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Nota di contenuto	Chapter 1. Buffalo in the World: Situation and Perspectives -- Chapter 2. Water buffalo genomic diversity -- Chapter 3. Advances in Buffalo Breeding: A Journey from classical Breeding to Genomic Selection -- Chapter 4. Reproductive Management of Dairy Buffaloes -- Chapter 5. Behavior and welfare of dairy buffaloes: calving, weaning and milking -- Chapter 6. Buffalo’s milk and its products: Composition, Nutrition, and Benefits -- Chapter 7. Welfare of buffaloes at slaughter -- Section-II Omics approaches to understand buffalo’s genome, physiology, and reproduction -- Chapter 8. Molecular evolution and genome architecture of water buffalo (Bubalus bubalis), the ‘living bank’ for marginal farmers in developing countries -- Chapter 9. Fertility biomarkers in buffalo -- Chapter 10. Being Sweet is Being Smart: Lessons Learnt from Buffalo Spermatozoa -- Chapter 11. Protein

signatures of lactation and early pregnancy diagnosis in buffalo (Bubalus bubalis) -- Chapter 12. Induced pluripotent stem cells in buffalo: Basics to translation applications -- Chapter 13. Domesticated buffalo- A model for human biomedical research -- Section-III Reproductive Biotechnologies -- Chapter 14. Advances in embryo production in buffaloes: in vivo versus in vitro procedures -- Chapter 15. Application of Fixed-Time Artificial Insemination in Water Buffaloes -- Chapter 16. Semen sexing in buffalo -- Chapter 17. Advances in cryopreservation of buffalo semen -- Chapter 18. Advances in Semen Quality Assessments in AI Programs in Buffalo -- Chapter 19. Reproductive ultrasonography in buffalo – Basic concepts and recent advances -- Chapter 20. Spermatogonial stem cells and testis-tissue cryopreservation as a tool for conservation of buffalo germplasm -- Chapter 21. Somatic Cell Nuclear Transfer and its Applications in Buffalo (Bubalus bubalis).

Sommario/riassunto

This book comprehensively reviews the advancements in biotechnological applications for the enhanced production and conservations of buffalo (Bubalus bubalis). The book discusses developments in assisted reproduction to improve productivity and the produce novel products for applications to human health and nutrition. The initial chapters of the book discuss the global distribution and domestications of buffalo, and nutritive values of buffalo milk, while the subsequent sections examine the applications of the genome-wide association traits to identify potential genetic variants affecting important economic traits. It identifies predictive biomarkers for postpartum or peripartum diseased-state and presents potential protein biomarkers for the diagnosis of early pregnancy in buffalo. Lastly, it discusses recent scientific developments such as induced pluripotent stem cells, spermatogonial stem cells, somatic cell nuclear transfer, and buffalo as a model for human biomedical research. This book is a useful source to students, academicians, researchers, and policymakers who are involved in buffalo science and industry.