

FREE EBOOK PLANT AND ANIMAL BIOTECHNOLOGY PPT (READ ONLY)

BIOTECHNOLOGY AS ANY TECHNIQUE THAT USED LIVING ORGANISMS TO MAKE OR MODIFY A PRODUCT TO IMPROVE PLANTS OR ANIMALS OR TO DEVELOP MICROORGANISMS FOR SPECIFIC USES BIOTECHNOLOGY AS ANY TECHNIQUE THAT USED LIVING ORGANISMS TO MAKE OR MODIFY A PRODUCT TO IMPROVE PLANTS OR ANIMALS OR TO DEVELOP MICROORGANISMS FOR SPECIFIC USES ANIMAL BIOTECHNOLOGY IN USE TODAY IS BASED ON THE SCIENCE OF GENETIC ENGINEERING UNDER THE UMBRELLA OF GENETIC ENGINEERING EXIST OTHER TECHNOLOGIES SUCH AS TRANSGENICS AND CLONING THAT ALSO ARE USED IN ANIMAL BIOTECHNOLOGY IMMUNOLOGY IS THE STUDY OF THE IMMUNE SYSTEM AND IS A VERY IMPORTANT BRANCH OF THE MEDICAL AND BIOLOGICAL SCIENCES THE IMMUNE SYSTEM PROTECTS US FROM INFECTION THROUGH VARIOUS LINES OF DEFENCE IF THE IMMUNE SYSTEM IS NOT FUNCTIONING AS IT SHOULD IT CAN RESULT IN DISEASE SUCH AS AUTOIMMUNITY ALLERGY AND CANCER IMMUNITY IS A BIOLOGICAL TERM THAT DESCRIBES A STATE OF HAVING SUFFICIENT BIOLOGICAL DEFENCES TO AVOID INFECTION DISEASE OR OTHER UNWANTED BIOLOGICAL INVASION IMMUNITY INVOLVES BOTH SPECIFIC AND NON SPECIFIC COMPONENTS THE NON SPECIFIC COMPONENTS ACT EITHER AS BARRIERS OR AS ELIMINATORS OF WIDE RANGE OF PATHOGENS IRRESPECTIVE OF ANTIGENIC SPECIFICITY OTHER COMPONENTS OF THE IMMUNE SYSTEM ADAPT THEMSELVES TO EACH NEW DISEASE ENCOUNTERED AND ARE ABLE TO GENERATE PATHOGEN SPECIFIC IMMUNITY THIS BOOK SUMS UP INFORMATION ABOUT ANIMAL BIOTECHNOLOGY AND IS A VALUABLE TOOL FOR STUDENTS AS WELL AS TEACHERS THE AIM OF THIS BOOK IS TO PROVIDE THE READERS MATERIALS ON THE SUBJECT IN A LUCID AND READABLE FORM SO AS TO ENABLE THE RESEARCH SCHOLARS SCIENTISTS ZOOLOGIST AND EVEN THE COMMON MEN TO UNDERSTAND THE SUBJECT PROPERLY ANIMAL BIOTECHNOLOGY MODELS IN DISCOVERY AND TRANSLATION SECOND EDITION PROVIDES A HELPFUL GUIDE TO ANYONE SEEKING A THOROUGH REVIEW OF ANIMAL BIOTECHNOLOGY AND ITS APPLICATION TO HUMAN DISEASE AND WELFARE THIS UPDATED EDITION COVERS VITAL FUNDAMENTALS INCLUDING ANIMAL CELL CULTURES GENOME SEQUENCING ANALYSIS EPIGENETICS AND

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ANIMAL MODELS GENE EXPRESSION AND ETHICS AND SAFETY CONCERNS ALONG WITH IN DEPTH EXAMPLES OF IMPLICATIONS FOR HUMAN HEALTH AND PROSPECTS FOR THE FUTURE NEW CHAPTERS COVER ANIMAL BIOTECHNOLOGY AS APPLIED TO VARIOUS DISEASE TYPES AND RESEARCH AREAS INCLUDING IN VITRO FERTILIZATION HUMAN EMBRYONIC STEM CELL RESEARCH BIOSENSORS ENTERIC DISEASES BIOPHARMING ORGAN TRANSPLANTATION TUBERCULOSIS NEURODEGENERATIVE DISORDERS AND MORE HIGHLIGHTS THE LATEST BIOMEDICAL APPLICATIONS OF GENETICALLY MODIFIED AND CLONED ANIMALS WITH A FOCUS ON CANCER AND INFECTIOUS DISEASES OFFERS FIRST HAND ACCOUNTS OF THE USE OF BIOTECHNOLOGY TOOLS INCLUDING MOLECULAR MARKERS STEM CELLS ANIMAL CULTURES TISSUE ENGINEERING ADME AND CAM ASSAY INCLUDES CASE STUDIES THAT ILLUSTRATE SAFETY ASSESSMENT ISSUES ETHICAL CONSIDERATIONS AND INTELLECTUAL PROPERTY RIGHTS ASSOCIATED WITH THE TRANSLATION OF ANIMAL BIOTECHNOLOGY STUDIES BIOTECHNOLOGY IS A HIGHLY MULTIDISCIPLINARY SUBJECT AND HAS GOT ITS FOUNDATION IN MANY FIELDS INCLUDING BIOLOGY MICROBIOLOGY BIOCHEMISTRY MOLECULAR BIOLOGY GENETICS CHEMISTRY AND CHEMICAL AND PROCESSING ENGINEERING APPLICATION OF BIOTECHNOLOGY IN MEDICINE AND AGRICULTURE HAS BEEN A RECENT PHENOMENON MODERN BIOTECHNOLOGICAL PROCESSES NOW ENCOMPASS A WIDE RANGE OF NEW PRODUCTS INCLUDING ANTIBIOTICS RECOMBINANT AND NUCLEIC ACID VACCINES MONOCLONAL ANTIBODIES RECOMBINANT THERAPEUTIC PRODUCTS LIKE RECOMBINANT INSULIN GROWTH HORMONES PROLACTIN AND GENE THERAPY PRODUCTION OF TRANSGENIC ANIMALS AND PLANTS AND USE OF EMBRYO BIOTECHNOLOGICAL METHODS AND STEM CELLS TO AUGMENT ANIMAL PRODUCTION AND HUMAN THERAPY RESPECTIVELY ANIMAL BIOTECHNOLOGY IS IN ITS INFANCY AND ONLY DURING THE PAST TEN YEARS MUCH WORK HAS BEEN DONE IN ANIMAL BIOTECHNOLOGY IN FEW ISOLATED LABORATORIES THROUGHOUT THE WORLD THERE IS AN INCREASING NEED TO TRAIN MANPOWER IN ANIMAL BIOTECHNOLOGY EVEN THOUGH MANY COLLEGES ARE OFFERING COURSES IN BIOTECHNOLOGY FOR THE STUDENTS THERE IS NO SINGLE TEXT BOOK AVAILABLE COVERING ALL THE ASPECTS OF ANIMAL BIOTECHNOLOGY FOR THE STUDENTS THIS BOOK ON ANIMAL BIOTECHNOLOGY HAS BEEN WRITTEN TO MEET OUT THE REQUIREMENTS OF BOTH UNDERGRADUATE AND POSTGRADUATE STUDENTS ON THE SUBJECT OF ANIMAL BIOTECHNOLOGY THERE ARE SEVENTEEN CHAPTERS IN THIS BOOK COVERING

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DIFFERENT ASPECTS OF ANIMAL BIOTECHNOLOGY INCLUDING ENZYME TECHNOLOGY GENE THERAPY BIOTECHNOLOGY IN MEDICINE INTELLECTUAL PROPERTY RIGHTS AND BIOSAFETY IN BIOTECHNOLOGY MANY UP TO DATE REFERENCES ON MOST OF THE TOPICS HAVE BEEN INCLUDED SO THAT IT WOULD BE A REFERENCE BOOK FOR POSTGRADUATE STUDENTS STUDYING BIOTECHNOLOGY AND MOLECULAR BIOLOGY THIS WOULD BE A USEFUL BOOK FOR STUDENTS WHO ARE WRITING COMPETITIVE EXAMINATIONS FOR FELLOWSHIP WITH MY EXTENSIVE EXPERIENCE IN TEACHING AND RESEARCH IN ANIMAL BIOTECHNOLOGY I HAVE COMPILED THIS BOOK TO PROVIDE STUDENTS THE BASIC PRINCIPLES OF ANIMAL BIOTECHNOLOGY CURRENT INFORMATION ON DIFFERENT TOPICS OF BIOTECHNOLOGY AS WELL AS INFORMATION ON INTELLECTUAL PROPERTY RIGHTS AND BIOSAFETY GUIDELINES TO BE ADOPTED IN THE LABORATORIES THIS BOOK ENTITLED ADVANCES IN ANIMAL BIOTECHNOLOGY IS A COMPILATION OF STATE OF THE ART IN THE FIELD OF ANIMAL BIOTECHNOLOGY INCLUDING FISHERY THAT ARE NOT SHELTERED IN DEPTH IN EARLIER PUBLICATIONS IT OFFERS AN UPDATE ON AVANT GARDE TECHNOLOGIES AND ADVANCES IN KEY ASPECTS OF GENETIC ENGINEERING METAGENOMICS ASSISTED REPRODUCTION ANIMAL GENOMICS BIOTECHNOLOGY IN VETERINARY HEALTH AS WELL AS THE ROLE OF GUT AND MARINE MICROBIAL ECOSYSTEMS IN LIVESTOCK AND INDUSTRIAL DEVELOPMENT THE BOOK IS DIVIDED BROADLY INTO FIVE DIFFERENT SECTIONS VIZ GUT MICROBIOME AND NUTRITIONAL BIOTECHNOLOGY ASSISTED REPRODUCTION BIOTECHNOLOGY LIVESTOCK GENOMICS HEALTH BIOTECHNOLOGY AND ANIMAL BIOTECHNOLOGY IN GLOBAL PERSPECTIVE THE BOOK COVERS THE SYLLABI OF ANIMAL BIOTECHNOLOGY COURSES IN VARIOUS UNIVERSITIES ACADEMIA AND COMPETITIVE EXAMINATIONS AT VARIOUS LEVELS RESEARCHERS CONTINUING GRADUATES AND ACADEMICIANS RESEARCH INSTITUTIONS AND BIOTECH COMPANIES WILL BE BENEFITED FROM THIS VALUABLE COMPILATION OF RESEARCH ITS BROAD SPECTRUM MAKES THIS WORK A VALUABLE RESOURCE FOR PROFESSIONALS RESEARCHERS ACADEMICS AND STUDENTS IN THE FIELD OF VETERINARY AND ANIMAL PRODUCTION AS WELL AS THE BIOTECHNOLOGY INDUSTRY THIS TWO VOLUME TEXTBOOK PROVIDES A COMPREHENSIVE OVERVIEW ON THE BROAD FIELD OF ANIMAL BIOTECHNOLOGY WITH A SPECIAL FOCUS ON LIVESTOCK REPRODUCTION AND BREEDING THE READER WILL BE INTRODUCED TO A VARIETY OF STATE OF THE ART TECHNOLOGIES AND EMERGING

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TOOLS AND THEIR APPLICATIONS IN ANIMAL PRODUCTION ALSO ETHICS AND LEGAL ASPECTS OF ANIMAL BIOTECHNOLOGY WILL BE DISCUSSED AND NEW TRENDS AND DEVELOPMENTS IN THE FIELD WILL BE CRITICALLY ASSESSED THE TWO VOLUME WORK IS A MUST HAVE FOR GRADUATE STUDENTS ADVANCED UNDERGRADUATES AND RESEARCHERS IN THE FIELD OF VETERINARY MEDICINE GENETICS AND ANIMAL BIOTECHNOLOGY THIS SECOND VOLUME IS DEDICATED TO GENETIC TOOLS IN ANIMAL BIOTECHNOLOGY SUCH AS SOMATIC CLONING TRANSGENIC TECHNOLOGIES AND THE APPLICATION OF STEM CELLS IN LIVESTOCK BREEDING ALSO ETHICS AND LEGAL ASPECTS ARE DISCUSSED THIS TWO VOLUME TEXTBOOK PROVIDES A COMPREHENSIVE OVERVIEW ON THE BROAD FIELD OF ANIMAL BIOTECHNOLOGY WITH A SPECIAL FOCUS ON LIVESTOCK REPRODUCTION AND BREEDING THE READER WILL BE INTRODUCED TO A VARIETY OF STATE OF THE ART TECHNOLOGIES AND EMERGING GENETIC TOOLS AND THEIR APPLICATIONS IN ANIMAL PRODUCTION ALSO ETHICS AND LEGAL ASPECTS OF ANIMAL BIOTECHNOLOGY WILL BE DISCUSSED AND NEW TRENDS AND DEVELOPMENTS IN THE FIELD WILL BE CRITICALLY ASSESSED THE TWO VOLUME WORK IS A MUST HAVE FOR GRADUATE STUDENTS ADVANCED UNDERGRADUATES AND RESEARCHERS IN THE FIELD OF VETERINARY MEDICINE GENETICS AND ANIMAL BIOTECHNOLOGY THIS FIRST VOLUME MAINLY FOCUSES ON ARTIFICIAL INSEMINATION EMBRYO TRANSFER TECHNOLOGIES IN DIVERSE ANIMAL SPECIES AND CRYOPRESERVATION OF OOCYTES AND EMBRYOS COVERS THE SYLLABI OF ANIMAL BIOTECHNOLOGY COURSES OFFERED IN VARIOUS INDIAN UNIVERSITIES THIS BOOK OFFERS CORE KNOWLEDGE IN THE FIELD OF ANIMAL BIOTECHNOLOGY IN A CONDENSED FORM TO STUDENTS RESEARCHERS AND FACULTY CONTENTS PART A HISTORY OF BIOTECHNOLOGY AND MILESTONES DNA REPLICATION TRANSCRIPTION AND TRANSLATION RNA SPLICING TRANSPOSABLE ELEMENTS ENZYMES IN BIOTECHNOLOGY TOOLS IN R DNA TECHNOLOGY GENOME ORGANISATION IN FARM ANIMALS PART B RECOMBINANT PROTEINS OF CLINICAL SIGNIFICANCE APPLICATION OF TARGETED RIBOZYMES IN THERAPY AND DEVELOPING DISEASE MODELS BACULOVIRUS MEDIATED EXPRESSION OF HETEROLOGOUS GENES AND ITS APPLICATION IN VETERINARY SCIENCE ADVANCES IN VACCINOLOGY MOLECULAR BIOLOGY OF RUMEN MICROFLORA AND ITS APPLICATION IN ANIMAL BIOTECHNOLOGY PART C BIOINFORMATICS APPLICATIONS IN BIOTECHNOLOGY DATA MINING IN ANIMAL BIOTECHNOLOGY TO OPERATIONS AND BIOLOGY IN ANIMAL CANCERS PROSPECTS IN DEVELOPING DIAGNOSIS AND

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ANTICANCER THERAPEUTICS VACCINE DELIVERY SYSTEMS IMMUNOTHERAPY REPRODUCTIVE BIOTECHNOLOGY INDEX GENETIC BASED ANIMAL BIOTECHNOLOGY HAS PRODUCED NEW FOOD AND PHARMACEUTICAL PRODUCTS AND PROMISES MANY MORE ADVANCES TO BENEFIT HUMANKIND THESE EXCITING PROSPECTS ARE ACCOMPANIED BY CONSIDERABLE UNEASE HOWEVER ABOUT MATTERS SUCH AS SAFETY AND ETHICS THIS BOOK IDENTIFIES SCIENCE BASED AND POLICY RELATED CONCERNS ABOUT ANIMAL BIOTECHNOLOGY [?] KEY ISSUES THAT MUST BE RESOLVED BEFORE THE NEW BREAKTHROUGHS CAN REACH THEIR POTENTIAL THE BOOK INCLUDES A SHORT HISTORY OF THE FIELD AND PROVIDES UNDERSTANDABLE DEFINITIONS OF TERMS LIKE CLONING LOOKING AT TECHNOLOGIES ON THE NEAR HORIZON THE AUTHORS DISCUSS WHAT WE KNOW AND WHAT WE FEAR ABOUT THEIR EFFECTS [?] THE INADVERTENT RELEASE OF DANGEROUS MICROORGANISMS THE SAFETY OF PRODUCTS DERIVED FROM BIOTECHNOLOGY THE IMPACT OF GENETICALLY ENGINEERED ANIMALS ON THEIR ENVIRONMENT IN ADDITION TO THESE CONCERNS THE BOOK EXPLORES ANIMAL WELFARE CONCERNS AND OUR SOCIETAL AND INSTITUTIONAL CAPACITY TO MANAGE AND REGULATE THE TECHNOLOGY AND ITS PRODUCTS THIS ACCESSIBLE VOLUME WILL BE IMPORTANT TO EVERYONE INTERESTED IN THE IMPLICATIONS OF THE USE OF ANIMAL BIOTECHNOLOGY ANIMAL BIOTECHNOLOGY IS AN INTEGRAL COMPONENT OF AGRICULTURE SUPPORTED WITH OVER 50 FIGURES AND MORE THAN 30 TABLES THIS TEXTBOOK IS A MUST HAVE FOR UNDERGRADUATES AND POSTGRADUATES OF VARIOUS AGRICULTURE AND ANIMAL HUSBANDRY ACADEMIA TEACHERS PROFESSIONALS AND RESEARCHERS IN BASIC AS WELL AS APPLIED ANIMAL SCIENCES INCLUDING BIOTECHNOLOGY NUTRITION PHYSIOLOGY AND REPRODUCTION THE BOOK COVERS VARIOUS TOPICS INCLUDING ECONOMICALLY IMPORTANT LIVESTOCK BREEDS PARADIGM SHIFTS IN LIVESTOCK PRODUCTION BIOTECHNOLOGY IN ANIMAL NUTRITION AND IN LIVESTOCK ASSISTED REPRODUCTION AND GENOMICS AND GENETIC ENGINEERING TOOLS IN LIVESTOCK PRODUCTION AND MANAGEMENT ADVANCED BIOMEDICAL TECHNIQUES SUCH AS GENETIC ENGINEERING ARE NOW USED EXTENSIVELY IN ANIMAL RELATED RESEARCH AND DEVELOPMENT AS THE PACE OF DEVELOPMENT HAS QUICKENED THERE HAS BEEN GROWING PUBLIC ANXIETY ABOUT THE ETHICAL ISSUES INVOLVED ANIMAL BIOTECHNOLOGY AND ETHICS DRAWS TOGETHER IN ONE BOOK SOME OF THE LEADING THEMES OPERATIONS AND WHICH HAVE EMERGED IN THE RECENT DEBATES SURROUNDING BIOTECHNOLOGY

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AS APPLIED TO ANIMALS WITH CONTRIBUTIONS FROM AUTHORS OF MANY DIFFERENT VIEWPOINTS THE SUBJECT IS GIVEN A THOROUGH AND BALANCED TREATMENT AMONG THOSE TO WHOM THE BOOK WILL BE OF PARTICULAR INTEREST ARE PRACTITIONERS OF ANIMAL BIOTECHNOLOGY AND THOSE WHOSE INTEREST LIES IN ASSESSING ITS CREDENTIALS SUCH AS PHILOSOPHERS AND SOCIAL OR POLITICAL SCIENTISTS IT ALSO HAS A GREAT DEAL TO INTEREST POLICY MAKERS AND PRESSURE GROUPS AS WELL AS MORE GENERAL READERS THE STRONG CHAPTERS ON THE LEGAL AND REGULATORY FRAMEWORK WILL MAKE IT USEFUL TO THOSE INVOLVED IN ADVISING ON COMPANY POLICY PATENTING OR LITIGATION DESIGNER ANIMALS IS AN IN DEPTH STUDY OF THE DEBATES SURROUNDING THE DEVELOPMENT OF ANIMAL BIOTECHNOLOGY WHICH IS QUICKLY EMERGING OUT OF THE LABORATORY AND INTO THE COMMERCIAL MARKETPLACE THIS BOOK INNOVATIVELY COMBINES EXPERT ANALYSIS ON THE TECHNOLOGY S ECONOMIC PROFESSIONAL ETHICAL AND RELIGIOUS IMPLICATIONS WHILE REMAINING FIRMLY GROUNDED IN THE REAL WORLD POLITICAL ENVIRONMENT IN WHICH THE ISSUE IS PLAYED OUT DESIGNER ANIMALS USES NON TECHNICAL LANGUAGE TO EXPLORE THE SCIENCE BEHIND ANIMAL BIOTECHNOLOGY AND THE ETHICAL FRAMEWORKS AT PLAY IN ITS SURROUNDING DEBATES BY INVESTIGATING THE INTERESTS OF MAJOR STAKEHOLDERS INCLUDING RESEARCHERS ON THE CUTTING EDGE OF SCIENCE MAINSTREAM AND ALTERNATIVE AGRICULTURE ORGANIZATIONS THE ANIMAL WELFARE MOVEMENT AND HEALTH CARE PROVIDERS PATIENTS AND RESEARCHERS THE CONTRIBUTORS ILLUMINATE THE MOST IMPORTANT POINTS OF AGREEMENT AND DISAGREEMENT ON THIS HOTLY CONTESTED TOPIC THE DEPENDENCY ON ANIMAL BIOTECHNOLOGY IN LIVESTOCK INDUSTRIES HAS BEEN INCREASED IN THE RECENT PAST THE LIVESTOCK PRODUCTION RESEARCH HAS WITNESSED REMARKABLE DEVELOPMENTS ON BIOTECHNOLOGICAL METHODS TO PRODUCE THE ELITE ANIMAL BREEDS THE GLOBAL ANIMAL FOOD REQUIREMENT HAS BEEN STEADILY INCREASING AND ANIMAL PRODUCTION NEEDS TO BE INCREASED AS PER THE GLOBAL NEEDS THIS BOOK COVERS VARIOUS ASPECTS OF ANIMAL BIOTECHNOLOGY SUCH AS REPRODUCTIVE BIOTECHNOLOGIES IN SHEEP AND GOATS OOGENESIS AND FOLLICULOGENESIS AND OVARIAN DISORDERS THIS BOOK FOCUSSES THE DISCUSSION ON PROTEOMICS AND METABOLOMICS AND SEPARATE CHAPTERS WERE DEDICATED TO DISCUSS THESE TOPICS AND PROTEOMICS STUDIES OF ANIMAL VIRUSES WERE DISCUSSED IN THE BOOK

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AND THIS WOULD BE HELPFUL TO UNDERSTAND ANIMAL VIRAL PATHOGENESIS THE APPLICATIONS OF METABOLOMICS IN LIVESTOCK WERE DISCUSSED WITH FOCUS ON DATA ANALYSIS IDENTIFICATION OF UNKNOWN COMPOUNDS THE PURPOSE OF THIS BOOK IS TO PROVIDE THE RECENT RESEARCH TRENDS AND CONVERT ALL THIS INFORMATION TO USABLE GUIDE TO PROFESSIONALS RESEARCHERS AND STUDENTS WHO ARE WORKING THE RESEARCH AREA OF ANIMAL BIOTECHNOLOGY THE ADVENT OF BIOTECHNOLOGY HAS THE POTENTIAL TO DEVELOP A VARIETY OF NOVEL OR BETTER QUALITY PRODUCTS FOR THE TREATMENT OF A LARGE NUMBER OF DISEASES IN LIVESTOCK IN ADDITION AS WE UNDERSTAND MORE ABOUT THE REPRODUCTIVE PHYSIOLOGY OF ANIMALS THE POTENTIAL EXISTS TO DRAMATICALLY INCREASE THE PRODUCTIVITY OF ANIMALS THROUGH BETTER THERAPEUTICS AND DIAGNOSTICS FOR THE CONTROL OF MANY INFECTIOUS DISEASES PRODUCTIVITY CAN ALSO BE INCREASED THROUGH ANIMAL BREEDING STRATEGIES INCLUDING GENE TRANSFER MICROMANIPULATION OF EMBRYOS AND GAMETE SEX SELECTION AS WELL AS BEING A VALUABLE REFERENCE TO CURRENT KNOWLEDGE IN THESE AREAS THIS FIRST SUPPLEMENT TO COMPREHENSIVE BIOTECHNOLOGY ALSO LOOKS AT SOCIETAL CONCERNS OVER THE USE OF ANTIBIOTICS AND CHEMICAL RESIDUES IN MEAT AND MILK PRODUCTS WHICH ARE FORCING BIOTECHNOLOGISTS TO INVESTIGATE MORE NATURAL MEANS OF CONTROLLING INFECTION BY STIMULATING THE ANIMAL S OWN IMMUNE SYSTEM TO COMBAT INFECTION THE IDENTIFICATION OF A VARIETY OF CYTOKINES WHICH ARE INVOLVED IN REGULATING IMMUNE RESPONSES PROVIDES OPPORTUNITIES TO USE THE ANIMAL S NATURAL DEFENCE MECHANISMS TO COMBAT MANY INFECTIONS OR INCREASE THE ANIMAL S RESISTANCE TO SUCH INFECTIONS THESE APPROACHES SHOULD PROVIDE TOOLS FOR EVENTUAL ELIMINATION OF SPECIFIC DISEASES FROM COUNTIES REGIONS OR WHOLE CONTINENTS THIS BOOK REVIEWS CONCEPTS AND RECENT ADVANCES OF BIOTECHNOLOGICAL APPROACHES FOR LIVESTOCK PRODUCTION INDEED BIOTECHNOLOGIES HAVE RECENTLY EMERGED AS POWERFUL TOOLS FOR ANIMAL BREEDING GENETICS PRODUCTION NUTRITION AND ANIMAL HEALTH APPLICATIONS TO THE PRODUCTION OF LIVESTOCK SUCH AS CATTLE CAMEL AND POULTRY ARE DETAILED CHAPTERS ALSO PRESENT BIOTECHNOLOGICAL APPLICATIONS FOR DIAGNOSTICS ANIMAL NUTRITION AND ANIMAL FOOD PRODUCTION ANIMAL BIOTECHNOLOGY IS THE USE OF SCIENCE AND ENGINEERING TO MODIFY LIVING ORGANISMS

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TO MAKE PRODUCTS TO IMPROVE ANIMALS AND TO DEVELOP MICROORGANISMS FOR SPECIFIC AGRICULTURAL USES ANIMALS ARE USED IN MANY WAYS IN BIOTECHNOLOGY BIOTECHNOLOGY PROVIDES NEW TOOLS FOR IMPROVING HUMAN HEALTH AND ANIMAL HEALTH AND WELFARE AND INCREASING LIVESTOCK PRODUCTIVITY BIOTECHNOLOGY IMPROVES THE FOOD WE EAT MEAT MILK AND EGGS BIOTECHNOLOGY CAN IMPROVE AN ANIMAL'S IMPACT ON THE ENVIRONMENT THE ANIMAL BIOTECHNOLOGY IN USE TODAY IS BUILT ON A LONG HISTORY SOME OF THE FIRST BIOTECHNOLOGY IN USE INCLUDES TRADITIONAL BREEDING TECHNIQUES THAT DATE BACK TO 5000 B C E SUCH TECHNIQUES INCLUDE CROSSING DIVERSE STRAINS OF ANIMALS TO PRODUCE GREATER GENETIC VARIETY THE OFFSPRING FROM THESE CROSSES THEN ARE BRED SELECTIVELY TO PRODUCE THE GREATEST NUMBER OF DESIRABLE TRAITS FOR EXAMPLE FEMALE HORSES HAVE BEEN BRED WITH MALE DONKEYS TO PRODUCE MULES AND MALE HORSES HAVE BEEN BRED WITH FEMALE DONKEYS TO PRODUCE HINNIES FOR USE AS WORK ANIMALS FOR THE PAST 3 000 YEARS THIS METHOD CONTINUES TO BE USED TODAY ANIMAL BIOTECHNOLOGY IN USE TODAY IS BASED ON THE SCIENCE OF GENETIC ENGINEERING UNDER THE UMBRELLA OF GENETIC ENGINEERING EXIST OTHER TECHNOLOGIES SUCH AS TRANSGENIC AND CLONING THAT ALSO ARE USED IN ANIMAL BIOTECHNOLOGY TRANSGENIC IS THE TRANSFERAL OF A SPECIFIC GENE FROM ONE ORGANISM TO ANOTHER GENE SPLICING IS USED TO INTRODUCE ONE OR MORE GENES OF AN ORGANISM INTO A SECOND ORGANISM THIS VOLUME ANIMAL BIOTECHNOLOGY ENCOMPASSES ALL ASPECTS OF ANIMAL SCIENCE AND BIOTECHNOLOGY INCLUDING ANIMAL GENETICS AND BREEDING ANIMAL REPRODUCTION AND PHYSIOLOGY ANIMAL NUTRITION AND BIOCHEMISTRY FEED PROCESSING AND TESTING AND ANIMAL BIOTECHNOLOGY IT IS DESIGNED TO INTRODUCE RESEARCH ACHIEVEMENTS IN ANIMAL SCIENCE AND TECHNOLOGY TO THE INTERNATIONAL COMMUNITY AND TO STRENGTHEN ACADEMIC FIELD THE TOPICS INCLUDING ADVANCES IN ANIMAL ASSISTED REPRODUCTION CONSERVATION OF ANIMAL GENETIC DIVERSITY BIOTECHNOLOGY OF GUT MICROBIOME NUTRIGENOMICS FODDER AND FEED BIOTECHNOLOGY IMMUNOGENETIC GENOMICS AND ITS APPLICATIONS IN ANIMALS WE HOPE THAT A WIDE VARIETY OF SCIENTISTS RESEARCHERS AND OTHERS MAY BENEFIT FROM THIS BOOK IN ANIMALS AS BIOTECHNOLOGY SOCIOLOGIST RICHARD TWINE PLACES THE QUESTION OF HUMAN ANIMAL RELATIONS OPERATIONS AND OF SUSTAINABILITY AND CLIMATE CHANGE DEBATES THE BOOK SUBRAYED BY

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THE EMERGENCE OF TWO CONTRADICTORY TRENDS WITHIN OUR APPROACH TO NONHUMAN ANIMALS THE BIOTECHNOLOGICAL TURN IN ANIMAL SCIENCES WHICH AIMS TO INCREASE THE EFFICIENCY AND PROFITABILITY OF MEAT AND DAIRY PRODUCTION AND THE EMERGING FIELD OF CRITICAL ANIMAL STUDIES MOSTLY IN THE HUMANITIES AND SOCIAL SCIENCES WHICH WORKS TO QUESTION THE NATURE OF OUR RELATIONS WITH OTHER ANIMALS THE FIRST PART OF THE BOOK FOCUSES ON ETHICS EXAMINING CRITICALLY THE DOMINANT PARADIGMS OF BIOETHICS AND POWER RELATIONS BETWEEN HUMAN AND NON HUMAN THE SECOND PART CONSIDERS ANIMAL BIOTECHNOLOGY AND POLITICAL ECONOMY EXAMINING COMMERCIALISATION AND REGULATION THE FINAL PART OF THE BOOK CENTRES ON DISCUSSIONS OF SUSTAINABILITY LIMITS AND AN EXAMINATION OF THE PROSPECTS FOR ANIMAL ETHICS IF BIOTECHNOLOGY BECOMES PART OF THE DOMINANT AGRICULTURAL PARADIGM TWINE CONCLUDES BY CONSIDERING WHETHER GROWING CALLS TO REDUCE OUR CONSUMPTION OF MEAT DAIRY PRODUCTS IN THE FACE OF CLIMATE CHANGE THREATS ARE IN FACT COMPLICIT WITH AN ANTHROPOCENTRIC UNDERSTANDING OF SUSTAINABILITY AND THAT WHAT IS NEEDED IS A MORE FUNDAMENTAL ETHICAL AND POLITICAL QUESTIONING OF RELATIONS AND DISTINCTIONS BETWEEN HUMANS ANIMALS AND NATURE THIS BOOK IS DESIGNED AS PER THE SYLLABUS OF BIOTECHNOLOGY PAPER 5 PRESCRIBED BY BANGALORE UNIVERSITY AND OTHER INDIAN UNIVERSITIES THE BOOK IS DIVIDED INTO THREE PARTS AS FOLLOWS ANIMAL CELL BIOTECHNOLOGY IMMUNOLOGY PLANT BIOTECHNOLOGY THE PRESENTATION IN EACH PART IS SIMPLE AND SYSTEMATIC THE BASIC CONCEPTS HAVE BEEN CLEARLY EXPLAINED AND THEIR FUNCTIONS ARE ADEQUATELY HIGHLIGHTED A FEW RECENT DEVELOPMENTS HAVE ALSO BEEN INCLUDED TO PROVIDE A CONTEMPORARY UNDERSTANDING OF THE SUBJECT ANIMAL BIOTECHNOLOGY IS A BROAD UMBRELLA ENCOMPASSING THE POLARITIES OF FUNDAMENTAL AND APPLIED RESEARCH INCLUDING MOLECULAR MODELLING MOLECULAR AND QUANTITATIVE GENETICS GENE MANIPULATION DEVELOPMENT OF DIAGNOSTICS AND VACCINES AND MANIPULATION OF TISSUE OR DIGESTION METABOLISM BY GROWTH PROMOTERS ALTHOUGH ANIMAL BIOTECHNOLOGY IN THE BROADEST SENSE IS NOT NEW WHAT IS NEW IS THE LEVEL OF COMPLEXITY AND PRECISION INVOLVED IN SCIENTISTS CURRENT ABILITY TO MANIPULATE LIVING ORGANISMS THIS NEW BOOK SETS OUT OPERATIONS AND THE IMPORTANT IDEAS IN ANIMAL BIOTECHNOLOGY ARE EXCITING AND SUPPLY CHAIN

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RELEVANT TO EVERYDAY EXPERIENCE IT REPRESENTS AN IMPORTANT UPDATE OF THE LITERATURE FOR RESEARCH WORKERS LECTURERS AND ADVISERS IN ANIMAL SCIENCE BUT IS ALSO A CORE TEXT FOR ADVANCED UNDERGRADUATE COURSES IN ANIMAL SCIENCE AND BIOTECHNOLOGY IT WILL BE AN ESSENTIAL ACQUISITION FOR LIBRARIANS IN AGRICULTURE AND VETERINARY SCIENCE WITH THE DRAMATICALLY RISING SOPHISTICATION OF BIOLOGICAL METHODS AND PRODUCTS AND THE INCREASING USE OF RECOMBINANT DNA TECHNOLOGY NOW IS AN APT TIME TO REVIEW THE STATUS OF BIOTECHNOLOGY IN ANIMAL FEEDING THIS BOOK GIVES SUCCINCT YET COMPREHENSIVE COVERAGE OF PRODUCTS OF BIOTECHNOLOGY AND ALLIED SCIENCES USED IN ANIMAL FEED AND FEEDING INDUSTRIES PARTICULAR EMPHASIS IS PLACED ON CONSERVATION AND UPGRADING OF FEEDS AND FEED COMPONENTS INCREASING THE PROTEIN VALUE OF FEEDS ANTIMICROBIALS MICROBIAL FEED ADDITIVES INCREASING THE ENERGY VALUE OF FEEDS MOREOVER INCREASING ENVIRONMENTAL CONCERNS ARE REFLECTED IN CHAPTERS DESCRIBING DIETARY PRODUCTS WHICH MAY HELP TO REDUCE ENVIRONMENTAL HAZARDS FROM ANIMAL FEEDING ENTERPRISES A DISCUSSION OF SOCIAL AND LEGISLATIVE ASPECTS RELATING TO BIOTECHNOLOGY AND ANIMAL FEEDING ROUNDS OFF THIS USEFUL COMPILATION OF TIMELY ARTICLES THIS BOOK EXPLORES THE RECENT ADVANCEMENTS IN CUTTING EDGE TECHNIQUES AND APPLICATIONS OF BIOTECHNOLOGY IT PROVIDES AN OVERVIEW OF PROSPECTS AND APPLICATIONS WHILE EMPHASIZING MODERN AND EMERGING AREAS OF BIOTECHNOLOGY THE CHAPTERS ARE DEDICATED TO VARIOUS FIELD OF BIOTECHNOLOGY INCLUDING GENOME EDITING PROBIOTICS IN SILICO DRUG DESIGNING NANOPARTICLES AND ITS APPLICATIONS MOLECULAR DIAGNOSTICS TISSUE ENGINEERING CRYOPRESERVATION AND ANTIOXIDANTS IT IS USEFUL FOR BOTH ACADEMICIANS AND RESEARCHERS IN THE VARIOUS DISCIPLINES OF LIFE SCIENCES AGRICULTURAL SCIENCES MEDICINE AND BIOTECHNOLOGY IN UNIVERSITIES RESEARCH INSTITUTIONS AND BIOTECH COMPANIES THIS BOOK PROVIDES THE READERS WITH A COMPREHENSIVE KNOWLEDGE OF TOPICS IN GENOMICS BIONANOTECHNOLOGY DRUG DESIGNING DIAGNOSTICS THERAPEUTICS FOOD AND ENVIRONMENTAL BIOTECHNOLOGY THE CHAPTERS HAVE BEEN WRITTEN WITH SPECIAL REFERENCE TO THE LATEST DEVELOPMENTS IN THE FRONTIER AREAS OF BIOTECHNOLOGY THAT IMPACTS THE BIOTECH INDUSTRIES GENETIC BASED ANIMAL BIOTECHNOLOGICAL PRODUCTS AND PRODUCED NEW FOOD AND PHARMACEUTICAL PRODUCTS AND PHARMACEUTICAL PRODUCTS

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MORE ADVANCES TO BENEFIT HUMANKIND THESE EXCITING PROSPECTS ARE ACCOMPANIED BY CONSIDERABLE UNEASE HOWEVER ABOUT MATTERS SUCH AS SAFETY AND ETHICS THIS BOOK IDENTIFIES SCIENCE BASED AND POLICY RELATED CONCERNS ABOUT ANIMAL BIOTECHNOLOGY[?] KEY ISSUES THAT MUST BE RESOLVED BEFORE THE NEW BREAKTHROUGHS CAN REACH THEIR POTENTIAL THE BOOK INCLUDES A SHORT HISTORY OF THE FIELD AND PROVIDES UNDERSTANDABLE DEFINITIONS OF TERMS LIKE CLONING LOOKING AT TECHNOLOGIES ON THE NEAR HORIZON THE AUTHORS DISCUSS WHAT WE KNOW AND WHAT WE FEAR ABOUT THEIR EFFECTS[?] THE INADVERTENT RELEASE OF DANGEROUS MICROORGANISMS THE SAFETY OF PRODUCTS DERIVED FROM BIOTECHNOLOGY THE IMPACT OF GENETICALLY ENGINEERED ANIMALS ON THEIR ENVIRONMENT IN ADDITION TO THESE CONCERNS THE BOOK EXPLORES ANIMAL WELFARE CONCERNS AND OUR SOCIETAL AND INSTITUTIONAL CAPACITY TO MANAGE AND REGULATE THE TECHNOLOGY AND ITS PRODUCTS THIS ACCESSIBLE VOLUME WILL BE IMPORTANT TO EVERYONE INTERESTED IN THE IMPLICATIONS OF THE USE OF ANIMAL BIOTECHNOLOGY THIS BOOK EXAMINES HOW BIOTECHNOLOGY CAN IMPROVE LIVESTOCK BREEDING AND FARMING AND THEREBY ALSO ANIMAL PRODUCTS IN THE FIRST CHAPTERS THE READER WILL DISCOVER WHICH TECHNIQUES AND APPROACHES ARE CURRENTLY USED TO IMPROVE ANIMAL BREEDING ANIMAL HEALTH AND THE VALUE OF ANIMAL PRODUCTS PARTICULAR ATTENTION IS GIVEN TO REPRODUCTION TECHNIQUES ANIMAL NUTRITION AND LIVESTOCK VACCINES THAT NOT ONLY ENHANCE ANIMAL HEALTH BUT ALSO HAVE A SIGNIFICANT EFFECT ON HUMAN HEALTH BY ENSURING SAFE FOOD PROCUREMENT AND PREVENTING ZONOTIC DISEASES IN ADDITION MODERN BIOTECHNOLOGY CAN INCREASE NOT ONLY PRODUCTIVITY BUT ALSO THE CONSISTENCY AND QUALITY OF ANIMAL FOOD FIBER AND MEDICAL PRODUCTS IN THE SECOND PART OF THE BOOK ISSUES SUCH AS HOW ANIMAL BIOTECHNOLOGY COULD AFFECT THE ENVIRONMENT AND THE IMPORTANT TOPIC OF ANIMAL WASTE MANAGEMENT ARE EXPLORED IN THE CONCLUDING CHAPTER THE AUTHORS DISCUSS FUTURE CHALLENGES RELATED TO ANIMAL BIOTECHNOLOGY THIS WORK WILL APPEAL TO A WIDE READERSHIP FROM SCIENTISTS AND PROFESSIONALS WORKING IN ANIMAL PRODUCTION TO THOSE IN FARM ANIMAL MANAGEMENT AND VETERINARY SCIENCE THIS BOOK PRESENTS ADVANCED REVIEWS ON LATEST DEVELOPMENTS AND FUTURE TRENDS OF ANIMAL BIOTECHNOLOGY WITH FOCUS ON COMPUTATIONAL AND EXPERIMENTAL

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APPROACHES THE ARTICLES IN THIS BOOK DISCUSSES THE IMPLICATIONS OF RECENT METHODS IN ANIMAL BIOTECHNOLOGY TO IMPROVE THE LIVESTOCK PRODUCTION APPLICATIONS OF OMICS TECHNOLOGIES AND SYSTEM BIOLOGY APPROACHES FOR LIVESTOCK PRODUCTION AND ANIMAL DISORDERS WERE DISCUSSED IN DETAIL THE EVOLUTION OF TRANSGENIC TECHNOLOGY GENOME EDITING AND MARKERS FOR EARLY PREGNANCY DETECTION WERE ELUCIDATED IN THIS BOOK A COUPLE OF CHAPTERS WERE DEDICATED TO UNDERSTANDING THE ROLE OF GUT MICROBIOME PROBIOTICS AND PREBIOTICS ON LIVESTOCK HEALTH AND PRODUCTION THE NANOMATERIALS HAVE BEEN SHOWN BEEN SHOWN BENEFICIAL EFFECTS IN BIOLOGICAL APPLICATIONS THIS BOOK ALSO DISCUSSED THE VETERINARY APPLICATIONS OF NANOMATERIALS THE ARTICLES OF THIS BOOK PROVIDE STATE OF THE ART INFORMATION THAT IS APPROPRIATE TO ACADEMICIANS RESEARCHERS AND STUDENTS WHO ARE INVOLVED IN THE ANIMAL BIOTECHNOLOGY RESEARCH THIS TWO VOLUME TEXTBOOK PROVIDES A COMPREHENSIVE OVERVIEW ON THE BROAD FIELD OF ANIMAL BIOTECHNOLOGY WITH A SPECIAL FOCUS ON LIVESTOCK REPRODUCTION AND BREEDING THE READER WILL BE INTRODUCED TO A VARIETY OF STATE OF THE ART TECHNOLOGIES AND EMERGING GENETIC TOOLS AND THEIR APPLICATIONS IN ANIMAL PRODUCTION ALSO ETHICS AND LEGAL ASPECTS OF ANIMAL BIOTECHNOLOGY WILL BE DISCUSSED AND NEW TRENDS AND DEVELOPMENTS IN THE FIELD WILL BE CRITICALLY ASSESSED THE TWO VOLUME WORK IS A MUST HAVE FOR GRADUATE STUDENTS ADVANCED UNDERGRADUATES AND RESEARCHERS IN THE FIELD OF VETERINARY MEDICINE GENETICS AND ANIMAL BIOTECHNOLOGY THIS SECOND VOLUME IS DEDICATED TO GENETIC TOOLS IN ANIMAL BIOTECHNOLOGY SUCH AS SOMATIC CLONING TRANSGENIC TECHNOLOGIES AND THE APPLICATION OF STEM CELLS IN LIVESTOCK BREEDING ALSO ETHICS AND LEGAL ASPECTS ARE DISCUSSED THIS EDITION HAVING THE TITLE PRINCIPLES OF MEDICAL BIOTECHNOLOGY IS A SCIENTIFIC BOOK CONTAINING RECENT ADVANCES THAT ARE ONGOING IN CERTAIN MEDICAL AND ANIMAL BIOTECHNOLOGICAL APPLICATIONS TEN CHAPTERS RELATED TO THE NEWEST BIOTECHNOLOGICAL ACHIEVEMENTS IN METHODS USED TO MANIPULATE GENES MEDICINE HEALTH CARE BIOPHARMACEUTICAL PRODUCING AND TRANSGENESIS ARE PRESENTED IN THIS BOOK AS WELL AS GENE THERAPY AND CANCER TREATMENT ARE INCLUDED GENE THERAPY IS A NOVEL THERAPEUTIC BRANCH OF MODERN OPERATIONS AND EMERGENCE IS A DIRECT CONSEQUENCE OF THE REVOLUTION HERE SUPPLIED BY THE

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INTRODUCTION OF RECOMBINANT DNA METHODOLOGY IN THE 1970s GENE THERAPY IS STILL HIGHLY EXPERIMENTAL BUT HAS THE POTENTIAL TO BECOME AN IMPORTANT TREATMENT REGIMEN IN PRINCIPLE IT ALLOWS THE TRANSFER OF GENETIC INFORMATION INTO PATIENT TISSUES AND ORGANS ALSO THE BOOK DEALS WITH ANIMAL BIOTECHNOLOGY ANIMAL BIOTECHNOLOGY IS A BRANCH OF BIOTECHNOLOGY IN WHICH MOLECULAR BIOLOGY TECHNIQUES ARE USED TO GENETICALLY ENGINEER I E MODIFY THE GENOME OF ANIMALS IN ORDER TO IMPROVE THEIR SUITABILITY FOR PHARMACEUTICAL AGRICULTURAL OR INDUSTRIAL APPLICATIONS ANIMAL BIOTECHNOLOGY HAS BEEN USED TO PRODUCE GENETICALLY MODIFIED ANIMALS THAT SYNTHESIZE THERAPEUTIC PROTEINS HAVE IMPROVED GROWTH RATES OR ARE RESISTANT TO DISEASE SO JUST LIKE OTHER ASSISTED REPRODUCTION TECHNIQUES SUCH AS ARTIFICIAL INSEMINATION EMBRYO TRANSFER AND IN VITRO FERTILIZATION LIVESTOCK CLONING IMPROVES ANIMAL BREEDING PROGRAMS ALLOWING FARMERS AND RANCHERS TO PRODUCE HEALTHIER OFFSPRING AND THEREFORE PRODUCE HEALTHIER SAFER AND HIGHER QUALITY FOODS MORE CONSISTENTLY I HOPE THAT THIS BOOK WILL HELP THE READER TO MAKE SENSE OF THE TOPICS AND ACT AS A SUPPORT FOR STUDYING THE CONTENT FROM THE EDUCATIONAL POINT OF VIEW THIS SHOULD HELP THE READER SIMPLY TO UNDERSTAND THE CONCEPT OF MEDICAL BIOTECHNOLOGY AND TO COPE WITH MORE ADVANCED INFORMATION ABOUT THIS SUBJECT THIS BOOK DESCRIBES AND EVALUATES ANIMAL BIOTECHNOLOGY AND ITS APPLICATION IN VETERINARY MEDICINE AND PHARMACEUTICALS AS WELL AS IMPROVEMENT IN ANIMAL FOOD PRODUCTION TRANSGENIC TECHNOLOGIES ARE USED FOR IMPROVING MILK PRODUCTION AND THE MEAT IN FARM ANIMALS AS WELL AS FOR CREATING MODELS OF HUMAN DISEASES TRANSGENIC ANIMALS ARE USED FOR THE PRODUCTION OF PROTEINS FOR HUMAN MEDICAL USE BIOTECHNOLOGY IS APPLIED TO FACILITATE XENOTRANSPLANTATION FROM ANIMALS TO HUMANS GENETIC ENGINEERING IS DONE IN FARM ANIMALS AND NUCLEAR TRANSFER TECHNOLOGY HAS BECOME AN IMPORTANT AND PREFERRED METHOD FOR CLONING ANIMALS BIOTECHNOLOGY HAS POTENTIAL APPLICATIONS IN THE MANAGEMENT OF SEVERAL ANIMAL DISEASES SUCH AS FOOT AND MOUTH DISEASE CLASSICAL SWINE FEVER AVIAN FLUE AND BOVINE SPONGIFORM ENCEPHALOPATHY THE MOST IMPORTANT BIOTECHNOLOGY BASED PRODUCTS CONSIST OF VACCINES AND PARTICULARLY GENETICALLY ENGINEERED OR DNA VACCINES GENE SUPPLEMENTATION

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FOR DISEASES OF PET ANIMALS IS A FAST DEVELOPING AREA BECAUSE MANY OF THE TECHNOLOGIES USED IN CLINICAL TRIALS HUMANS WERE DEVELOPED IN ANIMALS AND MANY OF THE DISEASES OF CATS AND DOGS ARE SIMILAR TO THOSE IN HUMANS RNA INTERFERENCE TECHNOLOGY IS NOW BEING APPLIED FOR RESEARCH IN VETERINARY MEDICINE MOLECULAR DIAGNOSIS IS ASSUMING AN IMPORTANT PLACE IN VETERINARY PRACTICE POLYMERASE CHAIN REACTION AND ITS MODIFICATIONS ARE CONSIDERED TO BE IMPORTANT FLUORESCENT IN SITU HYBRIDIZATION AND ENZYME LINKED IMMUNOSORBENT ASSAYS ARE ALSO WIDELY USED NEWER BIOCHIP BASED TECHNOLOGIES AND BIOSENSORS ARE ALSO FINDING THEIR WAY IN VETERINARY DIAGNOSTICS THIS BOOK IS AN ATTEMPT TO UNRAVEL THE MYSTERIES OF BIOTECHNOLOGY AS IT AFFECTS ANIMAL HEALTH AND PRODUCTION THIS 2ND BOOK PROVIDES FUNDAMENTAL CONCEPTS AND RECENT APPLICATIONS OF BIOTECHNOLOGICAL METHODS SUCH AS GENETIC SELECTION BREEDING METHODS AND GENETIC ENGINEERING TOOLS BIOTECHNOLOGY HAS REMARKABLY IMPROVED THE PRODUCTIVITY OF LIVESTOCK BY INCREASING THE REPRODUCTION EFFICIENCY AND DECREASING THE GENERATION TIME THE CHAPTERS DETAIL THE MECHANISMS OF METHODS FOR ANIMAL REPRODUCTION AND BREEDING METHODS THIS BOOK FOCUS ON THE IMPACT OF MINERALS STEROIDS METABOLIC STRESS NUTRITIONAL STRESS AND ANTI NUTRITIONAL FACTORS ON THE LIVESTOCK REPRODUCTION THE BRANCH OF BIOTECHNOLOGY WHICH USES GENETIC ENGINEERING TO MODIFY ORGANISMS IS KNOWN AS ANIMAL BIOTECHNOLOGY SOME OF THE TECHNIQUES USED IN ANIMAL BIOTECHNOLOGY ARE RECOMBINANT DNA CLONING ETC ANIMAL BIOTECHNOLOGY CAN IMPROVE THE GROWTH RATE AND IMMUNITY OF AN ANIMAL THE VARIOUS STUDIES THAT ARE CONSTANTLY CONTRIBUTING TOWARDS ADVANCING TECHNOLOGIES AND EVOLUTION OF THE FIELD ARE EXAMINED IN THE DETAIL IN THIS BOOK IT AIMS TO SERVE AS A RESOURCE GUIDE FOR STUDENTS AND EXPERTS AND CONTRIBUTE TO THE GROWTH OF THE DISCIPLINE

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IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY

2019-08-28

BIOTECHNOLOGY AS ANY TECHNIQUE THAT USED LIVING ORGANISMS TO MAKE OR MODIFY A PRODUCT TO IMPROVE PLANTS OR ANIMALS OR TO DEVELOP MICROORGANISMS FOR SPECIFIC USES BIOTECHNOLOGY AS ANY TECHNIQUE THAT USED LIVING ORGANISMS TO MAKE OR MODIFY A PRODUCT TO IMPROVE PLANTS OR ANIMALS OR TO DEVELOP MICROORGANISMS FOR SPECIFIC USES ANIMAL BIOTECHNOLOGY IN USE TODAY IS BASED ON THE SCIENCE OF GENETIC ENGINEERING UNDER THE UMBRELLA OF GENETIC ENGINEERING EXIST OTHER TECHNOLOGIES SUCH AS TRANSGENICS AND CLONING THAT ALSO ARE USED IN ANIMAL BIOTECHNOLOGY IMMUNOLOGY IS THE STUDY OF THE IMMUNE SYSTEM AND IS A VERY IMPORTANT BRANCH OF THE MEDICAL AND BIOLOGICAL SCIENCES THE IMMUNE SYSTEM PROTECTS US FROM INFECTION THROUGH VARIOUS LINES OF DEFENCE IF THE IMMUNE SYSTEM IS NOT FUNCTIONING AS IT SHOULD IT CAN RESULT IN DISEASE SUCH AS AUTOIMMUNITY ALLERGY AND CANCER IMMUNITY IS A BIOLOGICAL TERM THAT DESCRIBES A STATE OF HAVING SUFFICIENT BIOLOGICAL DEFENCES TO AVOID INFECTION DISEASE OR OTHER UNWANTED BIOLOGICAL INVASION IMMUNITY INVOLVES BOTH SPECIFIC AND NON SPECIFIC COMPONENTS THE NON SPECIFIC COMPONENTS ACT EITHER AS BARRIERS OR AS ELIMINATORS OF WIDE RANGE OF PATHOGENS IRRESPECTIVE OF ANTIGENIC SPECIFICITY OTHER COMPONENTS OF THE IMMUNE SYSTEM ADAPT THEMSELVES TO EACH NEW DISEASE ENCOUNTERED AND ARE ABLE TO GENERATE PATHOGEN SPECIFIC IMMUNITY THIS BOOK SUMS UP INFORMATION ABOUT ANIMAL BIOTECHNOLOGY AND IS A VALUABLE TOOL FOR STUDENTS AS WELL AS TEACHERS THE AIM OF THIS BOOK IS TO PROVIDE THE READERS MATERIALS ON THE SUBJECT IN A LUCID AND READABLE FORM SO AS TO ENABLE THE RESEARCH SCHOLARS SCIENTISTS ZOOLOGIST AND EVEN THE COMMON MEN TO UNDERSTAND THE SUBJECT PROPERLY

ANIMAL BIOTECHNOLOGY *2020-06-23*

ANIMAL BIOTECHNOLOGY MODELS IN DISCOVERY AND TRANSLATION SECOND EDITION PROVIDES A HELPFUL GUIDE TO ANYONE SEEKING A THOROUGH REVIEW OF ANIMAL BIOTECHNOLOGY AND ITS APPLICATION TO HUMAN

DISEASE AND WELFARE THIS UPDATED EDITION COVERS VITAL FUNDAMENTALS INCLUDING ANIMAL CELL CULTURES GENOME SEQUENCING ANALYSIS EPIGENETICS AND ANIMAL MODELS GENE EXPRESSION AND ETHICS AND SAFETY CONCERNS ALONG WITH IN DEPTH EXAMPLES OF IMPLICATIONS FOR HUMAN HEALTH AND PROSPECTS FOR THE FUTURE NEW CHAPTERS COVER ANIMAL BIOTECHNOLOGY AS APPLIED TO VARIOUS DISEASE TYPES AND RESEARCH AREAS INCLUDING IN VITRO FERTILIZATION HUMAN EMBRYONIC STEM CELL RESEARCH BIOSENSORS ENTERIC DISEASES BIOPHARMING ORGAN TRANSPLANTATION TUBERCULOSIS NEURODEGENERATIVE DISORDERS AND MORE HIGHLIGHTS THE LATEST BIOMEDICAL APPLICATIONS OF GENETICALLY MODIFIED AND CLONED ANIMALS WITH A FOCUS ON CANCER AND INFECTIOUS DISEASES OFFERS FIRST HAND ACCOUNTS OF THE USE OF BIOTECHNOLOGY TOOLS INCLUDING MOLECULAR MARKERS STEM CELLS ANIMAL CULTURES TISSUE ENGINEERING ADME AND CAM ASSAY INCLUDES CASE STUDIES THAT ILLUSTRATE SAFETY ASSESSMENT ISSUES ETHICAL CONSIDERATIONS AND INTELLECTUAL PROPERTY RIGHTS ASSOCIATED WITH THE TRANSLATION OF ANIMAL BIOTECHNOLOGY STUDIES

ANIMAL BIOTECHNOLOGY *2019-06-11*

BIOTECHNOLOGY IS A HIGHLY MULTIDISCIPLINARY SUBJECT AND HAS GOT ITS FOUNDATION IN MANY FIELDS INCLUDING BIOLOGY MICROBIOLOGY BIOCHEMISTRY MOLECULAR BIOLOGY GENETICS CHEMISTRY AND CHEMICAL AND PROCESSING ENGINEERING APPLICATION OF BIOTECHNOLOGY IN MEDICINE AND AGRICULTURE HAS BEEN A RECENT PHENOMENON MODERN BIOTECHNOLOGICAL PROCESSES NOW ENCOMPASS A WIDE RANGE OF NEW PRODUCTS INCLUDING ANTIBIOTICS RECOMBINANT AND NUCLEIC ACID VACCINES MONOCLONAL ANTIBODIES RECOMBINANT THERAPEUTIC PRODUCTS LIKE RECOMBINANT INSULIN GROWTH HORMONES PROLACTIN AND GENE THERAPY PRODUCTION OF TRANSGENIC ANIMALS AND PLANTS AND USE OF EMBRYO BIOTECHNOLOGICAL METHODS AND STEM CELLS TO AUGMENT ANIMAL PRODUCTION AND HUMAN THERAPY RESPECTIVELY ANIMAL BIOTECHNOLOGY IS IN ITS INFANCY AND ONLY DURING THE PAST TEN YEARS MUCH WORK HAS BEEN DONE IN ANIMAL BIOTECHNOLOGY IN FEW ISOLATED LABORATORIES THROUGHOUT THE WORLD THERE IS AN INCREASING NEED TO TRAIN MANPOWER IN ANIMAL BIOTECHNOLOGY EVEN THOUGH MANY COLLEGES ARE

OFFERING COURSES IN BIOTECHNOLOGY FOR THE STUDENTS THERE IS NO SINGLE TEXT BOOK AVAILABLE COVERING ALL THE ASPECTS OF ANIMAL BIOTECHNOLOGY FOR THE STUDENTS THIS BOOK ON ANIMAL BIOTECHNOLOGY HAS BEEN WRITTEN TO MEET OUT THE REQUIREMENTS OF BOTH UNDERGRADUATE AND POSTGRADUATE STUDENTS ON THE SUBJECT OF BIOTECHNOLOGY THERE ARE SEVENTEEN CHAPTERS IN THIS BOOK COVERING DIFFERENT ASPECTS OF ANIMAL BIOTECHNOLOGY INCLUDING ENZYME TECHNOLOGY GENE THERAPY BIOTECHNOLOGY IN MEDICINE INTELLECTUAL PROPERTY RIGHTS AND BIOSAFETY IN BIOTECHNOLOGY MANY UP TO DATE REFERENCES ON MOST OF THE TOPICS HAVE BEEN INCLUDED SO THAT IT WOULD BE A REFERENCE BOOK FOR POSTGRADUATE STUDENTS STUDYING BIOTECHNOLOGY AND MOLECULAR BIOLOGY THIS WOULD BE A USEFUL BOOK FOR STUDENTS WHO ARE WRITING COMPETITIVE EXAMINATIONS FOR FELLOWSHIP WITH MY EXTENSIVE EXPERIENCE IN TEACHING AND RESEARCH IN ANIMAL BIOTECHNOLOGY I HAVE COMPILED THIS BOOK TO PROVIDE STUDENTS THE BASIC PRINCIPLES OF ANIMAL BIOTECHNOLOGY CURRENT INFORMATION ON DIFFERENT TOPICS OF BIOTECHNOLOGY AS WELL AS INFORMATION ON INTELLECTUAL PROPERTY RIGHTS AND BIOSAFETY GUIDELINES TO BE ADOPTED IN THE LABORATORIES

ADVANCES IN ANIMAL BIOTECHNOLOGY

2019-07-09

THIS BOOK ENTITLED ADVANCES IN ANIMAL BIOTECHNOLOGY IS A COMPILATION OF STATE OF THE ART IN THE FIELD OF ANIMAL BIOTECHNOLOGY INCLUDING FISHERY THAT ARE NOT SHELTERED IN DEPTH IN EARLIER PUBLICATIONS IT OFFERS AN UPDATE ON AVANT GARDE TECHNOLOGIES AND ADVANCES IN KEY ASPECTS OF GENETIC ENGINEERING METAGENOMICS ASSISTED REPRODUCTION ANIMAL GENOMICS BIOTECHNOLOGY IN VETERINARY HEALTH AS WELL AS THE ROLE OF GUT AND MARINE MICROBIAL ECOSYSTEMS IN LIVESTOCK AND INDUSTRIAL DEVELOPMENT THE BOOK IS DIVIDED BROADLY INTO FIVE DIFFERENT SECTIONS VIZ GUT MICROBIOME AND NUTRITIONAL BIOTECHNOLOGY ASSISTED REPRODUCTION BIOTECHNOLOGY LIVESTOCK GENOMICS HEALTH BIOTECHNOLOGY AND ANIMAL BIOTECHNOLOGY IN GLOBAL PERSPECTIVE THE BOOK COVERS THE SYLLABI OF

ANIMAL BIOTECHNOLOGY COURSES IN VARIOUS UNIVERSITIES ACADEMIA AND COMPETITIVE EXAMINATIONS AT VARIOUS LEVELS RESEARCHERS CONTINUING GRADUATES AND ACADEMICIANS RESEARCH INSTITUTIONS AND BIOTECH COMPANIES WILL BE BENEFITED FROM THIS VALUABLE COMPILATION OF RESEARCH ITS BROAD SPECTRUM MAKES THIS WORK A VALUABLE RESOURCE FOR PROFESSIONALS RESEARCHERS ACADEMICS AND STUDENTS IN THE FIELD OF VETERINARY AND ANIMAL PRODUCTION AS WELL AS THE BIOTECHNOLOGY INDUSTRY

ANIMAL BIOTECHNOLOGY 2 2018-08-01

THIS TWO VOLUME TEXTBOOK PROVIDES A COMPREHENSIVE OVERVIEW ON THE BROAD FIELD OF ANIMAL BIOTECHNOLOGY WITH A SPECIAL FOCUS ON LIVESTOCK REPRODUCTION AND BREEDING THE READER WILL BE INTRODUCED TO A VARIETY OF STATE OF THE ART TECHNOLOGIES AND EMERGING GENETIC TOOLS AND THEIR APPLICATIONS IN ANIMAL PRODUCTION ALSO ETHICS AND LEGAL ASPECTS OF ANIMAL BIOTECHNOLOGY WILL BE DISCUSSED AND NEW TRENDS AND DEVELOPMENTS IN THE FIELD WILL BE CRITICALLY ASSESSED THE TWO VOLUME WORK IS A MUST HAVE FOR GRADUATE STUDENTS ADVANCED UNDERGRADUATES AND RESEARCHERS IN THE FIELD OF VETERINARY MEDICINE GENETICS AND ANIMAL BIOTECHNOLOGY THIS SECOND VOLUME IS DEDICATED TO GENETIC TOOLS IN ANIMAL BIOTECHNOLOGY SUCH AS SOMATIC CLONING TRANSGENIC TECHNOLOGIES AND THE APPLICATION OF STEM CELLS IN LIVESTOCK BREEDING ALSO ETHICS AND LEGAL ASPECTS ARE DISCUSSED

ANIMAL BIOTECHNOLOGY 1 2018-08-12

THIS TWO VOLUME TEXTBOOK PROVIDES A COMPREHENSIVE OVERVIEW ON THE BROAD FIELD OF ANIMAL BIOTECHNOLOGY WITH A SPECIAL FOCUS ON LIVESTOCK REPRODUCTION AND BREEDING THE READER WILL BE INTRODUCED TO A VARIETY OF STATE OF THE ART TECHNOLOGIES AND EMERGING GENETIC TOOLS AND THEIR APPLICATIONS IN ANIMAL PRODUCTION ALSO ETHICS AND LEGAL ASPECTS OF ANIMAL BIOTECHNOLOGY WILL BE DISCUSSED AND NEW TRENDS AND DEVELOPMENTS IN THE FIELD WILL BE CRITICALLY ASSESSED THE TWO VOLUME WORK IS A MUST HAVE FOR GRADUATE STUDENTS ADVANCED

UNDERGRADUATES AND RESEARCHERS IN THE FIELD OF VETERINARY MEDICINE GENETICS AND ANIMAL BIOTECHNOLOGY THIS FIRST VOLUME MAINLY FOCUSES ON ARTIFICIAL INSEMINATION EMBRYO TRANSFER TECHNOLOGIES IN DIVERSE ANIMAL SPECIES AND CRYOPRESERVATION OF OOCYTES AND EMBRYOS

ANIMAL BIOTECHNOLOGY 2018-04-30

COVERS THE SYLLABI OF ANIMAL BIOTECHNOLOGY COURSES OFFERED IN VARIOUS INDIAN UNIVERSITIES THIS BOOK OFFERS CORE KNOWLEDGE IN THE FIELD OF ANIMAL BIOTECHNOLOGY IN A CONDENSED FORM TO STUDENTS RESEARCHERS AND FACULTY CONTENTS PART A HISTORY OF BIOTECHNOLOGY AND MILESTONES DNA REPLICATION TRANSCRIPTION AND TRANSLATION RNA SPLICING TRANSPOSABLE ELEMENTS ENZYMES IN BIOTECHNOLOGY TOOLS IN R DNA TECHNOLOGY GENOME ORGANISATION IN FARM ANIMALS PART B RECOMBINANT PROTEINS OF CLINICAL SIGNIFICANCE APPLICATION OF TARGETED RIBOZYMES IN THERAPY AND DEVELOPING DISEASE MODELS BACULOVIRUS MEDIATED EXPRESSION OF HETEROLOGOUS GENES AND ITS APPLICATION IN VETERINARY SCIENCE ADVANCES IN VACCINOLOGY MOLECULAR BIOLOGY OF RUMEN MICROFLORA AND ITS APPLICATION IN ANIMAL BIOTECHNOLOGY PART C BIOINFORMATICS APPLICATIONS IN BIOTECHNOLOGY DATA MINING IN ANIMAL BIOTECHNOLOGY TELOMERASE BIOLOGY IN ANIMAL CANCERS PROSPECTS IN DEVELOPING DIAGNOSIS AND ANTICANCER THERAPEUTICS VACCINE DELIVERY SYSTEMS IMMUNOTHERAPY REPRODUCTIVE BIOTECHNOLOGY INDEX

ANIMAL BIOTECHNOLOGY 2002-12-29

GENETIC BASED ANIMAL BIOTECHNOLOGY HAS PRODUCED NEW FOOD AND PHARMACEUTICAL PRODUCTS AND PROMISES MANY MORE ADVANCES TO BENEFIT HUMANKIND THESE EXCITING PROSPECTS ARE ACCOMPANIED BY CONSIDERABLE UNEASE HOWEVER ABOUT MATTERS SUCH AS SAFETY AND ETHICS THIS BOOK IDENTIFIES SCIENCE BASED AND POLICY RELATED CONCERNS ABOUT ANIMAL BIOTECHNOLOGY^[?] KEY ISSUES THAT MUST BE RESOLVED BEFORE THE NEW BREAKTHROUGHS CAN REACH THEIR POTENTIAL THE BOOK INCLUDES A SHORT HISTORY OF THE FIELD AND PROVIDES UNDERSTANDABLE

DEFINITIONS OF TERMS LIKE CLONING LOOKING AT TECHNOLOGIES ON THE NEAR HORIZON THE AUTHORS DISCUSS WHAT WE KNOW AND WHAT WE FEAR ABOUT THEIR EFFECTS² THE INADVERTENT RELEASE OF DANGEROUS MICROORGANISMS THE SAFETY OF PRODUCTS DERIVED FROM BIOTECHNOLOGY THE IMPACT OF GENETICALLY ENGINEERED ANIMALS ON THEIR ENVIRONMENT IN ADDITION TO THESE CONCERNS THE BOOK EXPLORES ANIMAL WELFARE CONCERNS AND OUR SOCIETAL AND INSTITUTIONAL CAPACITY TO MANAGE AND REGULATE THE TECHNOLOGY AND ITS PRODUCTS THIS ACCESSIBLE VOLUME WILL BE IMPORTANT TO EVERYONE INTERESTED IN THE IMPLICATIONS OF THE USE OF ANIMAL BIOTECHNOLOGY

TEXTBOOK OF ANIMAL BIOTECHNOLOGY *2005-01-01*

ANIMAL BIOTECHNOLOGY IS AN INTEGRAL COMPONENT OF AGRICULTURE SUPPORTED WITH OVER 50 FIGURES AND MORE THAN 30 TABLES THIS TEXTBOOK IS A MUST HAVE FOR UNDERGRADUATES AND POSTGRADUATES OF VARIOUS AGRICULTURE AND ANIMAL HUSBANDRY ACADEMIA TEACHERS PROFESSIONALS AND RESEARCHERS IN BASIC AS WELL AS APPLIED ANIMAL SCIENCES INCLUDING BIOTECHNOLOGY NUTRITION PHYSIOLOGY AND REPRODUCTION THE BOOK COVERS VARIOUS TOPICS INCLUDING ECONOMICALLY IMPORTANT LIVESTOCK BREEDS PARADIGM SHIFTS IN LIVESTOCK PRODUCTION BIOTECHNOLOGY IN ANIMAL NUTRITION AND IN LIVESTOCK ASSISTED REPRODUCTION AND GENOMICS AND GENETIC ENGINEERING TOOLS IN LIVESTOCK PRODUCTION AND MANAGEMENT

ANIMAL BIOTECHNOLOGY AND ETHICS *2012-12-06*

ADVANCED BIOMEDICAL TECHNIQUES SUCH AS GENETIC ENGINEERING ARE NOW USED EXTENSIVELY IN ANIMAL RELATED RESEARCH AND DEVELOPMENT AS THE PACE OF DEVELOPMENT HAS QUICKENED THERE HAS BEEN GROWING PUBLIC ANXIETY ABOUT THE ETHICAL ISSUES INVOLVED ANIMAL BIOTECHNOLOGY AND ETHICS DRAWS TOGETHER IN ONE BOOK SOME OF THE LEADING THEMES

AND ISSUES WHICH HAVE EMERGED IN THE RECENT DEBATES SURROUNDING BIOTECHNOLOGY AS APPLIED TO ANIMALS WITH CONTRIBUTIONS FROM AUTHORS OF MANY DIFFERENT VIEWPOINTS THE SUBJECT IS GIVEN A THOROUGH AND BALANCED TREATMENT AMONG THOSE TO WHOM THE BOOK WILL BE OF PARTICULAR INTEREST ARE PRACTITIONERS OF ANIMAL BIOTECHNOLOGY AND THOSE WHOSE INTEREST LIES IN ASSESSING ITS CREDENTIALS SUCH AS PHILOSOPHERS AND SOCIAL OR POLITICAL SCIENTISTS IT ALSO HAS A GREAT DEAL TO INTEREST POLICY MAKERS AND PRESSURE GROUPS AS WELL AS MORE GENERAL READERS THE STRONG CHAPTERS ON THE LEGAL AND REGULATORY FRAMEWORK WILL MAKE IT USEFUL TO THOSE INVOLVED IN ADVISING ON COMPANY POLICY PATENTING OR LITIGATION

DESIGNER ANIMALS 2012-02-10

DESIGNER ANIMALS IS AN IN DEPTH STUDY OF THE DEBATES SURROUNDING THE DEVELOPMENT OF ANIMAL BIOTECHNOLOGY WHICH IS QUICKLY EMERGING OUT OF THE LABORATORY AND INTO THE COMMERCIAL MARKETPLACE THIS BOOK INNOVATIVELY COMBINES EXPERT ANALYSIS ON THE TECHNOLOGY S ECONOMIC PROFESSIONAL ETHICAL AND RELIGIOUS IMPLICATIONS WHILE REMAINING FIRMLY GROUNDED IN THE REAL WORLD POLITICAL ENVIRONMENT IN WHICH THE ISSUE IS PLAYED OUT DESIGNER ANIMALS USES NON TECHNICAL LANGUAGE TO EXPLORE THE SCIENCE BEHIND ANIMAL BIOTECHNOLOGY AND THE ETHICAL FRAMEWORKS AT PLAY IN ITS SURROUNDING DEBATES BY INVESTIGATING THE INTERESTS OF MAJOR STAKEHOLDERS INCLUDING RESEARCHERS ON THE CUTTING EDGE OF SCIENCE MAINSTREAM AND ALTERNATIVE AGRICULTURE ORGANIZATIONS THE ANIMAL WELFARE MOVEMENT AND HEALTH CARE PROVIDERS PATIENTS AND RESEARCHERS THE CONTRIBUTORS ILLUMINATE THE MOST IMPORTANT POINTS OF AGREEMENT AND DISAGREEMENT ON THIS HOTLY CONTESTED TOPIC

ANIMAL BIOTECHNOLOGY 2007

THE DEPENDENCY ON ANIMAL BIOTECHNOLOGY IN LIVESTOCK INDUSTRIES HAS BEEN INCREASED IN THE RECENT PAST THE LIVESTOCK PRODUCTION RESEARCH HAS WITNESSED REMARKABLE DEVELOPMENTS ON BIOTECHNOLOGICAL

METHODS TO PRODUCE THE ELITE ANIMAL BREEDS THE GLOBAL ANIMAL FOOD REQUIREMENT HAS BEEN STEADILY INCREASING AND ANIMAL PRODUCTION NEEDS TO BE INCREASED AS PER THE GLOBAL NEEDS THIS BOOK COVERS VARIOUS ASPECTS OF ANIMAL BIOTECHNOLOGY SUCH AS REPRODUCTIVE BIOTECHNOLOGIES IN SHEEP AND GOATS OOGENESIS AND FOLLICULOGENESIS AND OVARIAN DISORDERS THIS BOOK FOCUSSES THE DISCUSSION ON PROTEOMICS AND METABOLOMICS AND SEPARATE CHAPTERS WERE DEDICATED TO DISCUSS THESE TOPICS THE PROTEOMICS STUDIES OF ANIMAL VIRUSES WERE DISCUSSED IN THIS BOOK AND THIS WOULD BE HELPFUL TO UNDERSTAND ANIMAL VIRAL PATHOGENESIS THE APPLICATIONS OF METABOLOMICS IN LIVESTOCK WERE DISCUSSED WITH FOCUS ON DATA ANALYSIS IDENTIFICATION OF UNKNOWN COMPOUNDS THE PURPOSE OF THIS BOOK IS TO PROVIDE THE RECENT RESEARCH TRENDS AND CONVERT ALL THIS INFORMATION TO USABLE GUIDE TO PROFESSIONALS RESEARCHERS AND STUDENTS WHO ARE WORKING THE RESEARCH AREA OF ANIMAL BIOTECHNOLOGY

SUSTAINABLE AGRICULTURE REVIEWS 59

2023-02-07

THE ADVENT OF BIOTECHNOLOGY HAS THE POTENTIAL TO DEVELOP A VARIETY OF NOVEL OR BETTER QUALITY PRODUCTS FOR THE TREATMENT OF A LARGE NUMBER OF DISEASES IN LIVESTOCK IN ADDITION AS WE UNDERSTAND MORE ABOUT THE REPRODUCTIVE PHYSIOLOGY OF ANIMALS THE POTENTIAL EXISTS TO DRAMATICALLY INCREASE THE PRODUCTIVITY OF ANIMALS THROUGH BETTER THERAPEUTICS AND DIAGNOSTICS FOR THE CONTROL OF MANY INFECTIOUS DISEASES PRODUCTIVITY CAN ALSO BE INCREASED THROUGH ANIMAL BREEDING STRATEGIES INCLUDING GENE TRANSFER MICROMANIPULATION OF EMBRYOS AND GAMETE SEX SELECTION AS WELL AS BEING A VALUABLE REFERENCE TO CURRENT KNOWLEDGE IN THESE AREAS THIS FIRST SUPPLEMENT TO COMPREHENSIVE BIOTECHNOLOGY ALSO LOOKS AT SOCIETAL CONCERNS OVER THE USE OF ANTIBIOTICS AND CHEMICAL RESIDUES IN MEAT AND MILK PRODUCTS WHICH ARE FORCING BIOTECHNOLOGISTS TO INVESTIGATE MORE NATURAL MEANS OF CONTROLLING INFECTION BY STIMULATING THE ANIMAL S OWN IMMUNE SYSTEM TO COMBAT INFECTION

THE IDENTIFICATION OF A VARIETY OF CYTOKINES WHICH ARE INVOLVED IN REGULATING IMMUNE RESPONSES PROVIDES OPPORTUNITIES TO USE THE ANIMAL'S NATURAL DEFENCE MECHANISMS TO COMBAT MANY INFECTIONS OR INCREASE THE ANIMAL'S RESISTANCE TO SUCH INFECTIONS THESE APPROACHES SHOULD PROVIDE TOOLS FOR EVENTUAL ELIMINATION OF SPECIFIC DISEASES FROM COUNTRIES, REGIONS OR WHOLE CONTINENTS

ANIMAL BIOTECHNOLOGY 2013-10-22

THIS BOOK REVIEWS CONCEPTS AND RECENT ADVANCES OF BIOTECHNOLOGICAL APPROACHES FOR LIVESTOCK PRODUCTION INDEED BIOTECHNOLOGIES HAVE RECENTLY EMERGED AS POWERFUL TOOLS FOR ANIMAL BREEDING GENETICS PRODUCTION NUTRITION AND ANIMAL HEALTH APPLICATIONS TO THE PRODUCTION OF LIVESTOCK SUCH AS CATTLE CAMEL AND POULTRY ARE DETAILED CHAPTERS ALSO PRESENT BIOTECHNOLOGICAL APPLICATIONS FOR DIAGNOSTICS ANIMAL NUTRITION AND ANIMAL FOOD PRODUCTION

SUSTAINABLE AGRICULTURE REVIEWS 54 2021-09-29

ANIMAL BIOTECHNOLOGY IS THE USE OF SCIENCE AND ENGINEERING TO MODIFY LIVING ORGANISMS THE GOAL IS TO MAKE PRODUCTS TO IMPROVE ANIMALS AND TO DEVELOP MICROORGANISMS FOR SPECIFIC AGRICULTURAL USES ANIMALS ARE USED IN MANY WAYS IN BIOTECHNOLOGY BIOTECHNOLOGY PROVIDES NEW TOOLS FOR IMPROVING HUMAN HEALTH AND ANIMAL HEALTH AND WELFARE AND INCREASING LIVESTOCK PRODUCTIVITY BIOTECHNOLOGY IMPROVES THE FOOD WE EAT MEAT MILK AND EGGS BIOTECHNOLOGY CAN IMPROVE AN ANIMAL'S IMPACT ON THE ENVIRONMENT THE ANIMAL BIOTECHNOLOGY IN USE TODAY IS BUILT ON A LONG HISTORY SOME OF THE FIRST BIOTECHNOLOGY IN USE INCLUDES TRADITIONAL BREEDING TECHNIQUES THAT DATE BACK TO 5000 B.C.E. SUCH TECHNIQUES INCLUDE CROSSING DIVERSE STRAINS OF ANIMALS TO PRODUCE GREATER GENETIC VARIETY THE OFFSPRING FROM THESE CROSSES THEN ARE BRED SELECTIVELY TO PRODUCE THE GREATEST NUMBER OF DESIRABLE TRAITS FOR EXAMPLE FEMALE HORSES

HAVE BEEN BRED WITH MALE DONKEYS TO PRODUCE MULES AND MALE HORSES HAVE BEEN BRED WITH FEMALE DONKEYS TO PRODUCE HINNIES FOR USE AS WORK ANIMALS FOR THE PAST 3 000 YEARS THIS METHOD CONTINUES TO BE USED TODAY ANIMAL BIOTECHNOLOGY IN USE TODAY IS BASED ON THE SCIENCE OF GENETIC ENGINEERING UNDER THE UMBRELLA OF GENETIC ENGINEERING EXIST OTHER TECHNOLOGIES SUCH AS TRANSGENIC AND CLONING THAT ALSO ARE USED IN ANIMAL BIOTECHNOLOGY TRANSGENIC IS THE TRANSFERAL OF A SPECIFIC GENE FROM ONE ORGANISM TO ANOTHER GENE SPLICING IS USED TO INTRODUCE ONE OR MORE GENES OF AN ORGANISM INTO A SECOND ORGANISM THIS VOLUME ANIMAL BIOTECHNOLOGY ENCOMPASSES ALL ASPECTS OF ANIMAL SCIENCE AND BIOTECHNOLOGY INCLUDING ANIMAL GENETICS AND BREEDING ANIMAL REPRODUCTION AND PHYSIOLOGY ANIMAL NUTRITION AND BIOCHEMISTRY FEED PROCESSING AND TESTING AND ANIMAL BIOTECHNOLOGY IT IS DESIGNED TO INTRODUCE RESEARCH ACHIEVEMENTS IN ANIMAL SCIENCE AND TECHNOLOGY TO THE INTERNATIONAL COMMUNITY AND TO STRENGTHEN ACADEMIC FIELD THE TOPICS INCLUDING ADVANCES IN ANIMAL ASSISTED REPRODUCTION CONSERVATION OF ANIMAL GENETIC DIVERSITY BIOTECHNOLOGY OF GUT MICROBIOME NUTRIGENOMICS FODDER AND FEED BIOTECHNOLOGY IMMUNOGENETIC GENOMICS AND ITS APPLICATIONS IN ANIMALS WE HOPE THAT A WIDE VARIETY OF SCIENTISTS RESEARCHERS AND OTHERS MAY BENEFIT FROM THIS BOOK

ANIMAL BIOTECHNOLOGY 2017-10

IN ANIMALS AS BIOTECHNOLOGY SOCIOLOGIST RICHARD TWINE PLACES THE QUESTION OF HUMAN ANIMAL RELATIONS AT THE HEART OF SUSTAINABILITY AND CLIMATE CHANGE DEBATES THE BOOK IS SHAPED BY THE EMERGENCE OF TWO CONTRADICTORY TRENDS WITHIN OUR APPROACH TO NONHUMAN ANIMALS THE BIOTECHNOLOGICAL TURN IN ANIMAL SCIENCES WHICH AIMS TO INCREASE THE EFFICIENCY AND PROFITABILITY OF MEAT AND DAIRY PRODUCTION AND THE EMERGING FIELD OF CRITICAL ANIMAL STUDIES MOSTLY IN THE HUMANITIES AND SOCIAL SCIENCES WHICH WORKS TO QUESTION THE NATURE OF OUR RELATIONS WITH OTHER ANIMALS THE FIRST PART OF THE BOOK FOCUSES ON ETHICS EXAMINING CRITICALLY THE DOMINANT PARADIGMS OF BIOETHICS AND POWER RELATIONS BETWEEN HUMAN AND NON HUMAN THE SECOND PART CONSIDERS ANIMAL BIOTECHNOLOGY AND POLITICAL ECONOMY

EXAMINING COMMERCIALISATION AND REGULATION THE FINAL PART OF THE BOOK CENTRES ON DISCUSSIONS OF SUSTAINABILITY LIMITS AND AN EXAMINATION OF THE PROSPECTS FOR ANIMAL ETHICS IF BIOTECHNOLOGY BECOMES PART OF THE DOMINANT AGRICULTURAL PARADIGM TWINE CONCLUDES BY CONSIDERING WHETHER GROWING CALLS TO REDUCE OUR CONSUMPTION OF MEAT DAIRY PRODUCTS IN THE FACE OF CLIMATE CHANGE THREATS ARE IN FACT COMPLICIT WITH AN ANTHROPOCENTRIC UNDERSTANDING OF SUSTAINABILITY AND THAT WHAT IS NEEDED IS A MORE FUNDAMENTAL ETHICAL AND POLITICAL QUESTIONING OF RELATIONS AND DISTINCTIONS BETWEEN HUMANS ANIMALS AND NATURE

ANIMALS AS BIOTECHNOLOGY *2010*

THIS BOOK IS DESIGNED AS PER THE SYLLABUS OF BIOTECHNOLOGY PAPER 5 PRESCRIBED BY BANGALORE UNIVERSITY AND OTHER INDIAN UNIVERSITIES THE BOOK IS DIVIDED INTO THREE PARTS AS FOLLOWS ANIMAL CELL BIOTECHNOLOGY IMMUNOLOGY PLANT BIOTECHNOLOGY THE PRESENTATION IN EACH PART IS SIMPLE AND SYSTEMATIC THE BASIC CONCEPTS HAVE BEEN CLEARLY EXPLAINED AND THEIR FUNCTIONS ARE ADEQUATELY HIGHLIGHTED A FEW RECENT DEVELOPMENTS HAVE ALSO BEEN INCLUDED TO PROVIDE A CONTEMPORARY UNDERSTANDING OF THE SUBJECT

BIOTECHNOLOGY-5: ANIMAL CELLS, IMMUNOLOGY & PLANT BIOTECHNOLOGY *2003*

ANIMAL BIOTECHNOLOGY IS A BROAD UMBRELLA ENCOMPASSING THE POLARITIES OF FUNDAMENTAL AND APPLIED RESEARCH INCLUDING MOLECULAR MODELLING MOLECULAR AND QUANTITATIVE GENETICS GENE MANIPULATION DEVELOPMENT OF DIAGNOSTICS AND VACCINES AND MANIPULATION OF TISSUE OR DIGESTION METABOLISM BY GROWTH PROMOTERS ALTHOUGH ANIMAL BIOTECHNOLOGY IN THE BROADEST SENSE IS NOT NEW WHAT IS NEW IS THE LEVEL OF COMPLEXITY AND PRECISION INVOLVED IN SCIENTISTS CURRENT ABILITY TO MANIPULATE LIVING ORGANISMS THIS NEW BOOK SETS OUT TO SHOW THAT THE IMPORTANT IDEAS IN ANIMAL BIOTECHNOLOGY ARE EXCITING AND RELEVANT TO EVERYDAY EXPERIENCE IT REPRESENTS AN

IMPORTANT UPDATE OF THE LITERATURE FOR RESEARCH WORKERS LECTURERS AND ADVISERS IN ANIMAL SCIENCE BUT IS ALSO A CORE TEXT FOR ADVANCED UNDERGRADUATE COURSES IN ANIMAL SCIENCE AND BIOTECHNOLOGY IT WILL BE AN ESSENTIAL ACQUISITION FOR LIBRARIANS IN AGRICULTURE AND VETERINARY SCIENCE

ANIMAL BIOTECHNOLOGY 2024-01-13

WITH THE DRAMATICALLY RISING SOPHISTICATION OF BIOLOGICAL METHODS AND PRODUCTS AND THE INCREASING USE OF RECOMBINANT DNA TECHNOLOGY NOW IS AN APT TIME TO REVIEW THE STATUS OF BIOTECHNOLOGY IN ANIMAL FEEDING THIS BOOK GIVES SUCCINCT YET COMPREHENSIVE COVERAGE OF PRODUCTS OF BIOTECHNOLOGY AND ALLIED SCIENCES USED IN ANIMAL FEED AND FEEDING INDUSTRIES PARTICULAR EMPHASIS IS PLACED ON CONSERVATION AND UPGRADING OF FEEDS AND FEED COMPONENTS INCREASING THE PROTEIN VALUE OF FEEDS ANTIMICROBIALS MICROBIAL FEED ADDITIVES INCREASING THE ENERGY VALUE OF FEEDS MOREOVER INCREASING ENVIRONMENTAL CONCERNS ARE REFLECTED IN CHAPTERS DESCRIBING DIETARY PRODUCTS WHICH MAY HELP TO REDUCE ENVIRONMENTAL HAZARDS FROM ANIMAL FEEDING ENTERPRISES A DISCUSSION OF SOCIAL AND LEGISLATIVE ASPECTS RELATING TO BIOTECHNOLOGY AND ANIMAL FEEDING ROUNDS OFF THIS USEFUL COMPILATION OF TIMELY ARTICLES

ANIMAL BIOTECHNOLOGY (2ND ED.) ***2010-01-01***

THIS BOOK EXPLORES THE RECENT ADVANCEMENTS IN CUTTING EDGE TECHNIQUES AND APPLICATIONS OF BIOTECHNOLOGY IT PROVIDES AN OVERVIEW OF PROSPECTS AND APPLICATIONS WHILE EMPHASIZING MODERN AND EMERGING AREAS OF BIOTECHNOLOGY THE CHAPTERS ARE DEDICATED TO VARIOUS FIELD OF BIOTECHNOLOGY INCLUDING GENOME EDITING PROBIOTICS IN SILICO DRUG DESIGNING NANOPARTICLES AND ITS APPLICATIONS MOLECULAR DIAGNOSTICS TISSUE ENGINEERING CRYOPRESERVATION AND ANTIOXIDANTS IT IS USEFUL FOR BOTH ACADEMICIANS AND RESEARCHERS IN THE VARIOUS DISCIPLINES OF LIFE SCIENCES AGRICULTURAL SCIENCES

MEDICINE AND BIOTECHNOLOGY IN UNIVERSITIES RESEARCH INSTITUTIONS AND BIOTECH COMPANIES THIS BOOK PROVIDES THE READERS WITH A COMPREHENSIVE KNOWLEDGE OF TOPICS IN GENOMICS BIONANOTECHNOLOGY DRUG DESIGNING DIAGNOSTICS THERAPEUTICS FOOD AND ENVIRONMENTAL BIOTECHNOLOGY THE CHAPTERS HAVE BEEN WRITTEN WITH SPECIAL REFERENCE TO THE LATEST DEVELOPMENTS IN THE FRONTIER AREAS OF BIOTECHNOLOGY THAT IMPACTS THE BIOTECH INDUSTRIES

BIOTECHNOLOGY IN ANIMAL HUSBANDRY *2006-04-11*

GENETIC BASED ANIMAL BIOTECHNOLOGY HAS PRODUCED NEW FOOD AND PHARMACEUTICAL PRODUCTS AND PROMISES MANY MORE ADVANCES TO BENEFIT HUMANKIND THESE EXCITING PROSPECTS ARE ACCOMPANIED BY CONSIDERABLE UNEASE HOWEVER ABOUT MATTERS SUCH AS SAFETY AND ETHICS THIS BOOK IDENTIFIES SCIENCE BASED AND POLICY RELATED CONCERNS ABOUT ANIMAL BIOTECHNOLOGY^[?] KEY ISSUES THAT MUST BE RESOLVED BEFORE THE NEW BREAKTHROUGHS CAN REACH THEIR POTENTIAL THE BOOK INCLUDES A SHORT HISTORY OF THE FIELD AND PROVIDES UNDERSTANDABLE DEFINITIONS OF TERMS LIKE CLONING LOOKING AT TECHNOLOGIES ON THE NEAR HORIZON THE AUTHORS DISCUSS WHAT WE KNOW AND WHAT WE FEAR ABOUT THEIR EFFECTS^[?] THE INADVERTENT RELEASE OF DANGEROUS MICROORGANISMS THE SAFETY OF PRODUCTS DERIVED FROM BIOTECHNOLOGY THE IMPACT OF GENETICALLY ENGINEERED ANIMALS ON THEIR ENVIRONMENT IN ADDITION TO THESE CONCERNS THE BOOK EXPLORES ANIMAL WELFARE CONCERNS AND OUR SOCIETAL AND INSTITUTIONAL CAPACITY TO MANAGE AND REGULATE THE TECHNOLOGY AND ITS PRODUCTS THIS ACCESSIBLE VOLUME WILL BE IMPORTANT TO EVERYONE INTERESTED IN THE IMPLICATIONS OF THE USE OF ANIMAL BIOTECHNOLOGY

BIOTECHNOLOGY IN ANIMAL FEEDS AND ANIMAL FEEDING *2008-07-11*

THIS BOOK EXAMINES HOW BIOTECHNOLOGY CAN IMPROVE LIVESTOCK

BREEDING AND FARMING AND THEREBY ALSO ANIMAL PRODUCTS IN THE FIRST CHAPTERS THE READER WILL DISCOVER WHICH TECHNIQUES AND APPROACHES ARE CURRENTLY USED TO IMPROVE ANIMAL BREEDING ANIMAL HEALTH AND THE VALUE OF ANIMAL PRODUCTS PARTICULAR ATTENTION IS GIVEN TO REPRODUCTION TECHNIQUES ANIMAL NUTRITION AND LIVESTOCK VACCINES THAT NOT ONLY ENHANCE ANIMAL HEALTH BUT ALSO HAVE A SIGNIFICANT EFFECT ON HUMAN HEALTH BY ENSURING SAFE FOOD PROCUREMENT AND PREVENTING ZONOTIC DISEASES IN ADDITION MODERN BIOTECHNOLOGY CAN INCREASE NOT ONLY PRODUCTIVITY BUT ALSO THE CONSISTENCY AND QUALITY OF ANIMAL FOOD FIBER AND MEDICAL PRODUCTS IN THE SECOND PART OF THE BOOK ISSUES SUCH AS HOW ANIMAL BIOTECHNOLOGY COULD AFFECT THE ENVIRONMENT AND THE IMPORTANT TOPIC OF ANIMAL WASTE MANAGEMENT ARE EXPLORED IN THE CONCLUDING CHAPTER THE AUTHORS DISCUSS FUTURE CHALLENGES RELATED TO ANIMAL BIOTECHNOLOGY THIS WORK WILL APPEAL TO A WIDE READERSHIP FROM SCIENTISTS AND PROFESSIONALS WORKING IN ANIMAL PRODUCTION TO THOSE IN FARM ANIMAL MANAGEMENT AND VETERINARY SCIENCE

ADVANCES IN ANIMAL BIOTECHNOLOGY AND ITS APPLICATIONS 2018-05-29

THIS BOOK PRESENTS ADVANCED REVIEWS ON LATEST DEVELOPMENTS AND FUTURE TRENDS OF ANIMAL BIOTECHNOLOGY WITH FOCUS ON COMPUTATIONAL AND EXPERIMENTAL APPROACHES THE ARTICLES IN THIS BOOK DISCUSSES THE IMPLICATIONS OF RECENT METHODS IN ANIMAL BIOTECHNOLOGY TO IMPROVE THE LIVESTOCK PRODUCTION APPLICATIONS OF OMICS TECHNOLOGIES AND SYSTEM BIOLOGY APPROACHES FOR LIVESTOCK PRODUCTION AND ANIMAL DISORDERS WERE DISCUSSED IN DETAIL THE EVOLUTION OF TRANSGENIC TECHNOLOGY GENOME EDITING AND MARKERS FOR EARLY PREGNANCY DETECTION WERE ELUCIDATED IN THIS BOOK A COUPLE OF CHAPTERS WERE DEDICATED TO UNDERSTANDING THE ROLE OF GUT MICROBIOME PROBIOTICS AND PREBIOTICS ON LIVESTOCK HEALTH AND PRODUCTION THE NANOMATERIALS HAVE BEEN SHOWN BEEN SHOWN BENEFICIAL EFFECTS IN BIOLOGICAL APPLICATIONS THIS BOOK ALSO DISCUSSED THE VETERINARY APPLICATIONS OF NANOMATERIALS THE

ARTICLES OF THIS BOOK PROVIDE STATE OF THE ART INFORMATION THAT IS APPROPRIATE TO ACADEMICIANS RESEARCHERS AND STUDENTS WHO ARE INVOLVED IN THE ANIMAL BIOTECHNOLOGY RESEARCH

ANIMAL BIOTECHNOLOGY *2002-11-29*

THIS TWO VOLUME TEXTBOOK PROVIDES A COMPREHENSIVE OVERVIEW ON THE BROAD FIELD OF ANIMAL BIOTECHNOLOGY WITH A SPECIAL FOCUS ON LIVESTOCK REPRODUCTION AND BREEDING THE READER WILL BE INTRODUCED TO A VARIETY OF STATE OF THE ART TECHNOLOGIES AND EMERGING GENETIC TOOLS AND THEIR APPLICATIONS IN ANIMAL PRODUCTION ALSO ETHICS AND LEGAL ASPECTS OF ANIMAL BIOTECHNOLOGY WILL BE DISCUSSED AND NEW TRENDS AND DEVELOPMENTS IN THE FIELD WILL BE CRITICALLY ASSESSED THE TWO VOLUME WORK IS A MUST HAVE FOR GRADUATE STUDENTS ADVANCED UNDERGRADUATES AND RESEARCHERS IN THE FIELD OF VETERINARY MEDICINE GENETICS AND ANIMAL BIOTECHNOLOGY THIS SECOND VOLUME IS DEDICATED TO GENETIC TOOLS IN ANIMAL BIOTECHNOLOGY SUCH AS SOMATIC CLONING TRANSGENIC TECHNOLOGIES AND THE APPLICATION OF STEM CELLS IN LIVESTOCK BREEDING ALSO ETHICS AND LEGAL ASPECTS ARE DISCUSSED

ANIMAL BIOTECHNOLOGY (3RD Ed.) *2010-07*

THIS EDITION HAVING THE TITLE PRINCIPLES OF MEDICAL BIOTECHNOLOGY IS A SCIENTIFIC BOOK CONTAINING RECENT ADVANCES THAT ARE ONGOING IN CERTAIN MEDICAL AND ANIMAL BIOTECHNOLOGICAL APPLICATIONS TEN CHAPTERS RELATED TO THE NEWEST BIOTECHNOLOGICAL ACHIEVEMENTS IN METHODS USED TO MANIPULATE GENES MEDICINE HEALTH CARE BIOPHARMACEUTICAL PRODUCING AND TRANSGENESIS ARE PRESENTED IN THIS BOOK AS WELL AS GENE THERAPY AND CANCER TREATMENT ARE INCLUDED GENE THERAPY IS A NOVEL THERAPEUTIC BRANCH OF MODERN MEDICINE ITS EMERGENCE IS A DIRECT CONSEQUENCE OF THE REVOLUTION HERALDED BY THE INTRODUCTION OF RECOMBINANT DNA METHODOLOGY IN THE 1970S GENE THERAPY IS STILL HIGHLY EXPERIMENTAL BUT HAS THE POTENTIAL TO BECOME AN IMPORTANT TREATMENT REGIMEN IN PRINCIPLE IT ALLOWS THE TRANSFER OF GENETIC INFORMATION INTO PATIENT TISSUES AND ORGANS

ALSO THE BOOK DEALS WITH ANIMAL BIOTECHNOLOGY ANIMAL BIOTECHNOLOGY IS A BRANCH OF BIOTECHNOLOGY IN WHICH MOLECULAR BIOLOGY TECHNIQUES ARE USED TO GENETICALLY ENGINEER I E MODIFY THE GENOME OF ANIMALS IN ORDER TO IMPROVE THEIR SUITABILITY FOR PHARMACEUTICAL AGRICULTURAL OR INDUSTRIAL APPLICATIONS ANIMAL BIOTECHNOLOGY HAS BEEN USED TO PRODUCE GENETICALLY MODIFIED ANIMALS THAT SYNTHESIZE THERAPEUTIC PROTEINS HAVE IMPROVED GROWTH RATES OR ARE RESISTANT TO DISEASE SO JUST LIKE OTHER ASSISTED REPRODUCTION TECHNIQUES SUCH AS ARTIFICIAL INSEMINATION EMBRYO TRANSFER AND IN VITRO FERTILIZATION LIVESTOCK CLONING IMPROVES ANIMAL BREEDING PROGRAMS ALLOWING FARMERS AND RANCHERS TO PRODUCE HEALTHIER OFFSPRING AND THEREFORE PRODUCE HEALTHIER SAFER AND HIGHER QUALITY FOODS MORE CONSISTENTLY I HOPE THAT THIS BOOK WILL HELP THE READER TO MAKE SENSE OF THE TOPICS AND ACT AS A SUPPORT FOR STUDYING THE CONTENT FROM THE EDUCATIONAL POINT OF VIEW THIS SHOULD HELP THE READER SIMPLY TO UNDERSTAND THE CONCEPT OF MEDICAL BIOTECHNOLOGY AND TO COPE WITH MORE ADVANCED INFORMATION ABOUT THIS SUBJECT

ANIMAL BIOTECHNOLOGY 2013

THIS BOOK DESCRIBES AND EVALUATES ANIMAL BIOTECHNOLOGY AND ITS APPLICATION IN VETERINARY MEDICINE AND PHARMACEUTICALS AS WELL AS IMPROVEMENT IN ANIMAL FOOD PRODUCTION TRANSGENIC TECHNOLOGIES ARE USED FOR IMPROVING MILK PRODUCTION AND THE MEAT IN FARM ANIMALS AS WELL AS FOR CREATING MODELS OF HUMAN DISEASES TRANSGENIC ANIMALS ARE USED FOR THE PRODUCTION OF PROTEINS FOR HUMAN MEDICAL USE BIOTECHNOLOGY IS APPLIED TO FACILITATE XENOTRANSPLANTATION FROM ANIMALS TO HUMANS GENETIC ENGINEERING IS DONE IN FARM ANIMALS AND NUCLEAR TRANSFER TECHNOLOGY HAS BECOME AN IMPORTANT AND PREFERRED METHOD FOR CLONING ANIMALS BIOTECHNOLOGY HAS POTENTIAL APPLICATIONS IN THE MANAGEMENT OF SEVERAL ANIMAL DISEASES SUCH AS FOOT AND MOUTH DISEASE CLASSICAL SWINE FEVER AVIAN FLU AND BOVINE SPONGIFORM ENCEPHALOPATHY THE MOST IMPORTANT BIOTECHNOLOGY BASED PRODUCTS CONSIST OF VACCINES PARTICULARLY GENETICALLY ENGINEERED OR DNA VACCINES GENE THERAPY FOR DISEASES OF PET ANIMALS

IS A FAST DEVELOPING AREA BECAUSE MANY OF THE TECHNOLOGIES USED IN CLINICAL TRIALS HUMANS WERE DEVELOPED IN ANIMALS AND MANY OF THE DISEASES OF CATS AND DOGS ARE SIMILAR TO THOSE IN HUMANS RNA INTERFERENCE TECHNOLOGY IS NOW BEING APPLIED FOR RESEARCH IN VETERINARY MEDICINE MOLECULAR DIAGNOSIS IS ASSUMING AN IMPORTANT PLACE IN VETERINARY PRACTICE POLYMERASE CHAIN REACTION AND ITS MODIFICATIONS ARE CONSIDERED TO BE IMPORTANT FLUORESCENT IN SITU HYBRIDIZATION AND ENZYME LINKED IMMUNOSORBENT ASSAYS ARE ALSO WIDELY USED NEWER BIOCHIP BASED TECHNOLOGIES AND BIOSENSORS ARE ALSO FINDING THEIR WAY IN VETERINARY DIAGNOSTICS THIS BOOK IS AN ATTEMPT TO UNRAVEL THE MYSTERIES OF BIOTECHNOLOGY AS IT AFFECTS ANIMAL HEALTH AND PRODUCTION

THE ROLE OF BIOTECHNOLOGY IN IMPROVEMENT OF LIVESTOCK *2015-04-07*

THIS 2ND BOOK PROVIDES FUNDAMENTAL CONCEPTS AND RECENT APPLICATIONS OF BIOTECHNOLOGICAL METHODS SUCH AS GENETIC SELECTION BREEDING METHODS AND GENETIC ENGINEERING TOOLS BIOTECHNOLOGY HAS REMARKABLY IMPROVED THE PRODUCTIVITY OF LIVESTOCK BY INCREASING THE REPRODUCTION EFFICIENCY AND DECREASING THE GENERATION TIME THE CHAPTERS DETAIL THE MECHANISMS OF METHODS FOR ANIMAL REPRODUCTION AND BREEDING METHODS THIS BOOK FOCUS ON THE IMPACT OF MINERALS STEROIDS METABOLIC STRESS NUTRITIONAL STRESS AND ANTI NUTRITIONAL FACTORS ON THE LIVESTOCK REPRODUCTION

ANIMAL BIOTECHNOLOGY 1992

THE BRANCH OF BIOTECHNOLOGY WHICH USES GENETIC ENGINEERING TO MODIFY ORGANISMS IS KNOWN AS ANIMAL BIOTECHNOLOGY SOME OF THE TECHNIQUES USED IN ANIMAL BIOTECHNOLOGY ARE RECOMBINANT DNA CLONING ETC ANIMAL BIOTECHNOLOGY CAN IMPROVE THE GROWTH RATE AND IMMUNITY OF AN ANIMAL THE VARIOUS STUDIES THAT ARE CONSTANTLY CONTRIBUTING TOWARDS ADVANCING TECHNOLOGIES AND EVOLUTION OF THE FIELD ARE EXAMINED IN THE DETAIL IN THIS BOOK IT AIMS TO SERVE AS A

RESOURCE GUIDE FOR STUDENTS AND EXPERTS AND CONTRIBUTE TO THE
GROWTH OF THE DISCIPLINE

ANIMAL BIOTECHNOLOGY 1989

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ANIMAL BIOTECHNOLOGY 2018

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