cost and Flexibility; SNP Genotyping Platforms: Matching Platforms with Project Goals; Conclusions; Chapter 8 SNP Genotyping Platforms; Applications of SNP Markers; Genome Duplication in Fish; Identifying and Genotyping SNPs in Duplicated Fish Genomes; Concluding Remarks; Acknowledgment
Chapter 9 SNP Analysis with Duplicated Fish Genomes: Differentiation of SNPs, Paralogous Sequence Variants, and Multisite VariantsThe Steps for Genomic Selection; Traits; Breeding Value Estimation for Genomic Selection; Within-Family Genomic Selection; Effect on Genetic Gain; Accuracy of GWEBV; Quality of SNP Chip; Design of Genomic Selection Schemes for Aquaculture; Chapter 10 Genomic Selection for Aquaculture: Principles and Procedures; Introduction; Genomic Selection: Definition and Theory; Future Directions; Summary
Chapter 11 Genomic Selection in Aquaculture: Methods and Practical Considerations

Sommario/riassunto

Recent developments in DNA marker technologies, in particular the emergence of Single Nucleotide Polymorphism (SNP) discovery, have rendered some of the traditional methods of genetic research outdated. Next Generation Sequencing and Whole Genome Selection in Aquaculture comprehensively covers the current state of research in whole genome selection and applies these discoveries to the aquaculture industry specifically. The text begins with a thorough review of SNP and transitions into topics such as next generation sequencing, EST data mining, SNP quality assessment, and whole genome se