

Nanotechnology For Postharvest Fruit

RIGHT HERE, WE HAVE COUNTLESS BOOKS **NANOTECHNOLOGY FOR POSTHARVEST FRUIT** AND COLLECTIONS TO CHECK OUT. WE ADDITIONALLY FIND THE MONEY FOR VARIANT TYPES AND PLUS TYPE OF THE BOOKS TO BROWSE. THE NORMAL BOOK, FICTION, HISTORY, NOVEL, SCIENTIFIC RESEARCH, AS WELL AS VARIOUS OTHER SORTS OF BOOKS ARE READILY UNDERSTANDABLE HERE.

AS THIS NANOTECHNOLOGY FOR POSTHARVEST FRUIT, IT ENDS GOING ON VISCERAL ONE OF THE FAVORED EBOOK NANOTECHNOLOGY FOR POSTHARVEST FRUIT COLLECTIONS THAT WE HAVE. THIS IS WHY YOU REMAIN IN THE BEST WEBSITE TO SEE THE INCREDIBLE EBOOK TO HAVE.

NANOMATERIALS IN BIONANOTECHNOLOGY RAVINDRA PRATAP SINGH 2021-08-18 NANOMATERIALS IN BIONANOTECHNOLOGY: FUNDAMENTALS AND APPLICATIONS OFFERS A COMPREHENSIVE TREATMENT OF NANOMATERIALS IN BIOTECHNOLOGY FROM FUNDAMENTALS TO APPLICATIONS, ALONG WITH THEIR PROSPECTS. THIS BOOK EXPLAINS THE BASICS OF NANOMATERIAL PROPERTIES, SYNTHESIS, BIOLOGICAL SYNTHESIS, AND CHEMISTRY AND DEMONSTRATES HOW TO USE NANOMATERIALS TO OVERCOME PROBLEMS IN AGRICULTURAL, ENVIRONMENTAL, AND BIOMEDICAL APPLICATIONS. FEATURES COVERS NANOMATERIALS FOR ENVIRONMENTAL ANALYSIS AND MONITORING FOR HEAVY METALS, CHEMICAL TOXINS, AND WATER POLLUTANT DETECTION DESCRIBES NANOMATERIALS-BASED BIOSENSORS AND INSTRUMENTATION AND USE IN DISEASE DIAGNOSIS AND THERAPEUTICS DISCUSSES NANOMATERIALS FOR FOOD PROCESSING AND PACKAGING AND AGRICULTURAL WASTE MANAGEMENT IDENTIFIES CHALLENGES IN NANOMATERIALS-BASED TECHNOLOGY AND HOW TO SOLVE THEM THIS WORK SERVES AS A REFERENCE FOR INDUSTRY PROFESSIONALS, ADVANCED STUDENTS, AND RESEARCHERS WORKING IN THE DISCIPLINE OF BIONANOTECHNOLOGY.

POSTHARVEST HANDLING ROBERT L. SHEWFELT 2012-12-02 POSTHARVEST HANDLING: A SYSTEMS APPROACH INTRODUCES A NEW CONCEPT IN THE HANDLING OF FRESH FRUITS AND VEGETABLE. TRADITIONAL TREATMENTS HAVE BEEN EITHER PHYSIOLOGICALLY BASED WITH AN EMPHASIS ON BIOLOGICAL TISSUE OR TECHNOLOGICALLY BASED WITH AN EMPHASIS ON STORAGE AND HANDLING. THIS BOOK INTEGRATES ALL PROCESSES FROM PRODUCTION PRACTICES THROUGH CONSUMER CONSUMPTION WITH AN EMPHASIS ON UNDERSTANDING MARKET FORCES AND PROVIDING FRESH PRODUCT THAT MEETS CONSUMER EXPECTATIONS. POSTHARVEST PHYSIOLOGISTS AND TECHNOLOGISTS ACROSS THE DISCIPLINES OF AGRICULTURAL ECONOMICS, AGRICULTURAL ENGINEERING, FOOD SCIENCE AND HORTICULTURE ALONG WITH HANDLERS OF MINIMALLY-PROCESSED PRODUCTS WITHIN THE FRESH PRODUCE FRUIT AND VEGETABLE PROCESSING INDUSTRIES WILL FIND THIS TO BE AN INVALUABLE SOURCE OF INFORMATION. USES A SYSTEMS APPROACH THAT PROVIDES A UNIQUE PERSPECTIVE ON THE HANDLING OF FRESH FRUITS AND VEGETABLES DESIGNED WITH THE APPLIED PERSPECTIVE TO COMPLEMENT THE MORE BASIC PERSPECTIVES PROVIDED IN OTHER TREATMENTS PROVIDES THE INTEGRATED, INTERDISCIPLINARY PERSPECTIVE NEEDED IN RESEARCH TO IMPROVE THE QUALITY OF FRESH AND MINIMALLY PROCESSED PRODUCTS EMPHASIZES THAT THE DESIGN OF HANDLING SYSTEMS SHOULD BE MARKET-DRIVEN RATHER THAN CONCENTRATING ON NARROW SPECIFICS

TEXTBOOK ON FUNDAMENTALS AND APPLICATIONS OF NANOTECHNOLOGY K S SUBRAMANIAN 2018 THIS BOOK COVERS BASIC CONCEPTS AND PRINCIPLES OF NANOTECHNOLOGY, SYNTHESIS OF NANO-MATERIALS BY TOP DOWN (PHYSICAL) AND BOTTOM UP APPROACHES (CHEMICAL AND BIOLOGICAL), PROPERTIES OF NANO-MATERIALS (PHYSICAL, MECHANICAL, OPTICAL, MAGNETIC AND THERMAL), CHARACTERIZATION OF NANO-MATERIALS (SIZE, STABILITY, SHAPE, FUNCTIONAL GROUP) USING SOPHISTICATED EQUIPMENTS, APPLICATION OF NANOTECHNOLOGY IN VARIOUS FIELDS (AGRICULTURE, FOOD SYSTEMS, ENERGY, ENVIRONMENT, HEALTH SCIENCES) AND BIOSAFETY OF NANO-MATERIALS (NANOTOXICITY AND ASSAYS USED FOR TESTING THE NANOTOXICITY).

NANOTECHNOLOGY IN SUSTAINABLE AGRICULTURE M. ANWAR MALLICK 2021-07-09 NANOTECHNOLOGY IN SUSTAINABLE AGRICULTURE PRESENTS APPLICATIONS OF NANOBIOENGINEERING FOR ECO-FRIENDLY AGRICULTURE PRACTICES. IMPLEMENTING SUSTAINABLE AGRICULTURE TECHNIQUES IS A CRUCIAL COMPONENT IN MEETING PROJECTED GLOBAL FOOD DEMANDS WHILE MINIMISING TOXIC WASTE IN THE ENVIRONMENT. NANO-TECHNOLOGICAL TOOLS – INCLUDING NANOPARTICLES, NANOCAPSULES, NANOTUBES AND NANOMOLECULES – OFFER SUSTAINABLE OPTIONS TO MODERNISE AGRICULTURE SYSTEMS. WRITTEN BY NANOTECHNOLOGY EXPERTS, THIS BOOK OUTLINES HOW NANO-FORMULATIONS CAN IMPROVE YIELD WITHOUT RELIANCE ON CHEMICAL PESTICIDES AND REDUCE NUTRIENT LOSSES IN FERTILIZATION. IT REVEALS HOW NANOTOOLS ARE USED FOR RAPID DISEASE DIAGNOSTICS, IN TREATING PLANT DISEASES AND ENHANCING THE CAPACITY FOR PLANTS TO ABSORB NUTRIENTS. FEATURES: COMBINES NANOTECHNOLOGY AND AGRONOMY PRESENTING APPLICATIONS FOR IMPROVING PLANT PERFORMANCE AND YIELDS. REVEALS NANOTECHNOLOGY-BASED PRODUCTS USED FOR THE SOIL AND PLANT HEALTH MANAGEMENT WHICH MITIGATE CLIMATE CHANGE. DISCUSSES ROLES OF MICROBIAL

ENDOPHYTES, HEAVY METAL NANOPARTICLES AND ENVIRONMENT HEALTH, NANO-NUTRIENTS, PHYTOCHEMICALS, GREEN BIOENGINEERING AND PLANT HEALTH. THIS BOOK APPEALS TO PROFESSIONALS WORKING IN THE AGRICULTURE AND FOOD INDUSTRY, AS WELL AS AGRICULTURAL SCIENTISTS AND RESEARCHERS IN NANOTECHNOLOGY AND AGRONOMY.

ADVANCES IN POSTHARVEST TECHNOLOGIES OF VEGETABLE CROPS BIJENDRA SINGH 2018-05-24 THIS BOOK PRESENTS A SELECTION OF INNOVATIVE POSTHARVEST MANAGEMENT PRACTICES FOR VEGETABLES. IT COVERS TECHNOLOGIES IN HARVESTING, HANDLING, AND STORAGE OF VEGETABLES, INCLUDING STRATEGIES FOR LOW-TEMPERATURE STORAGE OF VEGETABLES, ACTIVE AND SMART PACKAGING OF VEGETABLES, EDIBLE COATINGS, APPLICATION OF NANOTECHNOLOGY IN POSTHARVEST TECHNOLOGY OF VEGETABLE CROPS, AND MORE. IT CONSIDERS MOST OF THE IMPORTANT AREAS OF VEGETABLE PROCESSING WHILE MAINTAINING NUTRITIONAL QUALITY AND ADDRESSING SAFETY ISSUES. FRUITS AND VEGETABLES ARE IMPORTANT SOURCES OF NUTRIENTS SUCH AS VITAMINS, MINERALS, AND BIOACTIVE COMPOUNDS, WHICH PROVIDE MANY HEALTH BENEFITS. HOWEVER, DUE TO POOR POSTHARVEST MANAGEMENT—SUCH AS NON-AVAILABILITY OF COLD CHAIN MANAGEMENT AND LOW-COST PROCESSING FACILITIES, LARGE QUANTITIES OF VEGETABLES PERISH BEFORE THEY REACH THE CONSUMER. FURTHERMORE, HIGHER TEMPERATURES IN SOME REGIONS ALSO CONTRIBUTE TO AN INCREASED LEVEL OF POSTHARVEST LOSSES. WITH CHAPTERS WRITTEN BY EXPERTS IN THE POSTHARVEST HANDLING OF VEGETABLE, THIS VOLUME ADDRESSES THESE CHALLENGES. IT IS DEVOTED TO PRESENTING BOTH NEW AND INNOVATIVE TECHNOLOGIES AS WELL AS ADVANCEMENTS IN TRADITIONAL TECHNOLOGIES.

BIOGENIC NANO-PARTICLES AND THEIR USE IN AGRO-ECOSYSTEMS MANSOUR GHORBANPOUR 2020-03-20 SEVERAL NANO-SCALE DEVICES HAVE EMERGED THAT ARE CAPABLE OF ANALYSING PLANT DISEASES, NUTRIENT DEFICIENCIES AND ANY OTHER AILMENTS THAT MAY AFFECT FOOD SECURITY IN AGRO-ECOSYSTEMS. IT HAS BEEN ENVISIONED THAT SMART DELIVERY SYSTEMS CAN BE DEVELOPED AND UTILISED FOR BETTER MANAGEMENT OF AGRICULTURAL ECOSYSTEMS. THESE SYSTEMS COULD EXHIBIT BENEFICIAL, MULTI-FUNCTIONAL CHARACTERISTICS, WHICH COULD BE USED TO ASSESS AND ALSO CONTROL HABITAT-IMPOSED STRESSES TO CROPS. NANOPARTICLE-MEDIATED SMART DELIVERY SYSTEMS CAN CONTROL THE DELIVERY OF NUTRIENTS OR BIOACTIVE AND/OR PESTICIDE MOLECULES IN PLANTS. IT HAS BEEN SUGGESTED THAT NANO-PARTICLES IN PLANTS MIGHT HELP DETERMINE THEIR NUTRIENT STATUS AND COULD ALSO BE USED AS CURES IN AGRO-ECOSYSTEMS. FURTHER, TO ENHANCE SOIL AND CROP PRODUCTIVITY, NANOTECHNOLOGY HAS BEEN USED TO CREATE AND DELIVER NANO FERTILIZERS, WHICH CAN BE DEFINED AS NANO-PARTICLES THAT DIRECTLY HELP SUPPLY NUTRIENTS FOR PLANT GROWTH AND SOIL PRODUCTIVITY. NANO-PARTICLES CAN BE ABSORBED ONTO CLAY NETWORKS, LEADING TO IMPROVED SOIL HEALTH AND MORE EFFICIENT NUTRIENT USE BY CROPS. ADDITIONALLY, FERTILIZER PARTICLES CAN BE COATED WITH NANO-PARTICLES THAT FACILITATE SLOW AND STEADY RELEASE OF NUTRIENTS, REDUCING LOSS OF NUTRIENTS AND ENHANCING THEIR EFFICIENCY IN AGRI-CROPS. ALTHOUGH THE USE OF NANOTECHNOLOGY IN AGRO-ECOSYSTEMS IS STILL IN ITS EARLY STAGES AND NEEDS TO BE DEVELOPED FURTHER, NANO-PARTICLE-MEDIATED DELIVERY SYSTEMS ARE PROMISING SOLUTIONS FOR THE SUCCESSFUL MANAGEMENT OF AGRI-ECOSYSTEMS. IN THIS CONTEXT, THE BOOK OFFERS INSIGHTS INTO NANOTECHNOLOGY IN AGRO-ECOSYSTEMS WITH REFERENCE TO BIOGENIC NANOPARTICLES. IT HIGHLIGHTS THE: • OCCURRENCE AND DIVERSITY OF BIOGENIC NANOPARTICLES • MECHANISTIC APPROACH INVOLVED IN THE SYNTHESIS OF BIOGENIC NANOPARTICLES • SYNTHESIS OF NANOPARTICLES USING PHOTO-ACTIVATION, AND THEIR FATE IN THE SOIL ECOSYSTEM • POTENTIAL APPLICATIONS OF NANOPARTICLES IN AGRICULTURAL SYSTEMS • APPLICATION AND BIOGENIC SYNTHESIS OF GOLD NANOPARTICLES AND THEIR CHARACTERIZATION • IMPACT OF BIOGENIC NANOPARTICLES ON BIOTIC STRESS TO PLANTS • MECHANISTIC APPROACHES INVOLVED IN THE ANTIMICROBIAL EFFECTS AND CYTOTOXICITY OF BIOGENIC NANOPARTICLES • ROLE OF BIOGENIC NANOPARTICLES IN PLANT DISEASES MANAGEMENT • RELEVANCE OF BIOLOGICAL SYNTHESIZED NANOPARTICLES IN THE LONGEVITY OF AGRICULTURAL CROPS • DESIGN AND SYNTHESIS OF NANO-BIOSENSORS FOR MONITORING POLLUTANTS IN WATER, SOIL AND PLANT SYSTEMS • APPLICATIONS OF NANOTECHNOLOGY IN AGRICULTURE WITH SPECIAL REFER TO SOIL, WATER AND PLANT SCIENCES A USEFUL RESOURCE FOR POSTGRADUATE AND RESEARCH STUDENTS IN THE FIELD OF PLANT AND AGRICULTURAL SCIENCES, IT IS ALSO OF INTEREST TO RESEARCHERS WORKING IN NANO AND BIOTECHNOLOGY.

NANOENGINEERING IN THE BEVERAGE INDUSTRY ALEXANDRU MIHAI GRUMEZESCU 2019-10-10 NANOENGINEERING IN THE BEVERAGES INDUSTRY, VOLUME 20 IN THE SCIENCE OF BEVERAGES SERIES, PRESENTS THE IMPACT OF NOVEL TECHNOLOGIES IN NANOENGINEERING ON THE DESIGN OF IMPROVED AND FUTURE BEVERAGES. THIS REFERENCE EXPLAINS HOW NOVEL APPROACHES OF NANOENGINEERING CAN ADVANCE BEVERAGE SCIENCE THROUGH PROVEN RESEARCH RESULTS AND INDUSTRIAL APPLICATIONS. THIS MULTIDISCIPLINARY RESOURCE WILL HELP AUGMENT RESEARCH IDEAS IN THE DEVELOPMENT OR IMPROVEMENT OF BEVERAGE PRODUCTION FOR A WIDE AUDIENCE OF BEVERAGE SCIENCE RESEARCH PROFESSIONALS, PROFESSORS AND STUDENTS. INCLUDES UP-TO-DATE INFORMATION ON NANOTECHNOLOGY APPLICATIONS WITHIN THE BEVERAGES INDUSTRY, ALONG WITH THE LATEST TECHNOLOGIES EMPLOYED PRESENTS VARIOUS APPROACHES FOR INNOVATION BASED ON SCIENTIFIC ADVANCEMENTS IN THE FIELD OF NANOTECHNOLOGY PROVIDES METHODS AND TECHNIQUES FOR RESEARCH ANALYSIS USING NOVEL TECHNOLOGIES ACROSS THE GLOBE

CHITOSAN IN THE PRESERVATION OF AGRICULTURAL COMMODITIES SILVIA BAUTISTA-BAÑOS 2016-01-20 CHITOSAN IN THE

PRESERVATION OF AGRICULTURAL COMMODITIES PRESENTS A COHESIVE OVERVIEW OF RESEARCH TOPICS REGARDING THE PRODUCTION AND CHARACTERIZATION OF CHITOSAN, THE DEVELOPMENT OF COATINGS AND FILMS, ITS FUNCTIONAL PROPERTIES, AND ANTIMICROBIAL POTENTIAL OF THIS COMPOUND ON ECONOMICALLY IMPORTANT AGRICULTURAL COMMODITIES. IT INCLUDES THE MODES OF ACTION FROM A PHYSIOLOGICAL, ENZYMIC, AND MOLECULAR PERSPECTIVE, AND EVALUATIONS OF THE ACTIVITY OF CHITOSAN NANOCOMPOSITES AND NANOPARTICLES IN BIOLOGICAL MODELS. THE FIRST SECTION DEALS WITH THE CHEMICAL CHARACTERISTICS AND FUNCTIONAL PROPERTIES OF CHITOSAN AND NEW CHITOSAN-BASED BIOMATERIALS INTENDED FOR FOOD PRESERVATION. THE SECOND SECTION COVERS VARIOUS ASPECTS OF THE CONTROL ACHIEVED BY CHITOSAN ON DIFFERENT MICROORGANISMS AFFECTING VARIOUS HORTICULTURAL COMMODITIES, GRAINS, AND ORNAMENTALS, AND ITS MODES OF ACTION. THE THIRD SECTION EXPLORES ENZYMIC AND GENE EXPRESSION INDUCTION BY CHITOSAN APPLICATION ON FRUIT AND VEGETABLES; THE FOURTH SECTION OFFERS INSIGHT ON THE USE OF CHITOSAN NANOCOMPOSITES IN BIOLOGICAL MODELS ASSOCIATED WITH FOOD CONSERVATION AND CONTROL OF MICROORGANISMS. ANALYZES CHITOSAN CHEMICAL AND FUNCTIONAL PROPERTIES EXPLORES OBTAINING, CHARACTERIZING, AND DEVELOPING CHITOSAN COATINGS AND FILMS FOR AGRICULTURAL USE PRESENTS FUNCTIONAL PROPERTIES, ANTIMICROBIAL POTENTIAL, AND MODES OF ACTION OF CHITOSAN FROM A PHYSIOLOGICAL, ENZYMIC, AND MOLECULAR PERSPECTIVE INCLUDES BIOLOGICAL MODELS OF THE ACTIVITY OF CHITOSAN NANOCOMPOSITES AND NANOPARTICLES

NANOTECHNOLOGY IN FOOD PRODUCTS INSTITUTE OF MEDICINE 2009-10-21 IN THE FOOD INDUSTRY, SCIENTISTS ARE EXPLORING THE POTENTIAL OF NANOTECHNOLOGY TO ENHANCE THE FLAVOR AND OTHER SENSORY CHARACTERISTICS OF FOODS, INTRODUCE ANTIBACTERIAL NANOSTRUCTURES INTO FOOD PACKAGING AND ENCAPSULATE AND DELIVER NUTRIENTS DIRECTLY INTO TARGETED TISSUES, AMONG OTHER APPLICATIONS. HOWEVER, AS WITH ANY NEW TECHNOLOGY, ALONG WITH THE BENEFITS, THERE IS THE POTENTIAL FOR UNANTICIPATED ADVERSE EFFECTS. THERE IS STILL A GREAT DEAL TO LEARN ABOUT ANY HEALTH OUTCOMES RELATED TO INTRODUCING NANOSIZED MATERIALS INTO FOODS AND FOOD PACKAGING MATERIALS. DEVELOPING NANOTECHNOLOGY INTO A SAFE, EFFECTIVE TOOL FOR USE IN FOOD SCIENCE AND TECHNOLOGY WILL REQUIRE ADDRESSING THESE AND OTHER QUESTIONS. ASSURING CONSUMER CONFIDENCE WILL BE EQUALLY IMPORTANT TO THE SUCCESS OF THIS NEW EMERGING TECHNOLOGY. THE INSTITUTE OF MEDICINE HELD A ONE-DAY WORKSHOP, SUMMARIZED IN THIS VOLUME, TO FURTHER EXPLORE THE USE OF NANOTECHNOLOGY IN FOOD. SPECIFICALLY, THE WORKSHOP WAS ORGANIZED AROUND THREE PRIMARY TOPIC AREAS: (1) THE APPLICATION OF NANOTECHNOLOGY TO FOOD PRODUCTS; (2) THE SAFETY AND EFFICACY OF NANOMATERIALS IN FOOD PRODUCTS; AND (3) EDUCATING AND INFORMING CONSUMERS ABOUT THE APPLICATIONS OF NANOTECHNOLOGY TO FOOD PRODUCTS.

PLANT BIOTECHNOLOGY HIRU RANABHATT 2017-12-31 THIS BOOK SUMMARISES VARIOUS ASPECTS OF PLANT BIOTECHNOLOGY AND IS DIVIDED INTO 27 CHAPTERS. THIS EDITION DISCUSSES: PLANT CELL CULTURE AND DEVELOPMENT, PLANT TISSUE CULTURE, MICROPROPAGATION, GERMLASM STORAGE, HAPLOID PLANTS, TRIPLOID PLANTS, IN VITRO POLLINATION AND FERTILISATION, PROTOPLAST ISOLATION AND CULTURE, SOMATIC CELL HYBRIDISATION, SYNTHETIC SEEDS, PLANT BREEDING, PLANT DERIVED VACCINES, GENETICALLY MODIFIED FOODS, IMPROVING PHOTOSYNTHESIS AND CROP YIELD, INSECT RESISTANT PLANTS, FUNGUS RESISTANT PLANTS, VIRUS RESISTANT PLANTS, ORNAMENTAL PLANTS, MEDICINAL PLANTS, RECOMBINANT DNA, MOLECULAR MARKERS, INTELLECTUAL PROPERTY RIGHTS. CHAPTERS ON NANOTECHNOLOGY FOR MICRONUTRIENTS IN SOIL-PLANT SYSTEMS ARE A UNIQUE FEATURE OF THE BOOK.

MAIZE CROP A. SOLAIMALAI 2020-05-10 MAIZE IS ONE OF THE VERSATILE EMERGING CROPS WITH WIDER ADAPTABILITY UNDER VARIED AGRO-CLIMATIC CONDITIONS. GLOBALLY, MAIZE IS KNOWN AS QUEEN OF CEREALS BECAUSE IT HAS THE HIGHEST GENETIC YIELD POTENTIAL AMONG THE CEREALS. IT IS CULTIVATED ON NEARLY 150 M/HA IN ABOUT 160 COUNTRIES HAVING WIDER DIVERSITY OF SOIL, CLIMATE, BIODIVERSITY AND MANAGEMENT PRACTICES THAT CONTRIBUTES 36 % (782 M/T) IN THE GLOBAL GRAIN PRODUCTION. THE UNITED STATES OF AMERICA (USA) IS THE LARGEST PRODUCER OF MAIZE CONTRIBUTES NEARLY 35 % OF THE TOTAL PRODUCTION IN THE WORLD. IT IS THE DRIVER OF THE US ECONOMY. THIS BOOK TALKS ABOUT THE IMPROVEMENT, PRODUCTION, PROTECTION AND POST HARVEST TECHNOLOGY OF THE MAIZE CROP. NOTE: T&F DOES NOT SELL OR DISTRIBUTE THE HARDBACK IN INDIA, PAKISTAN, NEPAL, BHUTAN, BANGLADESH AND SRI LANKA.

FOOD LOSSES, SUSTAINABLE POSTHARVEST AND FOOD TECHNOLOGIES CHARIS MICHEL GALANAKIS 2021-05-19 THE URGENT NEED FOR SUSTAINABILITY WITHIN THE FOOD PRODUCING INDUSTRIES AND AGRICULTURE HAS TURNED THE INTEREST OF RESEARCH TO INVESTIGATE NEW NON-THERMAL TECHNOLOGIES, NANOTECHNOLOGIES AND OTHER PRACTICES IN POSTHARVEST TREATMENT OF CROPS AND FRUITS. SUBSEQUENTLY, THERE IS A NEED FOR A NEW GUIDE COVERING THE LATEST DEVELOPMENTS IN THIS PARTICULAR DIRECTION. FOOD LOSSES, SUSTAINABLE POSTHARVEST AND FOOD TECHNOLOGY PROVIDES SOLUTIONS TO POSTHARVEST TREATMENT TECHNOLOGIES. IT EXPLORES MODERN NON-THERMAL TECHNOLOGIES, FOCUSING ON POSTHARVEST LOSSES AND QUALITY OF FRESH-CUT PRODUCTS. IN ADDITION, IT DISCUSSES THE IMPLICATIONS FOR POSTHARVEST TECHNOLOGY RESEARCH, POLICIES AND PRACTICES. IT ALSO FOCUSES ON THE MOST RECENT ADVANCES IN THE FIELD, WHILE IT EXPLORES THE POTENTIALITY AND SUSTAINABILITY OF ALREADY COMMERCIALIZED PROCESSES AND PRODUCTS. AIMED AT PROFESSIONALS WORKING IN THE FOOD

INDUSTRY AND AGRICULTURE, IT COULD ALSO BE UTILIZED AS A HANDBOOK FOR ANYONE DEALING WITH SUSTAINABILITY ISSUES OF FOOD PRODUCTION IN SPITE OF POSTHARVEST TREATMENT. THOROUGHLY EXPLORES MODERN NON-THERMAL TECHNOLOGIES IN POSTHARVEST TREATMENT DISCUSSES THE IMPLICATIONS FOR POSTHARVEST TECHNOLOGY RESEARCH, POLICIES AND PRACTICES ANALYZES THE POTENTIALITY AND SUSTAINABILITY OF ALREADY COMMERCIALIZED PROCESSES AND PRODUCTS

An Introduction to Food Grade Nanoemulsions NANDITA DASGUPTA 2018-01-03 THIS BOOK PROVIDES AUTHENTIC AND COMPREHENSIVE INFORMATION ON THE CONCEPTS, METHODS, FUNCTIONAL DETAILS AND APPLICATIONS OF NANO-EMULSIONS. FOLLOWING AN INTRODUCTION TO THE APPLICATIONS OF NANOTECHNOLOGY IN THE DEVELOPMENT OF FOODS, IT ELABORATES ON FOOD-GRADE NANO-EMULSION AND THEIR SIGNIFICANCE, DISCUSSES VARIOUS TECHNIQUES AND METHODS FOR PRODUCING FOOD-GRADE NANO-EMULSION, AND REVIEWS THE MAIN INGREDIENT AND COMPONENT OF FOOD-GRADE NANO-EMULSIONS. FURTHER, THE BOOK INCLUDES A CRITICAL REVIEW OF THE ENGINEERING ASPECT OF FABRICATING FOOD-GRADE NANO-EMULSIONS AND DESCRIBE RECENTLY DEVELOPED VITAMIN ENCAPSULATED NANO-SYSTEMS. IN CLOSING, IT DISCUSS THE CHALLENGES AND OPPORTUNITIES OF CHARACTERIZING NANO-EMULSIFIED SYSTEMS, THE MARKET RISKS AND OPPORTUNITIES OF NANO-EMULSIFIED FOODS, AND PACKAGING TECHNIQUES AND SAFETY ISSUES – INCLUDING RISK IDENTIFICATION AND RISK MANAGEMENT – FOR NANO-FOODS. THE BOOK OFFERS A UNIQUE GUIDE FOR SCIENTISTS AND RESEARCHERS WORKING IN THIS FIELD. IT WILL ALSO HELP RESEARCHERS, POLICYMAKERS, INDUSTRY PERSONNEL, JOURNALISTS AND THE GENERAL PUBLIC TO UNDERSTAND FOOD NANOTECHNOLOGY IN GREAT DETAIL.

Postharvest Biology and Nanotechnology GOPINADHAN PALIYATH 2019-01-30 A COMPREHENSIVE INTRODUCTION TO THE PHYSIOLOGY, BIOCHEMISTRY, AND MOLECULAR BIOLOGY OF PRODUCE GROWTH, PAIRED WITH CUTTING-EDGE TECHNOLOGICAL ADVANCES IN PRODUCE PRESERVATION REVISED AND UPDATED, THE SECOND EDITION OF POSTHARVEST BIOLOGY AND NANOTECHNOLOGY EXPLORES THE MOST RECENT DEVELOPMENTS IN POSTHARVEST BIOLOGY AND NANOTECHNOLOGY. SINCE THE PUBLICATION OF THE FIRST EDITION, THERE HAS BEEN AN INCREASED UNDERSTANDING OF THE DEVELOPMENTAL PHYSIOLOGY, BIOCHEMISTRY, AND MOLECULAR BIOLOGY DURING EARLY GROWTH, MATURATION, RIPENING, AND POSTHARVEST CONDITIONS. THE CONTRIBUTORS—NOTED EXPERTS IN THE FIELD—REVIEW THE IMPROVED TECHNOLOGIES THAT MAINTAIN THE SHELF LIFE AND QUALITY OF FRUITS, VEGETABLES, AND FLOWERS. THIS SECOND EDITION CONTAINS NEW STRATEGIES THAT CAN BE IMPLEMENTED TO REMEDY FOOD SECURITY ISSUES, INCLUDING BUT NOT LIMITED TO PHOSPHOLIPASE D INHIBITION TECHNOLOGY AND ETHYLENE INHIBITION VIA 1-MCP TECHNOLOGY. THE TEXT OFFERS AN INTRODUCTION TO TECHNOLOGIES USED IN PRODUCTION PRACTICES AND DISTRIBUTION OF PRODUCE AROUND THE WORLD, AS WELL AS THE PROCESS OF SENCESCENCE ON A MOLECULAR AND BIOCHEMICAL LEVEL. THE BOOK ALSO EXPLORES THE POSTHARVEST VALUE CHAIN FOR VARIOUS PRODUCE, QUALITY EVALUATION TECHNIQUES, AND THE MOST CURRENT NANOTECHNOLOGY APPLICATIONS. THIS IMPORTANT RESOURCE: • EXPANDS ON THE FIRST EDITION TO EXPLORE IN-DEPTH POSTHARVEST BIOLOGY WITH EMPHASIS ON DEVELOPMENTS IN NANOTECHNOLOGY • CONTAINS CONTRIBUTIONS FROM LEADERS IN THE FIELD • INCLUDES THE MOST RECENT ADVANCES IN POSTHARVEST BIOLOGY AND TECHNOLOGY, INCLUDING BUT NOT LIMITED TO PHOSPHOLIPASE D AND 1-MCP TECHNOLOGY • PUTS THE FOCUS ON BASIC SCIENCE AS WELL AS TECHNOLOGY AND PRACTICAL APPLICATIONS • APPLIES A PHYSIOLOGY, BIOCHEMISTRY, AND BIOTECHNOLOGY APPROACH TO THE SUBJECT WRITTEN FOR CROP SCIENCE RESEARCHERS AND PROFESSIONALS, HORTICULTURAL RESEARCHERS, AGRICULTURAL ENGINEERS, FOOD SCIENTISTS WORKING WITH FRUITS AND VEGETABLES, *Postharvest Biology and Nanotechnology, Second Edition* PROVIDES A COMPREHENSIVE INTRODUCTION TO THIS SUBJECT, WITH A GROUNDING IN THE BASIC SCIENCE WITH THE TECHNOLOGY AND PRACTICAL APPLICATIONS.

BIO-NANO INTERFACE MANORANJAN ARAKHA 2021-11-27 THIS BOOK DISCUSSES THE UNIQUE INTERACTIONS OF NANOPARTICLES WITH VARIOUS BIOMOLECULES UNDER DIFFERENT ENVIRONMENTAL CONDITIONS. IT DESCRIBES THE CONSEQUENCES OF THESE INTERACTIONS ON OTHER BIOLOGICAL ASPECTS LIKE FLORA AND FAUNA OF THE NICHE, CELL PROLIFERATION, ETC. THE BOOK PROVIDES INFORMATION ABOUT THE NOVEL AND ECO-FRIENDLY NANOPARTICLE SYNTHESIS METHODS, SUCH AS CONTINUOUS SYNTHESIS OF NANOPARTICLES USING MICROBIAL CELLS. ADDITIONALLY, THE BOOK DISCUSSES NANOPARTICLES' POTENTIAL IMPACT IN DIFFERENT AREAS OF BIOLOGICAL SCIENCES LIKE FOOD, MEDICINE, AGRICULTURE, AND THE ENVIRONMENT. DUE TO THEIR ADVANCED PHYSICO-CHEMICAL PROPERTIES, NANOPARTICLES HAVE REVOLUTIONIZED BIOMEDICAL AND PHARMACEUTICAL SCIENCES. INSIDE THE BIOLOGICAL MILIEU, NANOPARTICLES INTERACT WITH DIFFERENT MOIETIES TO ADOPT STABLE SHAPE, SIZE, AND SURFACE FUNCTIONALITIES AND FORM NANO-BIOMOLECULAR COMPLEXES. THE INTERACTION PATTERN AT THE INTERFACE FORM COMPLEXES DETERMINES THE FATE OF INTERACTING BIOMOLECULES AND NANOPARTICLES INSIDE THE BIOLOGICAL SYSTEM. UNDERSTANDING THE INTERACTION PATTERN AT THE NANO-BIO INTERFACE IS CRUCIAL FOR THE SAFE USE OF NANOPARTICLES IN NATURAL SCIENCES. THIS BOOK RIGHTLY ADDRESSES ALL QUESTIONS ABOUT THE INTERACTION AND THE ENSUING STRUCTURE AND FUNCTION OF THESE NANO-BIOMOLECULAR COMPLEXES. THIS BOOK CATERS TO STUDENTS AND RESEARCHERS IN THE AREA OF BIOTECHNOLOGY, MICROBIOLOGY, AND PHARMACEUTICAL SCIENCES.

POSTHARVEST RIPENING PHYSIOLOGY OF CROPS SUNIL PAREEK 2016-02-22 POSTHARVEST RIPENING PHYSIOLOGY OF CROPS IS A COMPREHENSIVE INTERDISCIPLINARY REFERENCE SOURCE FOR THE VARIOUS ASPECTS OF FRUIT RIPENING AND POSTHARVEST

BEHAVIOR. IT FOCUSES ON THE POSTHARVEST PHYSIOLOGY, BIOCHEMISTRY, AND MOLECULAR BIOLOGY OF RIPENING AND PROVIDES AN OVERVIEW OF FRUITS AND VEGETABLES, INCLUDING CHAPTERS ON THE POSTHARVEST QUALITY OF ORNAMENTAL PLANTS AND MOLECULAR BIOLOGY OF FLOWER SENESCENCE. IT DESCRIBES VARIOUS DEVELOPMENTS THAT HAVE TAKEN PLACE IN THE LAST DECADE WITH RESPECT TO IDENTIFYING AND ALTERING THE FUNCTION OF RIPENING-RELATED GENES. TAKING CLUES FROM STUDIES IN GRAPE AND TOMATO AS MODEL FRUITS, THE BOOK REVIEWS A FEW CASE STUDIES AND GIVES YOU A DETAILED ACCOUNT OF MOLECULAR REGULATION OF FRUIT RIPENING, AND SIGNAL TRANSDUCTION AND INTERNAL ATMOSPHERES IN RELATION TO FRUIT RIPENING. IT ALSO PRESENTS AN OVERVIEW OF METHODS UTILIZED IN FRUIT PROTEOMICS, AS WELL AS A GLOBAL PROTEOME AND SYSTEMS BIOLOGY ANALYSIS OF FRUITS DURING RIPENING, AND DISCUSSES THE BASICS OF DORMANCY, ITS MOLECULAR AND PHYSIOLOGICAL BASIS, AND METHODS TO BREAK THE DORMANCY. THE BOOK PROVIDES AN OVERVIEW OF THE MOST IMPORTANT METABOLIC PATHWAYS AND GENES THAT CONTROL VOLATILE BIOSYNTHESIS IN MODEL FRUITS, INCLUDING TROPICAL, SUBTROPICAL, AND TEMPERATE FRUITS, WITH A SPECIAL EMPHASIS ON FRUIT RIPENING AND THE ROLE OF ETHYLENE DURING THIS PROCESS. IT PRESENTS A BRIEF DESCRIPTION OF THE COMPOSITION OF VOLATILES IN VARIOUS FRUIT SPECIES AND ADDRESSES THE INFLUENCES OF PREHARVEST FACTORS AND POSTHARVEST TECHNOLOGIES ON FRUIT AROMA, BASIC MECHANISMS RESPONSIBLE FOR POSTHARVEST FLAVOR CHANGE IN FRESH PRODUCE, AND THE POTENTIAL IMPACTS OF VARIOUS POSTHARVEST TECHNOLOGIES ON FLAVOR.

NANOEMULSIONS SEID MAHDI JAFARI 2018-02-24 NANOEMULSIONS: FORMULATION, APPLICATIONS, AND CHARACTERIZATION PROVIDES DETAILED INFORMATION ON THE PRODUCTION, APPLICATION AND CHARACTERIZATION OF FOOD NANOEMULSION AS PRESENTED BY EXPERTS WHO SHARE A WEALTH OF EXPERIENCE. THOSE INVOLVED IN THE NUTRACEUTICAL, PHARMACEUTICAL AND COSMETIC INDUSTRIES WILL FIND THIS A USEFUL REFERENCE AS IT ADDRESSES FINDINGS RELATED TO DIFFERENT PREPARATION AND FORMULATION METHODS OF NANOEMULSIONS AND THEIR APPLICATION IN DIFFERENT FIELDS AND PRODUCTS. AS THE LAST DECADE HAS SEEN A MAJOR SHIFT FROM CONVENTIONAL EMULSIFICATION PROCESSES TOWARDS NANOEMULSIONS THAT BOTH INCREASE THE EFFICIENCY AND STABILITY OF EMULSIONS AND IMPROVE TARGETED DRUG AND NUTRACEUTICAL DELIVERY, THIS BOOK IS A TIMELY RESOURCE. SUMMARIZES GENERAL ASPECTS OF FOOD NANOEMULSIONS AND THEIR FORMULATION PROVIDES DETAILED INFORMATION ON THE PRODUCTION, APPLICATION, AND CHARACTERIZATION OF FOOD NANOEMULSION REVEALS THE POTENTIAL OF NANOEMULSIONS, AS WELL AS THEIR NOVEL APPLICATIONS IN FUNCTIONAL FOODS, NUTRACEUTICAL PRODUCTS, DELIVERY SYSTEMS, AND COSMETIC FORMULATIONS EXPLAINS PREPARATION OF NANOEMULSIONS BY BOTH LOW- AND HIGH-ENERGY METHODS

ZINC-BASED NANOSTRUCTURES FOR ENVIRONMENTAL AND AGRICULTURAL APPLICATIONS KAMEL A. ABD-ELSALAM 2021-05-22 ZINC-BASED NANOSTRUCTURES FOR ENVIRONMENTAL AND AGRICULTURAL APPLICATIONS SHOWS HOW ZINC NANOSTRUCTURES ARE BEING USED IN AGRICULTURE, FOOD AND THE ENVIRONMENT. THE BOOK HAS BEEN DIVIDED INTO TWO PARTS: PART I DEALS WITH THE SYNTHESIS AND CHARACTERIZATION OF ZINC-BASED NANOSTRUCTURES SUCH AS BIOGENIC, PLANT, MICROBIAL, AND ACTINOBACTERIA MEDIATED SYNTHESIS OF ZINC NANOPARTICLES, PART II IS FOCUSED ON AGRI-FOOD APPLICATIONS SUCH AS ANTIBACTERIAL, ANTIFUNGAL, ANTIMICROBIAL, PLANT DISEASE MANAGEMENT, CONTROLLING POST-HARVEST DISEASES, PESTICIDE SENSING AND DEGRADATIONS, PLANT PROMOTIONS, ZnO NANOSTRUCTURE FOR FOOD PACKAGING APPLICATION, SAFE ANIMAL FOOD AND FEED SUPPLEMENT, ELIMINATION OF MYCOTOXINS, AND VETERINARY APPLICATIONS. PART III REVIEWS TECHNOLOGICAL DEVELOPMENTS IN ENVIRONMENTAL APPLICATIONS SUCH AS RISKS AND BENEFITS FOR AQUATIC ORGANISMS AND THE MARINE ENVIRONMENT, ANTISEPTIC ACTIVITY AND TOXICITY MECHANISMS, WASTEWATER TREATMENT, AND ZINC OXIDE-BASED NANOMATERIALS FOR PHOTOCATALYTIC DEGRADATION OF ENVIRONMENTAL AND AGRICULTURAL POLLUTANTS. THE BOOK DISCUSSES VARIOUS ASPECTS, INCLUDING THE APPLICATION OF ZINC-BASED NANOSTRUCTURES TO ENHANCE PLANT HEALTH AND GROWTH, THE EFFECT ON SOIL MICROBIAL ACTIVITY, ANTIMICROBIAL MECHANISM, PHYTOTOXICITY AND ACCUMULATION IN PLANTS, THE POSSIBLE IMPACT OF ZINC-BASED NANOSTRUCTURES IN THE AGRICULTURAL SECTOR AS NANOFERTILIZER, ENHANCING CROP PRODUCTIVITY, AND OTHER POSSIBLE ANTIMICROBIAL MECHANISMS OF ZnO NANOMATERIALS. EXPLORES THE IMPACT OF A LARGE VARIETY OF ZINC-BASED NANOSTRUCTURES ON AGRI-FOOD AND ENVIRONMENT SECTORS OUTLINES HOW THE PROPERTIES OF ZINC-BASED NANOSTRUCTURES MEAN THEY ARE PARTICULARLY EFFICIENT IN ENVIRONMENTAL AND AGRICULTURAL APPLICATION AREAS ASSESSES THE MAJOR CHALLENGES OF SYNTHESIZING AND PROCESSING ZINC-BASED NANOSTRUCTURED MATERIALS

RESEARCH AND TECHNOLOGICAL ADVANCES IN FOOD SCIENCE BHANU PRAKASH 2021-11-30 THE REDUCTION IN NUTRITIONAL QUALITY OF FOOD DUE TO MICROBIAL CONTAMINATION IS A PROBLEM FACED BY MUCH OF THE DEVELOPING WORLD. TO ADDRESS CONTAMINATION-RELATED HUNGER AND MALNUTRITION, IT IS CRUCIAL TO ENFORCE QUANTITATIVE AND QUALITATIVE PROTECTION OF AGRI-FOOD COMMODITIES AFTER HARVESTING, AS WELL AS TO CREATE LOW COST, RATIONAL STRATEGIES TO PROTECT POST-HARVEST LOSSES AND NUTRITIONAL PROPERTIES OF FOOD PRODUCTS IN A SUSTAINABLE MANNER. RESEARCH AND TECHNOLOGICAL ADVANCES IN FOOD SCIENCE PROVIDES READERS WITH A SYSTEMATIC AND IN-DEPTH UNDERSTANDING OF BASIC AND ADVANCED CONCEPTS IN FOOD SCIENCE AND POST-HARVEST TECHNOLOGY, INCLUDING THE MOST UP-TO-DATE INFORMATION ABOUT DIFFERENT NATURAL FOOD SOURCE SOURCES (OF MICROBIAL, PLANT, AND ANIMAL ORIGIN) AND THEIR HEALTH BENEFITS. IT ALSO HIGHLIGHTS CURRENT RESEARCH AND TECHNOLOGICAL ADVANCES IN FOOD SCIENCE RELATED TO HEALTH, SUCH AS PERSONALIZED FOOD AND

NUTRITION, SEAFOOD NUTRACEUTICALS, MEAT PROCESSING AND PRODUCT DEVELOPMENT, MICROBIAL ENZYMES FOR THE TENDERIZATION OF MEAT, FERULOYLATED OLIGOSACCHARIDES FOR HUMAN HEALTH, AND THE ROLE OF MICROBIAL ANTAGONISTIC IN POST-HARVEST MANAGEMENT OF FRUIT. IN ADDITION, THE BOOK EXPLORES THE ROLE OF MODERN TOOLS AND TECHNIQUES SUCH AS INSTRUMENTATION, NANOTECHNOLOGY, BIOTECHNOLOGY, ULTRASOUND IN FOOD PROCESSING AND FOOD-OMICS IN FOOD SCIENCE. RESEARCH AND TECHNOLOGICAL ADVANCES IN FOOD SCIENCE IS AN EXCELLENT RESOURCE FOR RESEARCHERS, FOOD SCIENTISTS, BIOCHEMISTS, PHARMACOLOGISTS, NUTRITIONISTS, POLICYMAKERS, AND STUDENTS WORKING IN THE FOOD SCIENCE DOMAIN. INCLUDES INFORMATION ABOUT DIFFERENT NATURAL SOURCES OF FOOD (MICROBES, PLANTS AND ANIMAL ORIGIN), AND THEIR HEALTH BENEFITS HIGHLIGHTS CURRENT RESEARCH AND TECHNOLOGICAL ADVANCES IN FOOD SCIENCE RELATED TO HEALTH BRINGS THE ROLE OF MICROBIAL ANTAGONISTIC, PLANT VOLATILES AND TECHNOLOGICAL ADVANCES IN THE POST-HARVEST MANAGEMENT OF FOOD COMMODITIES

TROPICAL AND SUBTROPICAL FRUITS MUHAMMAD SIDDIQ 2012-08-07 TROPICAL AND SUB-TROPICAL FRUITS HAVE GAINED SIGNIFICANT IMPORTANCE IN GLOBAL COMMERCE. THIS BOOK EXAMINES RECENT DEVELOPMENTS IN THE AREA OF FRUIT TECHNOLOGY INCLUDING: POSTHARVEST PHYSIOLOGY AND STORAGE; NOVEL PROCESSING TECHNOLOGIES APPLIED TO FRUITS; AND IN-DEPTH COVERAGE ON PROCESSING, PACKAGING, AND NUTRITIONAL QUALITY OF TROPICAL AND SUB-TROPICAL FRUITS. THIS CONTEMPORARY HANDBOOK UNIQUELY PRESENTS CURRENT KNOWLEDGE AND PRACTICES IN THE VALUE CHAIN OF TROPICAL AND SUBTROPICAL FRUITS WORLD-WIDE, COVERING PRODUCTION AND POST-HARVEST PRACTICES, INNOVATIVE PROCESSING TECHNOLOGIES, PACKAGING, AND QUALITY MANAGEMENT. CHAPTERS ARE DEVOTED TO EACH MAJOR AND MINOR TROPICAL FRUIT (MANGO, PINEAPPLE, BANANA, PAPAYA, DATE, GUAVA, PASSION FRUIT, LYCHEE, COCONUT, LOGAN, CAROMBOLA) AND EACH CITRUS AND NON-CITRUS SUB-TROPICAL FRUIT (ORANGE, GRAPEFRUIT, LEMON/LIME, MANDARIN/TANGERINE, MELONS, AVOCADO, KIWIFRUIT, POMEGRANATE, OLIVE, FIG, CHERIMOYA, JACKFRUIT, MANGOSTEEN). TOPICAL COVERAGE FOR EACH FRUIT IS EXTENSIVE, INCLUDING: CURRENT STORAGE AND SHIPPING PRACTICES; SHELF LIFE EXTENSION AND QUALITY; MICROBIAL ISSUES AND FOOD SAFETY ASPECTS OF FRESH-CUT PRODUCTS; PROCESSING OPERATIONS SUCH AS GRADING, CLEANING, SIZE-REDUCTION, BLANCHING, FILLING, CANNING, FREEZING, AND DRYING; AND EFFECTS OF PROCESSING ON NUTRIENTS AND BIOAVAILABILITY. WITH CHAPTERS COMPILED FROM EXPERTS WORLDWIDE, THIS BOOK IS AN ESSENTIAL REFERENCE FOR ALL PROFESSIONALS IN THE FRUIT INDUSTRY.

NANOTECHNOLOGY RAM PRASAD 2017-06-14 THIS BOOK HIGHLIGHTS THE IMPLICATIONS OF NANOTECHNOLOGY AND THE EFFECTS OF NANOPARTICLES ON AGRICULTURAL SYSTEMS, THEIR INTERACTIONS WITH PLANTS AS WELL AS THEIR POTENTIAL APPLICATIONS AS FERTILIZERS AND PESTICIDES. IT ALSO DISCUSSES HOW INNOVATIVE, ECO-FRIENDLY APPROACHES TO IMPROVE FOOD AND AGRICULTURAL SYSTEMS LEAD TO INCREASED PLANT PRODUCTIVITY. FURTHER, IT OFFERS INSIGHTS INTO THE CURRENT TRENDS AND FUTURE PROSPECTS OF NANOTECHNOLOGY ALONG WITH THE BENEFITS AND RISKS AND THEIR IMPACT ON AGRICULTURAL ECOSYSTEMS. NANOMATERIALS IN AGRICULTURE REDUCE THE AMOUNT OF CHEMICAL PRODUCTS SPRAYED BY MEANS OF SMART DELIVERY OF ACTIVE INGREDIENTS; MINIMIZE NUTRIENT LOSSES IN FERTILIZATION; AND INCREASE YIELDS THROUGH OPTIMIZED WATER AND NUTRIENT MANAGEMENT. THERE IS ALSO HUGE POTENTIAL FOR NANOTECHNOLOGY IN THE PROVISION OF STATE-OF-THE-ART SOLUTIONS FOR VARIOUS CHALLENGES FACED BY AGRICULTURE AND SOCIETY, BOTH TODAY AND IN THE FUTURE.

EMERGING POSTHARVEST TREATMENT OF FRUITS AND VEGETABLES KALYAN BARMAN 2018-09-19 WITH THE INCREASING NEED AND DEMAND FOR FRESH FRUITS AND VEGETABLES, THE FIELD OF POSTHARVEST SCIENCE IS CONTINUOUSLY EVOLVING. ENDEAVORS ARE BEING MADE BY SCIENTISTS INVOLVED IN POSTHARVEST RESEARCH FOR MAINTENANCE OF THE QUALITY AND SAFETY OF FRESH HORTICULTURAL PRODUCE TO ENHANCE THE POSTHARVEST LIFE AND TO EXTEND THE AVAILABILITY OF THE PRODUCE IN BOTH TIME AND SPACE. THIS VOLUME, EMERGING POSTHARVEST TREATMENT OF FRUITS AND VEGETABLES, ADDRESSES THE DEMAND FOR THE DEVELOPMENT AND APPLICATION OF EFFECTIVE TECHNOLOGIES FOR PRESERVATION OF PERISHABLE FOOD PRODUCTS, PARTICULARLY FRESH FRUITS AND VEGETABLES. IT PROVIDES AN ABUNDANCE OF UP-TO-DATE INFORMATION ABOUT POSTHARVEST TREATMENTS. THE CHAPTERS DISCUSS A NUMBER OF INNOVATIVE TECHNOLOGIES TO PROLONG AND ENHANCE POSTHARVEST FRUITS AND VEGETABLES. THIS BOOK WILL BE VALUABLE FOR THOSE CONCERNED WITH HORTICULTURE AND POSTHARVEST TECHNOLOGY. IT PROVIDES ESSENTIAL INFORMATION FOR STUDENTS, TEACHERS, PROFESSORS, SCIENTISTS, AND ENTREPRENEURS ENGAGED IN FRESH HORTICULTURAL PRODUCE HANDLING RELATED TO THIS FIELD.

ACHIEVING WATER-ENERGY-FOOD NEXUS SUSTAINABILITY: A SCIENCE AND DATA NEED OR A NEED FOR INTEGRATED PUBLIC POLICY? RICHARD GEORGE LAW FORD 2020-10-27 THIS eBook IS A COLLECTION OF ARTICLES FROM A FRONTIERS RESEARCH TOPIC. FRONTIERS RESEARCH TOPICS ARE VERY POPULAR TRADEMARKS OF THE FRONTIERS JOURNALS SERIES: THEY ARE COLLECTIONS OF AT LEAST TEN ARTICLES, ALL CENTERED ON A PARTICULAR SUBJECT. WITH THEIR UNIQUE MIX OF VARIED CONTRIBUTIONS FROM ORIGINAL RESEARCH TO REVIEW ARTICLES, FRONTIERS RESEARCH TOPICS UNIFY THE MOST INFLUENTIAL RESEARCHERS, THE LATEST KEY FINDINGS AND HISTORICAL ADVANCES IN A HOT RESEARCH AREA! FIND OUT MORE ON HOW TO HOST YOUR OWN FRONTIERS RESEARCH TOPIC OR CONTRIBUTE TO ONE AS AN AUTHOR BY CONTACTING THE FRONTIERS EDITORIAL

POSTHARVEST PHYSIOLOGICAL DISORDERS IN FRUITS AND VEGETABLES SERGIO TONETTO DE FREITAS 2019-01-15 THIS BOOK, CHOCK FULL OF COLOR ILLUSTRATIONS, ADDRESSES THE MAIN POSTHARVEST PHYSIOLOGICAL DISORDERS STUDIED IN FRUITS AND VEGETABLES. FOR A WIDE VARIETY OF FRUITS AND VEGETABLES, POSTHARVEST PHYSIOLOGICAL DISORDERS IN FRUITS AND VEGETABLES DESCRIBES VISUAL SYMPTOMS, TRIGGERING AND INHIBITING MECHANISMS, AND APPROACHES TO PREDICT AND CONTROL THESE DISORDERS AFTER HARVEST. COLOR PHOTOGRAPHS ILLUSTRATE THE DISORDERS, IMPORTANT FACTORS, PHYSIOLOGY, AND MANAGEMENT. THE BOOK INCLUDES A DETAILED DESCRIPTION OF THE VISUAL SYMPTOMS, TRIGGERING AND INHIBITING MECHANISMS, AND POSSIBLE APPROACHES TO PREDICT AND CONTROL PHYSIOLOGICAL DISORDERS. THE MECHANISMS TRIGGERING AND INHIBITING THE DISORDERS ARE DISCUSSED IN DETAIL IN EACH CHAPTER, BASED ON RECENT STUDIES, WHICH CAN HELP READERS BETTER UNDERSTAND THE FACTORS REGULATING EACH DISORDER. THE DESCRIPTION OF POSSIBLE APPROACHES TO PREDICT AND CONTROL EACH DISORDER CAN HELP GROWERS, SHIPPERS, WHOLESALERS, AND RETAILERS TO DETERMINE THE BEST MANAGEMENT PRACTICES TO REDUCE DISORDER INCIDENCE AND CROP LOSSES. FEATURES: PRESENTS VISUAL SYMPTOMS OF POSTHARVEST PHYSIOLOGICAL DISORDERS THAT WILL HELP READERS TO PRECISELY IDENTIFY THE DISORDERS IN FRUITS AND VEGETABLES DETAILS MECHANISMS TRIGGERING AND INHIBITING THE POSTHARVEST DISORDERS EXPLAINS POSSIBLE APPROACHES TO PREDICT AND CONTROL THESE DISORDERS SUGGESTS THE BEST POSTHARVEST MANAGEMENT APPROACHES FOR EACH CROP ALTHOUGH THERE ARE MANY SCIENTIFIC PUBLICATIONS ON POSTHARVEST PHYSIOLOGICAL DISORDERS, THERE ARE NO RECENT REVIEWS OR BOOKS PUTTING TOGETHER THE MOST RECENT INFORMATION ABOUT THE MECHANISMS REGULATING, AS WELL AS ABOUT THE POSSIBLE APPROACHES TO PREDICT AND CONTROL THESE DISORDERS.

POSTHARVEST HANDLING İBRAHİM KAHRAMANOĞLU 2017-09-13 THE WORLD POPULATION HAS BEEN INCREASING DAY BY DAY, AND DEMAND FOR FOOD IS RISING. DESPITE THAT, THE NATURAL RESOURCES ARE DECREASING, AND PRODUCTION OF FOOD IS GETTING DIFFICULT. AT THE SAME TIME, ABOUT ONE-QUARTER OF WHAT IS PRODUCED NEVER REACHES THE CONSUMERS DUE TO THE POSTHARVEST LOSSES. THEREFORE, IT IS OF UTMOST IMPORTANCE TO EFFICIENTLY HANDLE, STORE, AND UTILIZE PRODUCE TO BE ABLE TO FEED THE WORLD, REDUCE THE USE OF NATURAL RESOURCES, AND HELP TO ENSURE SUSTAINABILITY. AT THIS POINT, POSTHARVEST HANDLING IS BECOMING MORE IMPORTANT, WHICH IS THE MAIN DETERMINANT OF THE POSTHARVEST LOSSES. HENCE, THE PRESENT BOOK IS INTENDED TO PROVIDE USEFUL AND SCIENTIFIC INFORMATION ABOUT POSTHARVEST HANDLING OF DIFFERENT PRODUCE.

FRUIT AND VEGETABLE QUALITY ROBERT L. SHEWFELT 2000-04-18 IMPROVED QUALITY REQUIRES INTEGRATION ACROSS BUSINESS FUNCTIONS AND SCIENTIFIC DISCIPLINES. BASED ON THIS PREMISE, FRUIT AND VEGETABLE QUALITY: AN INTEGRATED VIEW PRESENTS 15 UNIQUE PERSPECTIVES ON ACHIEVING GREATER QUALITY AND GUIDANCE FOR A MORE INTEGRATED APPROACH TO POSTHARVEST HANDLING AND FRUIT AND VEGETABLE RESEARCH. DESIGNED FOR ANYONE INVOLVED IN THE MANAGEMENT, PRODUCTION, HANDLING, DISTRIBUTION, OR PROCESSING OF FRUITS AND VEGETABLES, IT PROVIDES CONCISE DESCRIPTIONS OF IMPORTANT ISSUES, ROADMAPS TO THE LITERATURE IN SPECIFIC FIELDS, ASSESSMENTS OF CURRENT KNOWLEDGE AND RESEARCH NEEDS, AND SPECIFIC EXAMPLES OF PRODUCT-BASED RESEARCH. YOUR GUIDE TO THE DYNAMIC DEVELOPMENTS IN INTEGRATING FRUIT AND VEGETABLE QUALITY PROJECTS, FRUIT AND VEGETABLE QUALITY: AN INTEGRATED VIEW ALSO PRESENTS A RANGE OF OPTIONS FOR ACHIEVING BETTER COORDINATION OF RESEARCH ACROSS SCIENTIFIC DISCIPLINES.

HANDBOOK OF MANGO FRUIT MUHAMMAD SIDDIQ 2017-05-30 WRITTEN BY NOTED EXPERTS IN THE FIELD, HANDBOOK OF MANGO FRUIT: PRODUCTION, POSTHARVEST SCIENCE, PROCESSING TECHNOLOGY AND NUTRITION OFFERS A COMPREHENSIVE RESOURCE REGARDING THE PRODUCTION, TRADE, AND CONSUMPTION OF THIS POPULAR TROPICAL FRUIT. THE AUTHORS REVIEW THE GEOGRAPHIC AREAS WHERE THE FRUIT IS GROWN AND HARVESTED, INCLUDING INFORMATION ON THE EVER-EXPANDING GLOBAL MARKETPLACE THAT HIGHLIGHTS UNITED STATES PRODUCTION, IMPORTS AND EXPORTS, AND CONSUMPTION, AS WELL AS DATA ON THE OUTLOOK FOR THE EUROPEAN MARKET. HANDBOOK OF MANGO FRUIT OUTLINES THE POSTHARVEST HANDLING AND PACKAGING TECHNIQUES AND REVIEWS THE FRUIT'S PROCESSED PRODUCTS AND BYPRODUCTS THAT ARE GLEANED FROM THE PROCESSING OF WASTE. THE AUTHORS INCLUDE INFORMATION ON THE NUTRITIONAL PROFILE OF THE MANGO AND REVIEW THE FOOD SAFETY CONSIDERATIONS FOR PROCESSING AND TRANSPORT OF MANGOES. THIS COMPREHENSIVE RESOURCE: REVIEWS GLOBAL MANGO PRODUCTION TRENDS AND COUNTRIES THAT ARE THE MAJOR EXPORTERS AND IMPORTERS OF MANGOES EXPLORES THE BURGEONING MARKETPLACE FOR MANGOES WITH SPECIAL EMPHASIS ON THE US AND EUROPEAN MARKETPLACE ASSESSES LATEST TRENDS IN PACKAGING OF AND SHIPPING OF MANGOES PROVIDES IN DEPTH COVERAGE ON VALUE-ADDED PROCESSING AND BY-PRODUCTS UTILIZATION OFFERS VITAL INFORMATION ON THE INNOVATIVE PROCESSING TECHNOLOGIES AND NUTRITIONAL PROFILE OF POPULAR TROPICAL FRUIT WRITTEN FOR ANYONE INVOLVED IN THE PRODUCTION, MARKETING, POSTHARVEST HANDLING, PROCESSING AND BY-PRODUCTS OF MANGOES, HANDBOOK OF MANGO FRUIT IS A VITAL RESOURCE OFFERING THE MOST CURRENT INFORMATION AND GUIDELINES ON THE BURGEONING MARKETPLACE AS WELL AS THE SAFE HANDLING, PRODUCTION, AND DISTRIBUTION OF MANGOES.

NANOTECHNOLOGY FOR AGRICULTURE: CROP PRODUCTION & PROTECTION DEEPAK G. PANPATTE 2019-12-07 THE EMERGENCE OF NANOTECHNOLOGY AND THE DEVELOPMENT OF NEW NANODEVICES AND NANOMATERIALS HAVE OPENED UP EXCITING OPPORTUNITIES FOR NOVEL APPLICATIONS IN AGRICULTURE AND BIOTECHNOLOGY. NANOTECHNOLOGY HAS THE POTENTIAL TO MODERNIZE AGRICULTURAL RESEARCH AND PRACTICE, BUT ALTHOUGH IT HAS GAINED MOMENTUM IN THE AGRICULTURE SECTOR OVER LAST DECADE, THERE ARE STILL KNOWLEDGE GAPS BETWEEN SCIENTIFIC COMMUNITIES. THIS BOOK PRESENTS A COMPREHENSIVE OVERVIEW OF CURRENT DEVELOPMENTS IN NANOTECHNOLOGY-BASED SUSTAINABLE AGRICULTURE. FOCUSING ON VARIOUS ASPECTS OF NANOTECHNOLOGY IN DIFFERENT SECTORS OF AGRICULTURE, SUCH AS CROP PRODUCTION, SOIL FERTILITY MANAGEMENT AND CROP IMPROVEMENT, IT OFFERS INSIGHTS INTO THE CURRENT TRENDS AND FUTURE PROSPECTS OF NANOTECHNOLOGY, ALONG WITH THE BENEFITS AND RISKS AND THEIR IMPACT ON AGRICULTURAL ECOSYSTEMS. IT ALSO HIGHLIGHTS THE USE OF NANOTECHNOLOGY TO REDUCE AGROCHEMICAL USAGE, TO INCREASE NUTRIENT UPTAKE EFFICIENCY AND TO IMPROVE WATER AND NUTRIENT MANAGEMENT, AND THE USE OF NANO-BIOSENSORS TO MANAGE PLANT DISEASES. THE BOOK IS A VALUABLE REFERENCE RESOURCE FOR SCIENTISTS, POLICYMAKERS, STUDENTS AND RESEARCHERS WHO ARE ENGAGED IN DEVELOPING STRATEGIES TO COPE WITH CURRENT AGRICULTURAL CHALLENGES.

POST-HARVEST TECHNOLOGIES OF FRUITS & VEGETABLES HOSAHALLI S. RAMASWAMY 2014-10-12 BEST PRACTICES FOR PRESERVING QUALITY AND CONSUMER APPEAL OF FRESH FRUITS, VEGETABLES CLARIFIES CALCULATIONS FOR EFFICIENT COOLING, CONTROLLED RIPENING AND STORAGE PRESENTS STRATEGIES FOR REDUCING MICROBIAL RISKS AND POST-HARVEST PATHOLOGIES A COMPREHENSIVE INTRODUCTION TO ESTABLISHED AND EMERGENT POST-HARVEST TECHNOLOGIES, THIS TEXT SHOWS HOW TO ENHANCE THE VALUE OF PERISHABLE FRUITS AND VEGETABLE BY MITIGATING THE CAUSES OF DETERIORATION AND SPOILAGE FROM FARM TO POINT OF PURCHASE. AFTER INVESTIGATING THE STRUCTURAL, CHEMICAL AND NUTRITIONAL PROPERTIES OF FRUITS AND VEGETABLES, THE BOOK PROVIDES A STEP-BY-STEP EXPLANATION OF PROCESSING FROM MACHINE HARVESTING THROUGH HANDLING, RIPENING TECHNOLOGIES, PACKAGING AND DISTRIBUTION. EMPHASIS IS PLACED ON WAYS TO COLLECT DATA NEEDED TO MONITOR QUALITY. PSYCHROMETRIC PRINCIPLES AND THEIR ROLE IN COLD STORAGE SYSTEMS ARE PRESENTED ALONG WITH CALCULATIONS ENABLING EFFECTIVE REFRIGERATION AND CONTROL OF TRANSPIRATION, HUMIDITY AND GASES. THE BOOK INCLUDES EXAMPLES AND CALCULATIONS FOR IMPROVING PROCESS CONTROL AND PREDICTING THE SHELF-LIFE OF TEMPERATE-CLIMATE AND TROPICAL FRUITS AND VEGETABLES.

POSTHARVEST PLANT PATHOLOGY N.G. RAVICHANDRA 2021-11-23 THE PURPOSE OF THE BOOK POSTHARVEST PLANT PATHOLOGY IS TO PROVIDE ITS READERS RECENT DEVELOPMENTS AND UPDATED COMPREHENSIVE INFORMATION ON POSTHARVEST PATHOGENS & DISEASES OF MAJOR CROPS. THIS BOOK EXPLICATES THE FUNDAMENTAL ASPECTS OF POSTHARVEST DISEASES OF CROPS AND IS CONVENIENTLY DIVIDED INTO TEN CHAPTERS, PROVIDING THE LATEST INFORMATION ON THE CONCEPT & TYPES OF POSTHARVEST DISEASES, ECONOMICALLY SIGNIFICANT POSTHARVEST PATHOGENS & DISEASES OF MAJOR CROPS, FACTORS GOVERNING POSTHARVEST DISEASES, STORAGE CONDITIONS, FOOD SAFETY ISSUES, QUIESCENCE IN POST HARVEST PATHOGENS, DETAILED & RECENT INFORMATION ON MAJOR MYCOTOXINS, VARIOUS APPROACHES OF POSTHARVEST DISEASE MANAGEMENT, INTEGRATED MANAGEMENT STRATEGIES, BIOCHEMICAL & MOLECULAR ASPECTS OF POSTHARVEST DISEASES, APART FROM WHICH, AN EXCLUSIVE CHAPTER FOR DISCUSSING THE POSTHARVEST NEMATODE DISEASES AND THEIR MANAGEMENT IS ALSO FURNISHED. NOTE: T&F DOES NOT SELL OR DISTRIBUTE THE HARDBACK IN INDIA, PAKISTAN, NEPAL, BHUTAN, BANGLADESH AND SRI LANKA. THIS TITLE IS CO-PUBLISHED WITH NIPA.

FOOD SECURITY AND PLANT DISEASE MANAGEMENT AJAY KUMAR 2020-11-20 FOOD SECURITY AND PLANT DISEASE MANAGEMENT OFFERS A COMPREHENSIVE EXPLORATION OF BIOCONTROL, THE LATEST TECHNOLOGIES BEING USED IN PLANT HEALTH ASSURANCE, AND RESULTING IMPACTS ON CROP PRODUCTION AND FOOD SECURITY. DISCUSSING BOTH THEORETICAL AND PRACTICAL TOPICS, THE BOOK EXAMINES BASIC AND ADVANCED APPLICATIONS OF BIOSENSOR AND NANO-TECHNOLOGIES, INTRODUCES PLANT DISEASE, INCLUDING MODES OF ACTION AND THEIR TRANSMISSION IN HOST PLANTS, THEN COVERS FACTORS CONTRIBUTING TO PLANT DISEASE AND VARIOUS MEANS OF ADDRESSING THOSE DISEASES. THIS VOLUME IS PART OF THE MICROORGANISMS IN AGRICULTURE AND THE ENVIRONMENT SERIES AND PROVIDES IMPORTANT INFORMATION FOR DEVELOPING NEW EFFECTIVE PLANT PROTECTION PRACTICES. THE DIRECT OR INDIRECT APPLICATIONS OF BENEFICIAL MICROBES IN THE TREATMENT OF PLANT DISEASE IS TERMED "MICROBIAL CONTROL AND THESE METHODS HAVE INCREASINGLY BEEN IDENTIFIED AS IMPORTANT OPTIONS FOR PLANT HEALTH MANAGEMENT. THE BENEFICIAL MICROBES AS WELL AS RECENT OMIC AND NANO-TECHNOLOGIES ALSO REVEAL IMPORTANT MECHANISMS THAT CAN BE UTILIZED IN DISEASE MANAGEMENT STRATEGIES. EXPLORES THE IMPACT OF CLIMATE CHANGE ON PLANT DISEASES AND NEW METHODS OF RESOLUTION INCLUDES INFORMATION ON GENE EXPRESSION DURING CROP DISEASE MANAGEMENT PRESENTS INSIGHTS INTO THE LEGAL AND COMMERCIAL ASPECTS OF MICROBIAL CONTROL

MICROBIAL NANOTECHNOLOGY MAHENDRA RAI 2020-09-17 THIS BOOK PROVIDES AN ACCOUNT OF THE BIOGENIC SYNTHESIS OF NANOMATERIALS BY USING DIFFERENT MICROORGANISMS. THE CHAPTERS ARE FOCUSED ON THE BIOSYNTHESIS OF VARIOUS METAL AND

METAL OXIDE NANOSIZED MATERIALS BY USING BACTERIA, ACTINOMYCETES, FUNGI, AND ALGAE, INCLUDING MECHANISMS OF MICROBIAL SYNTHESIS. OTHER CHAPTERS SUMMARIZE RECENT DEVELOPMENTS OF MICROBIAL-BASED NANOSTRUCTURES FOR THE MANAGEMENT OF FOOD-BORNE PATHOGENS, PLANT PATHOGENIC FUNGI, AS NUTRIENTS, AND BIOMEDICAL APPLICATIONS. MICROORGANISMS ARE DISCUSSED NOT ONLY AS BIOFACTORIES FOR THE SYNTHESIS OF NANOMATERIALS BUT ALSO AS REMOVAL AGENTS OF TOXIC METALS FROM THE ENVIRONMENT. EXPOSURE SOURCES AND ECOTOXICITY OF MICROBIALLY SYNTHESIZED NANOPARTICLES ARE ALSO DISCUSSED.

HANDBOOK OF BANANA PRODUCTION, POSTHARVEST SCIENCE, PROCESSING TECHNOLOGY, AND NUTRITION MUHAMMAD SIDDIQ 2020-07-10 A COMPREHENSIVE GUIDE THAT COVERS THE BANANA'S FULL VALUE CHAIN – FROM PRODUCTION TO CONSUMPTION THE BANANA IS THE WORLD'S FOURTH MAJOR FRUIT CROP. OFFERING A UNIQUE AND IN-DEPTH OVERVIEW OF THE FRUIT'S ENTIRE VALUE CHAIN, THIS IMPORTANT NEW HANDBOOK CHARTS ITS PROGRESSION FROM PRODUCTION THROUGH TO HARVEST, POSTHARVEST, PROCESSING, AND CONSUMPTION. THE MOST UP-TO-DATE DATA AND BEST PRACTICES ARE DRAWN TOGETHER TO PRESENT GUIDELINES ON INNOVATIVE STORAGE, PROCESSING, AND PACKAGING TECHNOLOGIES, WHILE FRESH APPROACHES TO QUALITY MANAGEMENT AND THE VALUE-ADDED UTILIZATION OF BANANA BYPRODUCTS ARE ALSO EXPLAINED. ADDITIONALLY, THE BOOK EXAMINES THE BANANA'S PHYSIOLOGY, NUTRITIONAL SIGNIFICANCE, AND POTENTIAL DISEASES AND PESTS. THE BOOK ALSO EDITED BY NOTED EXPERTS IN THE FIELD OF FOOD SCIENCE, THIS ESSENTIAL TEXT: PROVIDES A NEW EXAMINATION OF THE WORLD'S FOURTH MAJOR FRUIT CROP COVERS THE FRUIT'S ENTIRE VALUE CHAIN OFFERS DEDICATED CHAPTERS ON BIOACTIVE AND PHYTOCHEMICAL COMPOUNDS FOUND IN BANANAS AND THE POTENTIAL OF PROCESSING BYPRODUCTS GIVES INSIGHT INTO BANANAS' ANTIOXIDANT CONTENT AND OTHER NUTRITIONAL PROPERTIES IDENTIFIES AND EXPLAINS PRESENT AND POSSIBLE EFFECTS OF BIOACTIVE AND PHYTOCHEMICAL COMPOUNDS HANDBOOK OF BANANA PRODUCTION, POSTHARVEST SCIENCE, PROCESSING TECHNOLOGY, AND NUTRITION OFFERS THE MOST FAR-REACHING OVERVIEW OF THE BANANA CURRENTLY AVAILABLE. IT WILL BE OF GREAT BENEFIT TO FOOD INDUSTRY PROFESSIONALS SPECIALIZING IN FRUIT PROCESSING, PACKAGING, AND MANUFACTURING BANANA-BASED PRODUCTS. THE BOOK IS ALSO AN EXCELLENT RESOURCE FOR THOSE STUDYING OR RESEARCHING FOOD TECHNOLOGY, FOOD SCIENCE, FOOD ENGINEERING, FOOD PACKAGING, APPLIED NUTRITION, BIOTECHNOLOGY, AND MORE.

NANOTECHNOLOGY APPLICATIONS IN FOOD ALEXANDRU GRUMEZESCU 2017-02-22 NANOTECHNOLOGY APPLICATIONS IN FOOD: FLAVOR, STABILITY, NUTRITION, AND SAFETY IS AN UP-TO-DATE, PRACTICAL, APPLICATIONS-BASED REFERENCE THAT DISCUSSES THE ADVANTAGES AND DISADVANTAGES OF EACH APPLICATION TO HELP RESEARCHERS, SCIENTISTS, AND BIOENGINEERS KNOW WHAT AND WHAT NOT TO DO TO IMPROVE AND FACILITATE THE PRODUCTION OF FOOD INGREDIENTS AND MONITOR FOOD SAFETY. THE BOOK OFFERS A BROAD SPECTRUM OF TOPICS TRENDING IN THE FOOD INDUSTRY, SUCH AS PHARMACEUTICAL, BIOMEDICAL, AND ANTIMICROBIAL APPROACHES IN FOOD, HIGHLIGHTING CURRENT CONCERNS REGARDING SAFETY, REGULATIONS, AND THE RESTRICTED USE OF NANOMATERIALS. INCLUDES HOW NANOBIOSENSORS ARE USEFUL FOR THE DETECTION OF FOODBORNE PATHOGENS DISCUSSES APPLICATIONS OF NANOTECHNOLOGY FROM FLAVOR AND NUTRITION, TO STABILITY AND SAFETY IN PACKAGING INCLUDES NANO AND MICROENCAPSULATION, NANOEMULSIONS, NANOSENSORS, AND NANO DELIVERY SYSTEMS IDENTIFIES PRACTICAL APPLICATIONS OF NANOSCIENCE FOR USE IN INDUSTRY TODAY

BIOPOLYMER MEMBRANES AND FILMS MARIANA AGOSTINI DE MORAES 2020-06-19 BIOPOLYMER MEMBRANES AND FILMS: HEALTH, FOOD, ENVIRONMENT, AND ENERGY APPLICATIONS PRESENTS THE LATEST TECHNIQUES FOR THE DESIGN AND PREPARATION OF BIOPOLYMER-BASED MEMBRANES AND FILMS, LEADING TO A RANGE OF CUTTING-EDGE APPLICATIONS. THE FIRST PART OF THE BOOK INTRODUCES THE FUNDAMENTALS OF BIOPOLYMERS, TWO-DIMENSIONAL SYSTEMS, AND THE CHARACTERIZATION OF BIOPOLYMER MEMBRANES AND FILMS, CONSIDERING PHYSICOCHEMICAL, MECHANICAL AND BARRIER PROPERTIES. SUBSEQUENT SECTIONS ARE ORGANIZED BY APPLICATION AREA, WITH EACH CHAPTER EXPLAINING HOW BIOPOLYMER-BASED MEMBRANES OR FILMS CAN BE DEVELOPED FOR SPECIFIC INNOVATIVE USES ACROSS THE HEALTH, FOOD, ENVIRONMENTAL AND ENERGY SECTORS. THIS BOOK IS A VALUABLE RESOURCE FOR RESEARCHERS, SCIENTISTS AND ADVANCED STUDENTS INVOLVED IN BIOPOLYMER SCIENCE, POLYMER MEMBRANES AND FILMS, POLYMER CHEMISTRY AND MATERIALS SCIENCE, AS WELL AS FOR THOSE IN INDUSTRY AND ACADEMIA WHO ARE LOOKING TO DEVELOP MATERIALS FOR ADVANCED APPLICATIONS IN THE HEALTH, FOOD SCIENCE, ENVIRONMENT OR ENERGY INDUSTRIES. PRESENTS DETAILED COVERAGE OF A RANGE OF NOVEL APPLICATIONS IN KEY STRATEGIC AREAS ACROSS HEALTH, FOOD, ENVIRONMENT AND ENERGY CONSIDERS THE DIFFICULTIES ASSOCIATED WITH TWO-DIMENSIONAL MATERIALS ASSISTS THE READER IN SELECTING THE BEST MATERIALS AND PROPERTIES FOR SPECIFIC APPLICATIONS HELPS RESEARCHERS, SCIENTISTS AND ENGINEERS COMBINE THE ENHANCED PROPERTIES OF MEMBRANES AND FILMS WITH THE SUSTAINABLE CHARACTERISTICS OF BIOPOLYMER-BASED MATERIALS

POSTHARVEST BIOLOGY AND TECHNOLOGY OF FRUITS, VEGETABLES, AND FLOWERS GOPINADHAN PALIYATH 2009-03-16 AN INCREASED UNDERSTANDING OF THE DEVELOPMENTAL PHYSIOLOGY, BIOCHEMISTRY, AND MOLECULAR BIOLOGY DURING EARLY GROWTH, MATURATION, RIPENING, AND POSTHARVEST CONDITIONS HAS IMPROVED TECHNOLOGIES TO MAINTAIN THE SHELF LIFE AND

QUALITY OF FRUITS, VEGETABLES, AND FLOWERS. POSTHARVEST BIOLOGY AND TECHNOLOGY OF FRUITS, VEGETABLES, AND FLOWERS PROVIDES A COMPREHENSIVE INTRODUCTION TO THIS SUBJECT, OFFERING A FIRM GROUNDING IN THE BASIC SCIENCE AND BRANCHING OUT INTO THE TECHNOLOGY AND PRACTICAL APPLICATIONS. AN AUTHORITATIVE RESOURCE ON THE SCIENCE AND TECHNOLOGY OF THE POSTHARVEST SECTOR, THIS BOOK SURVEYS THE BODY OF KNOWLEDGE WITH AN EMPHASIS ON THE RECENT ADVANCES IN THE FIELD.

NANOTECHNOLOGY IN EDIBLE FOOD PACKAGING VIMAL KATIYAR 2021-03-27 p="" This volume delivers a systematic overview of nanotechnology in the development of edible food packaging with noteworthy characteristics for improved food quality. It covers current research trends, history outlines, and state of the global market in combination with associated biomaterials and synthesis strategies. The contents detail the use of various emerging bionanostructured materials such as cellulose nanostructures, chitosan nanostructures, and more. It further deliberates an in-depth discussion on various synthesis strategies and routes for the development of edible food packaging in terms of utilizing various nanosystems such as polymeric nanocomposites, nanoencapsulation systems, nanoemulsion systems, and others. Further, it also discusses experimental practices for bionanostructured and edible packaging materials to check the effectivity in terms of offering enhanced shelf life of food products. It also touches upon the socio-techno challenges in-line with developing edible packaging materials using nanotechnology for high performance packaging application. The book is an excellent guide for both the academia and industry especially early career professionals in edible food packaging sectors for selecting proper biomaterial involving biofillers, modifiers, cross linkers, compatibilizers and others to enhance the property of edible food packaging for targeted features. ^

POSTHARVEST BIOLOGY AND TECHNOLOGY FOR PRESERVING FRUIT QUALITY DANIEL VALERO 2010-05-12 INTEREST IN THE POSTHARVEST BEHAVIOR OF FRUITS AND VEGETABLES HAS A HISTORY AS LONG AS MANKIND'S. ONCE WE MOVED PAST MERE SURVIVAL, THE GOAL OF POSTHARVEST PRESERVATION RESEARCH BECAME LEARNING HOW TO BALANCE CONSUMER SATISFACTION WITH QUANTITY AND QUALITY WHILE ALSO PRESERVING NUTRITIONAL QUALITY. A COMPREHENSIVE OVERVIEW OF NEW POSTHARVEST TECHNO

MICROBIAL BIOCONTROL AJAY KUMAR 2022 THIS SECOND VOLUME OF A TWO-VOLUME WORK REVIEWS BENEFICIAL BIOACTIVE COMPOUNDS FROM VARIOUS MICROORGANISMS SUCH AS BACTERIA, FUNGI, CYANOBACTERIA IN PLANT DISEASES MANAGEMENT AND THE POSTHARVEST MANAGEMENT OF FRUITS USING MICROBIAL ANTAGONISTS. FURTHERMORE, IT REVIEWS THE IMPACT OF CLIMATE CHANGE ON FOOD SECURITY AND ADDRESSED THE LEGAL ASPECTS OF MICROBIAL BIOCONTROL APPLICATIONS. THE TWO-VOLUME WORK "MICROBIAL BIOCONTROL" INTRODUCES TO MECHANISMS OF PLANT-MICROBE INTERACTIONS AND EXPLORES LATEST STRATEGIES OF HOW MICROBES CAN BE APPLIED IN BIOCONTROL AND MANAGEMENT OF PLANT PATHOGENS, REPLACING CHEMICAL FERTILIZERS AND PESTICIDES. THE BOOK COVERS DIFFERENT GROUPS OF MICROORGANISMS SUCH AS BACTERIA, FUNGI, BUT ALSO THE INTERPLAY OF ENTIRE MICROBIOMES, AND REVIEWS THEIR SPECIFIC BENEFITS IN CROP GROWTH PROMOTION, IN ENHANCING THE PLANTS TOLERANCE AGAINST BIOTIC AND ABIOTIC STRESS AS WELL AS IN POST-HARVEST MANAGEMENT OF VARIOUS PLANT DISEASES. NOVEL TOOLS SUCH AS CRISPR/Cas9 AND MICROBE DERIVED NANOPARTICLES ARE ALSO ADDRESSED BESIDES THE LEGAL ASPECTS OF BIOCONTROL APPLICATIONS. TODAY, RISING GLOBAL POPULATION AND CHANGING CLIMATIC CONDITIONS EMERGE AS A MAJOR CHALLENGE FOR AGRONOMIST FARMERS AND RESEARCHERS IN FULFILLING THE REQUIREMENTS OF GLOBAL FOOD PRODUCTION. THE CONVENTIONAL AGRICULTURAL PRACTICES UTILIZE UNDISTRIBUTED USE OF CHEMICAL FERTILIZERS AND PESTICIDES TO ENHANCE GROWTH AND YIELD OF AGRICULTURAL PRODUCTS AND FRESH FOODS, BUT THEIR EXTENSIVE AND CONTINUOUS USE HAVE LED TO A RANGE OF NEGATIVE CONSEQUENCES ON THE FOOD QUALITY AND SAFETY, TO ENVIRONMENT AS WELL AS TO HUMAN AND ANIMAL HEALTH. MICROBIAL BIOCONTROL APPLICATIONS ARE PRESENTED AS A SOLUTION, PAVING THE WAY TO A SUSTAINABLE AGRICULTURE IN COMPLIANCE WITH THE UN SUSTAINABLE DEVELOPMENT GOALS (SDG). THE BOOK ADDRESSES RESEARCHERS IN ACADEMIA AND AGRICULTURE.

POSTHARVEST MANAGEMENT OF FRESH PRODUCE BHIM PRATAP SINGH 2023-03-01 POSTHARVEST MANAGEMENT OF FRESH PRODUCE: RECENT ADVANCES CRITICALLY ADDRESSES THE LATEST ISSUES, CHALLENGES AND TECHNOLOGICAL ADVANCEMENTS IN POSTHARVEST MANAGEMENT OF FRESH COMMODITIES, ESPECIALLY FRUITS, NUTS AND VEGETABLES. THE BOOK COVERS THE INTRIGUING CORRELATION OF PREHARVEST TREATMENTS, MATURITY INDICES AND POSTHARVEST OPERATIONS THAT SIGNIFICANTLY AFFECT THE POSTHARVEST QUALITY OF FRESH PRODUCE. FURTHER TOPICS INCLUDE PACKAGING, LOGISTICS AND STORAGE TECHNOLOGIES, THE ROLE OF MICROBIAL COMMUNITIES, AND 'OMICS' STRATEGIES IN POSTHARVEST DISEASE MANAGEMENT. SPECIAL ATTENTION IS GIVEN TO THE LATEST TRENDS OF NANOTECHNOLOGY, INTERNET OF THINGS (IoTS) AND BLOCKCHAIN TECHNOLOGIES IN FOOD SUPPLY CHAIN MANAGEMENT OF PERISHABLE PRODUCTS. THE BOOK IS A GREAT RESOURCE THAT ENABLES YOUNG AND EXPERIENCED PROFESSIONALS IN ACADEMIA, INDUSTRY AND UG/PG STUDENTS TO EXPLORE A DIVERSIFIED RANGE OF TOPICS IN

POSTHARVEST STRATEGIES RELEVANT TO FOOD PROCESSING, FOOD TECHNOLOGIES, AGRO-PROCESSING AND QUALITY CONTROL. THOROUGHLY EXPLORES MAJOR PREHARVEST LOSSES DUE TO NON-AVAILABILITIES OF THE LATEST TECHNOLOGIES DESCRIBES THE LATEST TRENDS IN THE SUPPLY CHAIN TO MINIMIZE PREHARVEST LOSSES PROVIDES AN OVERVIEW ON SMART TECHNOLOGIES SUCH AS NANOTECHNOLOGY, IOTs AND BLOCKCHAIN TECHNOLOGY