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ClosteroviridaeFrontiers E-books

Driven by the increasing necessity to define the biological diversity frame of widespread, endemic and threatened species, as well as by the stimulating chance to describe new species, the study of the evolutive and spatial dynamics is in constant execution. Systematic overviews, biogeographic and phylogenetic backgrounds, species composition and distribution in restricted areas are focal topics of the 15 interesting independent chapters collected in this book, chosen to offer to the reader an overall view of the present condition in which our planet is. This book is a printed edition of the Special Issue "Magnesium Intake and Human Health" that was published in *Nutrients*

Biological control of weeds has been practised for over 100 years and Australia has been a leader in this weed management technique. The classical example of control of prickly pears in Australia by the cactus moth *Cactoblastis cactorum*, which was imported from the Americas, helped to set the future for biocontrol of weeds in many countries. Since then there have been many projects using Classical Biological Control to manage numerous weed species, many of which have been successful. Importantly, there have been no serious negative non-target impacts – the technique, when practised as it is in Australia, is safe and environmentally friendly. Economic assessments have shown that biocontrol of weeds in Australia has provided exceedingly high benefit-to-cost ratios. This book reviews biological control of weeds in Australia to 2011, covering over 90 weed species and a multitude of biological control agents and potential agents. Each chapter has been written by practising biological control of weeds researchers and provides details of the weed, the history of its biological control, exploration for agents, potential agents studied and agents released and the outcomes of those releases. Many weeds were successfully controlled, some were not, many projects are still underway, some have just begun, however all are reported in detail in this book. *Biological Control of Weeds in Australia* will provide invaluable information for biological control researchers in Australia and elsewhere. Agents used in Australia could be of immense value to other countries that suffer from the same weeds as Australia. The studies reported here provide direction to future research and provide examples and knowledge for researchers and students.

An encyclopaedic treatment of plant diseases in Europe, this book is designed as a standard reference volume for the general working plant pathologist and those taking advanced training in plant pathology. It provides a clear, informed and authoritative summary of each entry by an appropriate specialist, with a selection of key references for further reading. The handbook covers the economic diseases of crops and forest trees in Europe, treated by pathogen and classed as pathogens of major, moderate and minor importance. Approximately 1000 organisms are covered in total, including 600 fungi, 100 bacteria, and 300 viruses

and similar organisms

The domestication of grapes dates back five thousand years ago and has spread to nearly all continents. In recent years, grape acreage has increased dramatically in new regions, including the United States of America, Chile, Asia (China and India), and Turkey. A major limiting factor to the sustained production of premium grapes and wines is infections by viruses. The advent of powerful molecular and metagenomics technologies, such as molecular cloning and next generation sequencing, allowed the discovery of new viruses from grapes. To date, grapevine is susceptible to 64 viruses that belong to highly diverse taxonomic groups. The most damaging diseases include: (1) infectious degeneration; (2) leafroll disease complex; and (3) rugose wood complex. Recently, two new disease syndromes have been recognized: Syrah decline and red blotch. Losses due to fanleaf degeneration are estimated at \$1 billion annually in France alone. Other diseases including leafroll, rugose wood, Syrah decline and red blotch can result in total crop loss several years post-infection. This situation is further exacerbated by mixed infections with multiple viruses and other biotic as well as adverse abiotic environmental conditions, such as drought and winter damage, causing even greater destruction. The book builds upon the last handbook (written over twenty years ago) on the part of diagnostics and extensively expands its scope by inclusion of molecular biology aspects of select viruses that are widespread and economically most important. This includes most current information on the biology, transmission, genome replication, transcription, subcellular localization, as well as virus-host interactions. It also touches on several novel areas of scientific inquiry. It also contains suggested directions for future research in the field of grapevine virology.

Rapid or even dramatic progress has been made in the field of AMD over recent years, leading to a constant revision of basic concepts. A wide range of fundus imaging modalities are now available, and this book explains the respective value of each technique. The information provided by OCT is presented logically by comparison with plain films, autofluorescence, fluorescein angiography, or indocyanine green angiography. Meticulous biomicroscopic examination of macular changes and the essential value of fluorescein angiography for the detection of anatomical alterations of the macula and for precise evaluation of lesions and their course by indocyanine green angiography have naturally led the author Gabriel Coscas to analyze the new data provided by OCT.

Plant viruses grouped within this family have remarkable properties, prominent among which is their genomic size: Citrus tristeza virus (CTV) has the largest (19.3 kb) genome reported for a plant monopartite single-stranded RNA (+) virus. Virions are filamentous and typically flexuous particles, approximately 12 nm in diameter and 650 to 2000 nm in length, with a unique bipolar (“rattlesnake”) morphology: the major coat protein (CP) encapsidates most of the genomic RNA, with a minor CP (CPm) coating a small 5'-terminal fragment (virion tail) and other viral-encoded proteins being also incorporated to this tail. The genome is

monopartite (genus Closterovirus, type member Beet yellows virus, and genus Ampelovirus, type member Grapevine leafroll-associated virus 3) or bipartite (genus Crinivirus, type member Lettuce infectious yellows virus, with at least one example of tripartite genome). The genomic RNA (or RNA1 in criniviruses) directs translation of the two 5'-proximal ORFs (via a peculiar ribosomal frameshift mechanism and proteolytic processing) that encode replication-related components, with the 3'-proximal ORFs encoding proteins expressed from 3'-coterminally subgenomic RNAs. A genomic signature of members of the family Closteroviridae is the presence of a five-gene block of proteins involved in virion assembly and movement that, in addition to the CP and CPm, includes a small transmembrane protein, a homologue of the HSP70 class of heat-shock proteins and a diverged CP. Members of this family encode suppressors of RNA silencing differing in number (up to three in CTV), and in mode of action: intracellular, intercellular, or both. In this same context Sweet potato chlorotic stunt virus codes for a singular suppressor: an RNase III that catalyzes cleavage of the small interfering RNAs mediating RNA silencing. Host range is usually narrow and, in order to expand it, some member(s) of the family, illustrated by the case of CTV, have evolved by acquiring multiple non-conserved genes. Virion accumulation is restricted to the phloem, with aphids, mealybugs and whiteflies (depending on the genus) operating as natural vectors. Disease symptoms may be expressed in leaves, fruits and trunk of the woody hosts. Natural Plant viruses grouped within this family have remarkable properties, prominent among which is their genomic size: Citrus tristeza virus (CTV) has the largest (19.3 kb) genome reported for a plant monopartite single-stranded RNA (+) virus. Virions are filamentous and typically flexuous particles, approximately 12 nm in diameter and 650 to 2000 nm in length, with a unique bipolar ("rattlesnake") morphology: the major coat protein (CP) encapsidates most of the genomic RNA, with a minor CP (CPm) coating a small 5'-terminal fragment (virion tail) and other viral-encoded proteins being also incorporated to this tail. The genome is monopartite (genus Closterovirus, type member Beet yellows virus, and genus Ampelovirus, type member Grapevine leafroll-associated virus 3) or bipartite (genus Crinivirus, type member Lettuce infectious yellows virus, with at least one example of tripartite genome). The genomic RNA (or RNA1 in criniviruses) directs translation of the two 5'-proximal ORFs (via a peculiar ribosomal frameshift mechanism and proteolytic processing) that encode replication-related components, with the 3'-proximal ORFs encoding proteins expressed from 3'-coterminally subgenomic RNAs. A genomic signature of members of the family Closteroviridae is the presence of a five-gene block of proteins involved in virion assembly and movement that, in addition to the CP and CPm, includes a small transmembrane protein, a homologue of the HSP70 class of heat-shock proteins and a diverged CP. Members of this family encode suppressors of RNA silencing differing in number (up to three in CTV), and in mode of action: intracellular, intercellular, or both. In this same context Sweet potato chlorotic stunt virus codes for a singular

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The immune systems of human and non-human primates have diverged over time, such that some species differ considerably in their susceptibility, symptoms, and survival of particular infectious diseases. Variation in primate immunity is such that major human pathogens - such as immunodeficiency viruses, herpesviruses and malaria-inducing species of *Plasmodium* - elicit striking differences in immune response between closely related species and within primate populations. These differences in immunity are the outcome of complex evolutionary processes that include interactions between the host, its pathogens and symbiont/commensal organisms. The success of some pathogens in establishing persistent infections in humans and other primates has been determined not just by the molecular evolution of the pathogen and its interactions with the host, but also by the evolution of primate behavior and ecology, microflora, immune factors and the evolution of other biological systems. To explore how interactions between primates and their pathogens have shaped their mutual molecular evolution, *Primates, Pathogens and Evolution* brings together research that explores comparative primate immune function, the emergence of major and neglected primate diseases, primate-microorganism molecular interactions, and related topics. This book will be of interest to anyone curious as to why infectious diseases manifest differently in humans and their closest relatives. It will be of particular interest to scholars specializing in human and non-human primate evolution, epidemiology and immunology, and disease ecology. *Primates, Pathogens and Evolution* offers an overview and discussion of current findings on differences in the molecular mechanics of primate immune response, as well as on pathogen-mediated primate evolution and human and non-human primate health.

Mites pose a serious problem to plants worldwide, attacking crops and spreading disease. When mites damage crops of economic importance the impacts can be felt globally. Mites are among the most diverse and successful of invertebrates, with over 45,000 described species, with many more thousands to be discovered. They are responsible for a significant portion of the losses of crops for food, fibre, industry and other purposes, and require expensive and often controversial pest control measures. Understanding these mites is vital for entomologists, pest researchers, agronomists and food producers. Knowledge of mite pests helps to inform control strategies and optimize the production of economic plants and the agrarian economy. This encyclopedia provides a thorough coverage of the mites and the problems they cause to crops, yet it is easily searchable, organised by mite species and subdivided into helpful headings. It takes a worldwide view of the issue of mites injurious to economic plants, describing mites prevalent in different regions and discussing control methods appropriate in different environments. This book provides an encyclopaedic reference to the major mites, described by family in terms of their internal and external morphology, bio-ecology and family systematics. Methods of mite collection and laboratory study

is described, as well as species diagnostic characteristics, worldwide distribution, host plants, identification by the type of damage they cause and control strategies, including chemical and biological intervention and integrated pest management measures. Mites of the following families are included: (Eriophyoidea, Tarsonemidae, Tuckerellidae, Tenuipalpidae, Tetranychidae, Acaridae, Penthaleidae). *Mites of Economic Plants* is an important resource for students of entomology and crop production, and as a thorough reference guide for researchers and field workers involved with mites, crop damage and food production.

This book is a printed edition of the Special Issue "Forest Pathology and Plant Health" that was published in *Forests*

The first volume to cover the entire nidovirus order, including arteriviruses, toroviruses, roniviruses, and several recently identified human coronaviruses. Provides crucial information for researchers in virology, epidemiology, biochemistry, cell biology, pathogenesis, and antiviral drug development. Synthesizes the most recent research on the basic microbiology of nidoviruses, their genetic replication, and immune system responses. Addresses the impact of the recently developed systems for nidovirus reverse genetics, the unique mechanism of nidovirus RNA synthesis, virus-host cell interactions, emerging nidovirus infections, and potential targets for therapeutic interventions. Serves as essential reading for specialists and for those interested in viral replication and pathogenesis.

In recent years there has been increased interest in growing willow and poplar trees, as fast-growing species that have several purposes, including use as biofuels for energy production. However, silviculture of these trees has been constrained by diseases such as *Melampsora* rusts. This book provides a comprehensive review of over two decades of extensive study of the rust diseases affecting willow and poplar. It provides insights into the population biology of *Melampsora* rusts in Europe, China, India and Chile, the genetics of their resistance, and their interaction with their hosts. The book offers information essential to the development of effective and sustainable disease control measures including the use of willow genotype mixtures and biological control agents.

First published in 1993, completely rewritten, this second edition includes a list of all 210 countries of the world and all of the islands, with comments on the existence of insect and spider collections, both public and private. These listings are arranged alphabetically by country, state/province, and city, with private collections listed under the public collection with which they are registered. Part II of the directory is an alphabetical list of the codes assigned to each of the collections described in Part I. This list is also cross-referenced to variations of the codes used in other works, which will eliminate any confusion over this duplication. This classic work provides a ready reference to all collections and is required by all insect and spider systematists.

Along the undisturbed shores, especially of the Mediterranean Sea and the European North Atlantic Ocean, is a quite widespread plant called *Beta maritima* by botanists, or more commonly sea beet. Nothing, for the inexperienced observer's eye, distinguishes it from surrounding wild vegetation. Despite its inconspicuous and nearly invisible flowers, the plant has had and will have invaluable economic and scientific importance. Indeed, according to Linnè, it is considered "the progenitor of the beet crops possibly born from *Beta maritima* in some foreign country". Recent molecular research confirmed this lineage. Selection applied after domestication has created many cultivated types with different destinations. The wild plant always has been harvested and used both for food and as a medicinal herb. Sea beet crosses easily with the cultivated types. This facilitates the transmission of genetic traits lost during domestication, which selection processes aimed only at features immediately useful to farmers and consumers may have depleted. Indeed, as with several crop wild relatives, *Beta maritima* has been successfully used to improve cultivated beet's genetic resistances against many diseases and pests. In fact, sugar beet cultivation currently would be impossible in many countries without the recovery of traits preserved in the wild germplasm. Dr. Enrico Biancardi graduated from Bologna University. From 1977 until 2009, he was involved in sugar beet breeding activity by the Istituto Sperimentale per le Colture Industriali (ISCI) formerly Stazione Sperimentale di Bieticoltura (Rovigo, Italy), where he released rhizomania and cercospora resistant germplasm and collected seeds of Mediterranean sea beet populations as a genetic resource for breeding and ex situ conservation. Retired since 2009, he still collaborates with several working breeders, in particular, at the USDA Agricultural Research Stations, at the Chinese Academy of Agricultural Science (CAAS), and at the Athens University (AUA). He has edited books, books chapters and authored more than 150 papers. Dr. Lee Panella is a plant breeder and geneticist with the USDA-ARS at Fort Collins, Colorado. He earned his B.S. in Crop and Soil Science from Michigan State University, an M.S. in Plant Breeding from Texas A&M University, and a Ph.D. in genetics from the University of California at Davis. His research focus is developing disease resistant germplasm using sugar beet wild relatives. He is chairman of the USDA-ARS Sugar Beet Crop Germplasm Committee and has collected and worked extensively with sea beet. Dr. Robert T. Lewellen was raised on a ranch in Eastern Oregon and obtained a B.S. in Crop Science from Oregon State University followed by a Ph.D. from Montana State University in Genetics. From 1966 to 2008 he was a research geneticist for the USDA-ARS at Salinas, California, where he studied the genetics of sugar beet and as a plant breeder, often used sea beet as a genetic source to produce many pest and disease resistant sugar beet germplasm and parental lines, while authoring more than 100 publications.

Iran is in the Near East, located between longitudes E 44°02' and 63°20' and latitudes N 25°00' and 39°47'; bordered to the north by the Caspian Sea,

Armenia, Azerbaijan and Turkmenistan; to the east by Afghanistan and Pakistan; to the south by the Persian Gulf and the Gulf of Oman; and to the west by Iraq and Turkey. It occupies 1,648,195km², of which 14% is arable land, 8% forest, 47% natural (i.e. non-arable) pasture and 31% varied environment (Yale et al. 2001). The list contains all species of Coccoidea recorded up to March, 2013 and includes 275 species in 113 genera and 13 families. This present checklist is intended to facilitate access to the most recent data on Iranian Coccoidea for taxonomists and to update the recorded species from Iran. Only records in which Iran is specifically mentioned are cited. New records from Iran are marked with asterisks and the following 32 species are currently only known from Iran.

Celiac disease is a systemic autoimmune process and appears in genetically predisposed individuals, with a well-known cause, consisting in a permanent intolerance to gluten, a protein contained in the flour of wheat, rye, barley and oats. Worldwide celiac disease affects to 1% of the Caucasian and there is recent evidence that the disease is increasing in USA and Finland among other regions in the world. It is considered to be the most prevalent disease with a genetic predisposition. The clinical forms of presentation are varied. The classical form consisting of diarrhea, anemia and failure to thrive is still common in children, but in the adult patients the symptoms resemble the irritable bowel syndrome. Mono-symptomatic forms with extra-intestinal manifestations are frequent. Hematological, cutaneous, articular, hepatic, bone and neurological manifestations are often described. This protean presentation and the lack of awareness explain the delay in diagnosis and suggest that screening in high-risk groups is indicated. The publication of this book written mainly by Spanish and Latin-American clinicians, researchers, and teachers, demonstrates the wide interest and the involvement of different disciplines that are necessary to understand celiac disease and gluten-related pathologies, such as non-celiac gluten-sensitivity. This has a great impact in the general public and in the industry. However, the knowledge of non-celiac gluten-related pathologies remains scarce but presently in the process of being properly defined. This book also highlights the importance of recognizing non-celiac gluten-sensitivity and briefly discusses a new definition. It also provides some perspectives to take into account when studying celiac disease in China and Central America. It describes new observations in Mexico, El Salvador and Costa Rica. The psychosocial impact as studied and reported by Argentinean investigators also adds to the value of this book. Written with a multidisciplinary team, we think that this book could be of interest to a great variety of medical specialists. Due to the systemic nature and variable presentation of celiac disease it certainly is of interest to pediatricians, gastroenterologists, hepatologists, specialists in internal medicine, general practitioners as well as hematologists, immunologists, geneticists, pathologists, rheumatologists, dermatologists, neurologists, gynecologists, neurologists, psychiatrists, psychologists, orthopedic surgeons, specialists in rehabilitation medicine, endocrinologists. Being gluten the cause of these

disorders, the food industry, dietitians and nutritionists will benefit from the valuable information presented in this book.

This book presents an up-to-date review of the ecology of yeast communities in natural ecosystems. It focuses on their biological interactions, including mutualism, parasitism, commensalism and antagonistic interactions, and is closely connected with the volume *Yeasts in Natural Ecosystems: Diversity* by the same editors. Yeasts are the smallest eukaryotic organisms successfully growing under a wide range of environmental conditions. They constantly modify the environment through their own metabolic activities. Although yeasts are among the earlier colonizers of nutrient-rich substrates, their role in ecosystem processes is not limited to the consumption and transformation of simple sugars. They also engage in close relationships with animals, plants and other fungi in the environment as mutualists, competitors, parasites and pathogens. This book reviews the diversity of biological interactions and roles of yeasts in ecosystems and summarises recent concepts and tools developed in community ecology. All of the chapters were written by leading international yeast research experts, and will appeal to researchers and advanced students in the field of microbial ecology.

Obra multiautorial, escrita por más de 90 especialistas de España. Este libro además de revisar ampliamente la obesidad, la diabetes, lípidos y tensión arterial, hace hincapié en las patologías que frecuentemente pueden llevar diferentes grados de desnutrición (patología digestiva, neurológica, oncológica, quirúrgica, infecciosa, traumatológica, etc.). Sin olvidar las peculiaridades de la nutrición en las diversas etapas de la vida y las nuevas tecnologías disponibles para nutrir al paciente de manera artificial en situaciones límite (vías de acceso, formulaciones, etc.). Este último aspecto ha producido el desarrollo de problemas éticos e incluso legales que se desarrollan también en la obra. Igualmente es importante un apartado nuevo en esta edición, como es la Gestión e innovación en las Unidades de Nutrición Clínica para llegar a utilizar en la práctica clínica todo ese conocimiento existente e incluso desarrollar nuevas vías de investigación. Este libro se acompaña de un CD con toda la información gráfica plasmada en el mismo, así como un programa informático que sin duda facilitará la aplicación del arte de la nutrición. INDICE: Dietoterapia. Alteraciones de la energía. Hidratos de carbono. Proteínas y aminoácidos. Lípidos. Metabolismo. Nutrición en patología del tubo digestivo. Patologías específicas. Nutrición en oncología. Dietas en situaciones especiales. Soporte nutricional avanzado. Nutrición en pediatría. Nutrición y aspectos legales.

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This book focuses on the evolution of plant viruses, their molecular classification, epidemics and management, covering topics relating to evolutionary mechanisms, viral ecology and emergence, appropriate analysis methods, and the role of evolution in taxonomy. The currently emerging virus species are increasingly becoming a threat to our way of life, both economically and

physically. Plant viruses are particularly significant as they affect our food supply and are capable of rapidly spreading to new plant species. In basic research, plant viruses have become useful models to analyze the molecular biology of plant gene regulation and cell-cell communication. The small size of DNA genome of viruses possesses minimal coding capacity and replicates in the host cell nucleus with the help of host plant cellular machinery. Thus, studying virus cellular processes provides a good basis for explaining DNA replication, transcription, mRNA processing, protein expression and gene silencing in plants. A better understanding of these cellular processes will help us design antiviral strategies for plants. The book provides in-depth information on plant virus gene interactions with hosts, localization and expression and the latest advances in our understanding of plant virus evolution, their responses and crop improvement. Combining characterization of plant viruses and disease management and presenting them together makes it easy to compare all aspects of resistance, tolerance and management strategies. As such, it is a useful resource for molecular biologists and plant virologists alike.

This Book of Abstracts is the main publication of the 71st Annual Meeting of the European Federation of Animal Science (EAAP). It contains abstracts of the invited papers and contributed presentations of the sessions of EAAP's eleven Commissions: Animal Genetics, Animal Nutrition, Animal Management and Health, Animal Physiology, Cattle Production, Sheep and Goat Production, Pig Production, Horse Production and Livestock Farming Systems, Insects and Precision Livestock Farming.

Blindness and visual impairment impact significantly on an individual's physical and mental well-being. Loss of vision is a global health problem, with approximately 250 million of the world's population currently living with vision loss, of which 36 million are classified as blind. Visual impairment is more frequent in the elderly, with cataract and age-related macular degeneration (AMD) accounting for over 50% of cases globally. Oxidative stress has been strongly implicated in the pathogenesis of both conditions, and consequently the role of nutritional factors, in particular carotenoids and micronutrient antioxidants, have been investigated as possible preventative or therapeutic strategies. Dry eye syndrome (DES) is one of the most common ophthalmic conditions in the world. DES occurs where the eye does not produce enough tears and/or the tears evaporate too quickly leading to discomfort and varying degrees of visual disturbance. There has recently been a great deal of interest in the potential for oral or topical supplementation with essential fatty acids (EFAs), specifically omega-3 and omega-6 fatty acids, as an adjunct to conventional treatments for DES. The objective of this Special Issue on 'Nutrition and Eye Health' is to publish papers describing the role of nutrition in maintaining eye health and the use of nutritional interventions to prevent or treat ocular disease. A particular (but not exclusive) emphasis will be on papers (reviews and/or clinical or experimental studies) relating to cataract, AMD and DES.

The seventh volume in the Institute of Classical Archaeology's series on the rural countryside (chora) of Metaponto is a study of the Greek sanctuary at Pantanello. The site is the first Greek rural sanctuary in southern Italy that has been fully excavated and exhaustively documented. Its evidence—a massive array of distinctive structural remains and 30,000-plus artifacts and ecofacts—offers unparalleled insights into the development of extra-urban cults in Magna Graecia from the seventh to the fourth centuries BC and the initiation rites that took place within the cults. Of particular interest are the analyses of the well-preserved botanical and faunal material, which present the fullest record yet of Greek rural sacrificial offerings, crops, and the natural environment of southern Italy and the Greek world. Excavations from 1974 to 2008 revealed three major phases of the sanctuary, ranging from the Archaic to Early Hellenistic periods. The structures include a natural spring as the earliest locus of the cult, an artificial stream (collecting basin) for the spring's outflow, Archaic and fourth-century BC structures for ritual dining and other cult activities, tantalizing evidence of a Late Archaic Doric temple atop the hill, and a farmhouse and tile factory that postdate the sanctuary's destruction. The extensive catalogs of material and special studies provide an invaluable opportunity to study the development of Greek material culture between the seventh and third centuries BC, with particular emphasis on votive pottery and figurative terracotta plaques.

Population is ageing at an unprecedented speed globally. As concept, ageing is considered a continuous process starting from birth and is accompanied by various physiological changes and a number of chronic diseases that affect health and quality of life. Ageing as a continuous process is depending on life course exposures to health risks, lifestyle and nutrition, socioeconomic background, and other factors. There is considerable interest among scientists regarding the direct and indirect effect of nutrition in optimal ageing. Nutrition has a beneficial effect in a variety of chronic disease that impact the process of ageing. Given the importance of this issue, the journal *Nutrients* is planning a Special Issue on “Ageing and Nutrition through Lifespan” with the aim of providing a source for accurate, up-to-date scientific information on this topic. We invite you and your co-workers to consider submission of your original research findings or a review article on the topic. Manuscripts should focus on the direct impact of specific food components, dietary patterns, energy intake, macro-, micro- nutrients, alcohol intake, food insecurity as well as malnourishment and appetite to the ageing process (healthy, active, successful ageing, frailty and other similar indices) across lifespan. In a similar way, we also welcome manuscripts that focus on the indirect effect of nutrition to the ageing process throughout the pathway of chronic disease (i.e., obesity, diabetes, depression and mental diseases).

The sterile insect technique (SIT) is an environment-friendly method of pest control that integrates well into area-wide integrated pest management (AW-IPM) programmes. This book takes a generic, thematic, comprehensive, and global

approach in describing the principles and practice of the SIT. The strengths and weaknesses, and successes and failures, of the SIT are evaluated openly and fairly from a scientific perspective. The SIT is applicable to some major pests of plant-, animal-, and human-health importance, and criteria are provided to guide in the selection of pests appropriate for the SIT. In the second edition, all aspects of the SIT have been updated and the content considerably expanded. A great variety of subjects is covered, from the history of the SIT to improved prospects for its future application. The major chapters discuss the principles and technical components of applying sterile insects. The four main strategic options in using the SIT — suppression, containment, prevention, and eradication — with examples of each option are described in detail. Other chapters deal with supportive technologies, economic, environmental, and management considerations, and the socio-economic impact of AW-IPM programmes that integrate the SIT. In addition, this second edition includes six new chapters covering the latest developments in the technology: managing pathogens in insect mass-rearing, using symbionts and modern molecular technologies in support of the SIT, applying post-factory nutritional, hormonal, and semiochemical treatments, applying the SIT to eradicate outbreaks of invasive pests, and using the SIT against mosquito vectors of disease. This book will be useful reading for students in animal-, human-, and plant-health courses. The in-depth reviews of all aspects of the SIT and its integration into AW-IPM programmes, complete with extensive lists of scientific references, will be of great value to researchers, teachers, animal-, human-, and plant-health practitioners, and policy makers.

Libro especializado que se ajusta al desarrollo de la cualificación profesional y adquisición de certificados de profesionalidad. Manual imprescindible para la formación y la capacitación, que se basa en los principios de la cualificación y dinamización del conocimiento, como premisas para la mejora de la empleabilidad y eficacia para el desempeño del trabajo.

Este libro plantea, de un modo comprensible, los aspectos más importantes a considerar en el control de plagas y enfermedades forestales. Los agentes nocivos que causan enfermedades a las plantas leñosas en el medio forestal pueden ser bióticos (patógenos) o abióticos, ya sean estos por causas naturales (vientos, incendios, etc.) o bien debidos a las actividades humanas directas (podas, deforestaciones, etc.) e indirectas (contaminaciones). Diferentes animales invertebrados (insectos, ácaros, etc.) actúan como parásitos de árboles y arbustos, formando plagas en el monte cuando eluden los mecanismos naturales que controlan sus poblaciones. El primer capítulo estudiará los agentes que causan daños a las plantas forestales. En el segundo capítulo se analizarán los productos y tratamientos fitosanitarios, así como su peligrosidad para la salud humana o el medio ambiente y los residuos generados por ellos. Los diferentes equipos de aplicación fitosanitaria varían según el método que utilizan para llevar a cabo el tratamiento, así como por la naturaleza física de cada producto químico empleado: sólido-líquido-gaseoso. Los distintos estados físicos en los que se

pueden distribuir los productos químicos aplicados a la sanidad vegetal, dan lugar a diversos equipos de tratamiento fitosanitario, que serán tratados en el tercer capítulo. Los productos fitosanitarios tienen la consideración legal de sustancias químicas peligrosas y su aplicación en los montes ha de seguir la normativa vigente respecto a la correcta gestión de los residuos generados y la protección a la salud humana y el medio ambiente, cuyo incumplimiento daría lugar a infracciones y sanciones. El cuarto capítulo abordará esta materia. El quinto y último capítulo transmite los conocimientos básicos necesarios para estudiar la lucha biológica contra las plagas forestales, así como su normativa. Postharvest losses of fresh produce have always been an obstacle in agriculture. About one third of global fresh fruits and vegetables are lost because their quality has dropped below an acceptance limit. The postharvest quality and shelf life of fresh produce are also determined before harvest. However, postharvest quality is also affected by many practices during and after harvest such as temperature management, controlled and modified atmosphere, coatings, physical treatments, biocontrol, and more. This Special Issue on "Postharvest Disease Development: Pre and/or Postharvest Practices" gathers papers that deal with preharvest and postharvest factors that affect and maintain fresh produce quality after harvest.
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