

Preface

Biotechnology is undoubtedly one of the most important scientific areas in the future of mankind. In the second millennium, the cooperations between the scientific branches that are much more open to novelty such as molecular genetics, genetic engineering, proteomics, and targeted production technologies, have generated great opportunities for human and animal welfare, nutrition and health issues. Novel biotechnological products and techniques developed for the improvement of existing classical agricultural and animal husbandry will also be environment and nature friendly.

As biotechnology is a complexity of all the areas of cell and tissue culture, molecular biology, microbiology, genetic sciences, and almost all engineering technologies, it is targeted at development of new technologies and/or products that are closely related to productivity of animals, animal yields, or health. For example, recombinant DNA technologies have been commonly used to produce specific enzymes and proteins that are not sufficiently synthesized by the organisms themselves or that are not present in nature. Whereas the use of biotechnology in veterinary practice finds a very wide range from animal health to animal husbandry, generally it takes enormous and important duties for improvement of quality and quantity of animal products, development of industrially integrated biological products, reduction of waste products of animals, and environmental sensitive solutions. In this book, it is also emphasized the positive contributions of veterinary biotechnology on the following subjects:

- Embryo cloning, cryopreservation, embryo sexing, and transfer techniques
- Animal health, DNA, and recombinant vaccine technologies
- Recombinant drug, enzyme, and protein production using transgenic techniques
- Biotechnological approaches to animal nutrition and feed efficiency
- Impacts of biotechnology on the environment

Biotechnology has taken the first place among all the sciences that hit the mark in the twenty-first century, having close collaborations with nearly all other biological, engineering areas; it is an interdisciplinary branch. Thus, I and all contributing

authors believe that this book will be of use to students and experts who are studying veterinary, animal husbandry, biology, chemistry, medicine, pharmacy, agriculture, and other disciplines in engineering.

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Animal Health and Biotechnology

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