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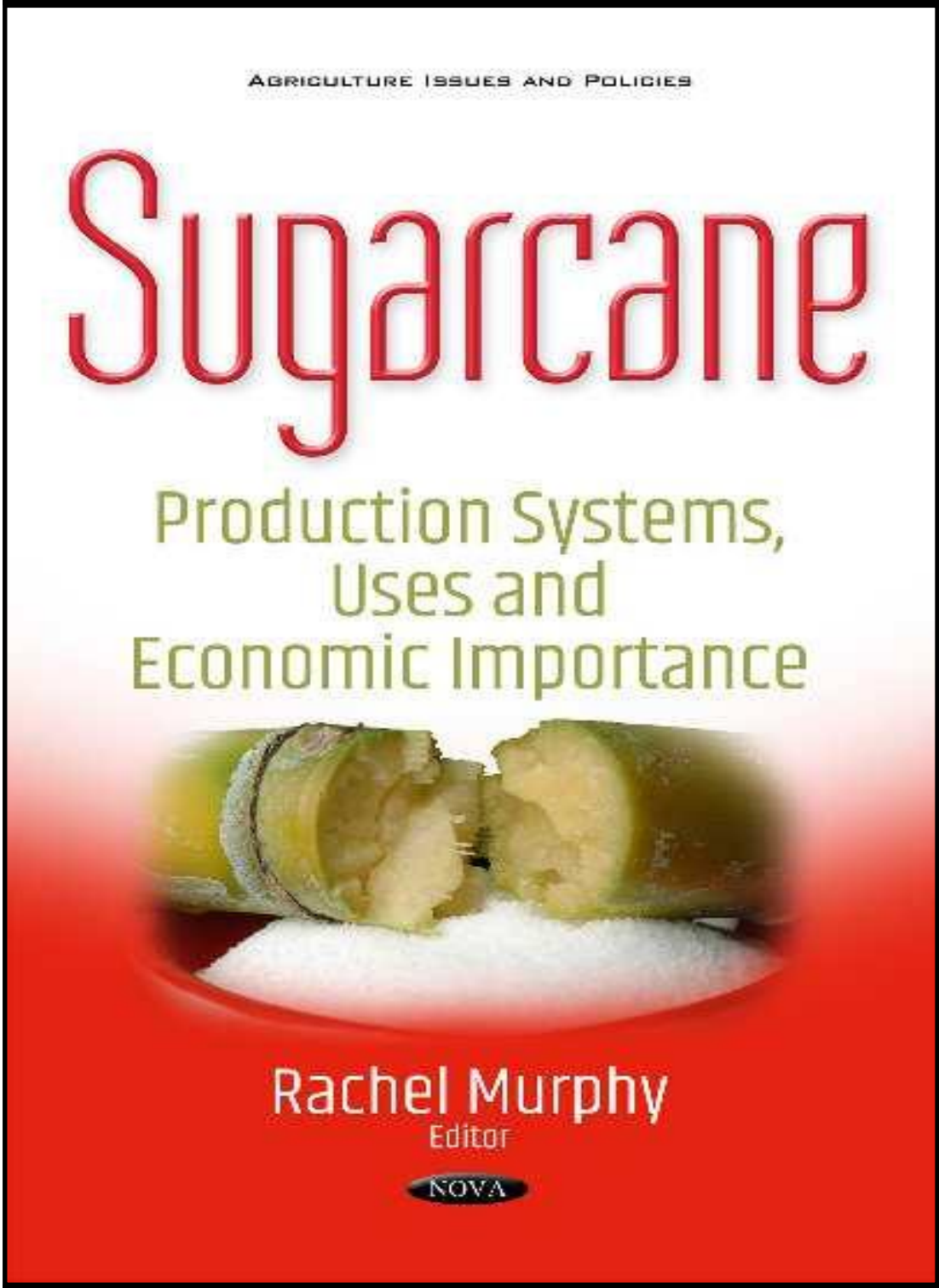

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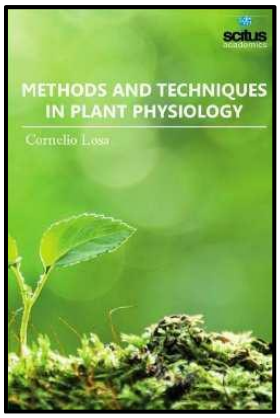


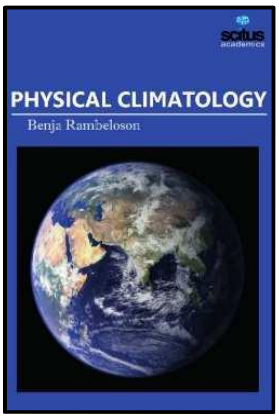
Methods and Techniques in Plant Physiology

Edited by Cornelio Losa

Plants are loved by lots of people - in our homes, on our tables as foods, and in hundreds of products we use every day. Plants have many different usages. But how do plants develop from seeds, and how do they grow? This is where plant physiology comes into play. Plant physiology is the study of how different parts of plants function. It includes many aspects of plant life, including nutrition, movement, and growth. Fundamental processes such as photosynthesis, respiration, plant nutrition, plant hormone functions, tropisms, nastic movements, photoperiodism, photomorphogenesis, circadian rhythms, environmental stress physiology, seed germination, dormancy and stomata function and transpiration, both parts of plant water relations, are studied by plant physiologists. Plant physiology includes the study of biological and chemical processes of individual plant cells. Plant cells have a number of features that distinguish them from cells of animals, and which lead to major differences in the way that plant life behaves and responds differently from animal life. This book explores how plant physiology helps us to understand the many functions and behaviors of plants.

Methods and Techniques in Plant Physiology is dedicated to physiology, biochemistry, cellular and molecular biology, genetics, biophysics, and environmental biology of plants. Techniques related to various physiological phenomenon are focus of tremendous interest and importance to plant physiologist, agronomist, horticulturist, ecologist, and biochemists.

HB 9781681175430 £160.99 January 2017 Scitus Academics 348 pages



Physical Climatology

Edited by Benja Rambeloson

The gaseous envelop surrounding the earth is called atmosphere while the science dealing with the study of the atmospheric components and characteristics is called meteorology and climatology. Climatology is the scientific study of climate and is a major branch of meteorology. Climatology is the tool that is used to develop long-range forecasts. There are three principal approaches to the study of climatology: physical, descriptive, and dynamic. The physical climatology approach seeks to explain the differences in climate in light of the physical processes influencing climate and the processes producing the various kinds of physical climates, such as marine, desert, and mountain. Physical climatology covenants with explanations of climate rather than with presentation.

Physical Climatology deals with the interpretation of factors responsible for the spatial and temporal variations of exchange of air circulations, heat and humidity. It studies various elements of weather namely insolation, temperature, precipitation, fogs, visibility etc. Different elements are formed due to combinations of these weather elements. The occurrences of different combinations of these weather elements are accomplished through different processes and mechanisms. Thus, these processes of exchange of heat, humidity, and momentum between atmosphere and earth's surface are also studied thoroughly. It is thus, evident that physical climatology studies the factors and processes of regional variations of climatic conditions.

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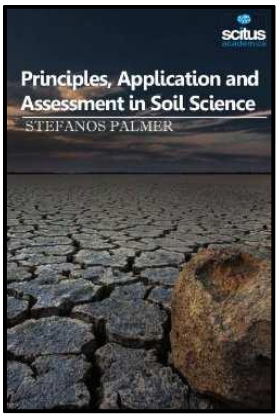

Principles, Application and Assessment in Soil Science

Stefanos Palmer

Our dependence on soil, and our interest about it, is prominent to the investigation of changes within soil processes. The diversity and dynamics of soil are facilitating new discoveries and insights, which help us to understand the deviations in soil processes. Consequently, this allows us to take the necessary measures for soil protection, thus promoting soil health. Soil is a natural body comprised of solids (minerals and organic matter), liquid, and gases that occurs on the land surface, occupies space, and is characterized by one or both of the following: horizons, or layers, that are distinguishable from the initial material as a result of additions, losses, transfers, and transformations of energy and matter or the ability to support rooted plants in a natural environment. Soil science is the study of soil as a natural resource on the surface of the Earth including soil formation, classification and mapping; physical, chemical, biological, and fertility properties of soils; and these properties in relation to the use and management of soils. The study of man's impact on the soil has been around for a long time.

From the basic concepts of agriculture to crop rotation to modern lab-mixed soils and fertilizers, all these ideas come from studying the soil and how humans use it. Even so, it wasn't until the 20th century that the field of soil science became a recognized scientific discipline. While many of the usages of soil science are well known, even to a layperson, some are less obvious. These fields work heavily with ground contamination remediation from landfills, toxic dumping and ecological accidents. The book *Principles, Application and Assessment in Soil Science* covers an up-to-date account of the current state of knowledge in recent practices and assessments in soil science. Furthermore, it presents an inclusive evaluation of the effect of residue/waste application on soil properties and, additional, on the mechanism of plant adaptation and plant growth.

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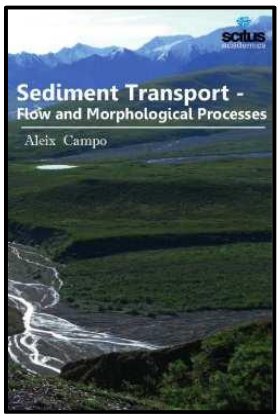

Sediment Transport
Flow & Morphological Processes

Edited by Aleix Campo

Sediment refers to the conglomerate of materials, organic and inorganic, that can be carried away by water, wind or ice These particulates are typically small, with clay defined as particles less than 0.00195 mm in diameter, and coarse sand reaching up only to 1.5 mm in diameter. However, during a flood or other high flow event, even large rocks can be classified as sediment as they are carried downstream. Sediment is a naturally occurring element in many bodies of water, though it can be influenced by anthropogenic factors. Sediment transport is applied to solve many environmental, geotechnical, and geological problems. Measuring or quantifying sediment transport or erosion is therefore important for coastal engineering. Movement of sediment is important in providing habitat for fish and other organisms in rivers. Therefore, managers of highly regulated rivers, which are often sediment-starved due to dams, are often advised to stage short floods to refresh the bed material and rebuild bars. Geologists can use inverse solutions of transport relationships to understand flow depth, velocity, and direction, from sedimentary rocks and young deposits of alluvial materials.

Sediment Transport - Flow and Morphological Processes provide information on basic and advanced flow mechanisms including turbulence and movement of particles in water. Examples of computational procedures for sediment transport and morphological changes are presented. This book put together recent developments on sediment transport and morphological processes. Sediment transport is important in the fields of sedimentary geology, geomorphology, civil engineering and environmental engineering. Knowledge of sediment transport is most often used to determine whether erosion or deposition will occur, the magnitude of this erosion or deposition, and the time and distance over which it will occur.

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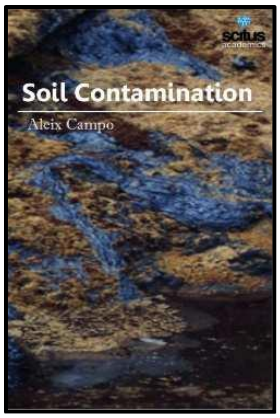

Soil Contamination

Edited by Aleix Campo

Soil contamination has rigorously improved over the last decades, mainly due to petroleum hydrocarbons, solvents, pesticides, lead and other heavy metals from industrial wastes and human activities. Soil contamination or soil pollution is caused by the presence of xenobiotic (human-made) chemicals or other alteration in the natural soil environment. Sustainable efforts are required to develop sound risk assessment procedures, remediation strategies and sustainable soil management policies. Contaminated or polluted soil directly affects human health through direct contact with soil or via inhalation of soil contaminants which have vaporized; potentially greater threats are posed by the infiltration of soil contamination into groundwater aquifers used for human consumption, sometimes in areas apparently far removed from any apparent source of above ground contamination. Not unexpectedly, soil contaminants can have significant deleterious consequences for ecosystems.

Soil Contamination provides comprehensive overview in the perspective of contaminated soil monitoring and remediation approaches. Soil is an inimitable resource that sustains life on the planet, challenged by food and energy demands of an increasing population. Therefore, soil contamination set up a critical issue to be addressed if we are to secure the life quality of present and future generations. The book covers topics on monitoring of dioxin, furan, hydrocarbons and heavy metals level in soils - bioindicators and biomarkers for the assessment of soil toxicity - use of reflectance spectroscopy for soil contaminants and waste material detection - remediation technologies and strategies.

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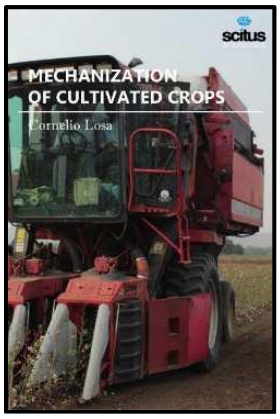
AGRICULTURAL ENGINEERING & MACHINERY



Mechanization of Cultivated Crops

Edited by Cornelio Losa

Cultivation is the act of caring for or raising plants. Cultivation is loosening and breaking up (tilling) of the soil. The soil around existing plants is cultivated (by hand using a hoe, or by machine using a cultivator) to destroy weeds and promote growth by increasing soil aeration and water infiltration. Soil being prepared for the planting of a crop is cultivated by a harrow or cultivator. A crop is any cultivated plant, fungus, or alga that is harvested for food, clothing, livestock fodder, biofuel, medicine, or other uses. In contrast, animals that are raised by humans are called livestock, except those that are kept as pets. Mechanization helps the farmers to achieve relevance in farm operations with selfesteem and apply costly input with reduced quantity for better efficiency and effectiveness. Small and marginal farmers can now make use of high capacity agricultural machines on custom hire basis. The consequences of this development can be seen in many phases such as growth in productivity and production per worker, accuracy in application of crop inputs, growth in cropping intensity due to timeliness of operations, growth in the quality of produce, fall in grain losses and growth in farm employment. Mechanization also encourages better management of farm inputs, improvement in working conditions and performance of jobs that would otherwise be difficult by hand. It also helps in reducing the cost of production. *Mechanization of Cultivated Crops* provides comprehensive overview of the farm tools, equipment and methods used in various operations such as land development, tillage, seeding/planting, interculture, fertilizer application, plant protection, and harvesting.

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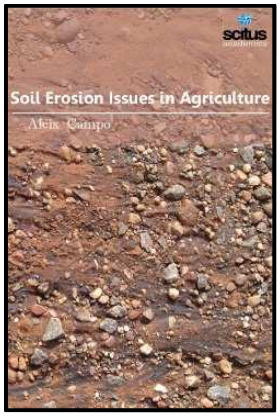
AGRONOMY & CROP PRODUCTION



Soil Erosion Issues in Agriculture

Edited by Aleix Campo

Soil is the earth's fragile skin that anchors all life on Earth. It is comprised of countless species that create a dynamic and complex ecosystem and is among the most precious resources to humans. Increased demand for agriculture commodities generates incentives to convert forests and grasslands to farm fields and pastures. The transition to agriculture from natural vegetation often cannot hold onto the soil and many of these plants, such as coffee, cotton, palm oil, soybean and wheat, can actually increase soil erosion beyond the soil's ability to maintain it. Soil erosion is a gradual process that occurs when the impact of water or wind detaches and removes soil particles, causing the soil to deteriorate. Soil deterioration and low water quality due to erosion and surface runoff have become severe problems worldwide. The problem may become so severe that the land can no longer be cultivated and must be abandoned. Many agricultural civilizations have declined due to land and natural resource mismanagement, and the history of such civilizations is a good reminder to protect our natural resources. Erosion is a serious problem for productive agricultural land and for water quality concerns. *Soil Erosion Issues in Agriculture* deals with several aspects of soil erosion, focusing on its connection with the agricultural world. Controlling the sediment must be an integral part of any soil management system to improve water and soil quality. Eroded topsoil can be transported by wind or water into streams and other waterways. The effects of soil erosion go beyond the loss of fertile land. It has led to increased pollution and sedimentation in streams and rivers, clogging these waterways and causing declines in fish and other species. And degraded lands are also often less able to hold onto water, which can worsen flooding. Sustainable land use can help to reduce the impacts of agriculture and livestock, preventing soil degradation and erosion and the loss of valuable land to desertification.

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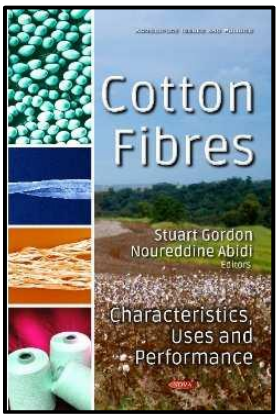


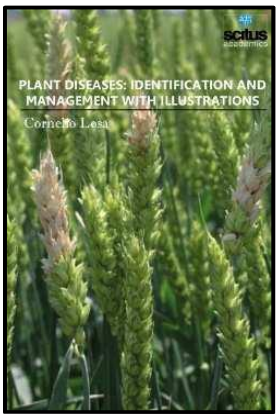
Cotton Fibres
Characteristics, Uses & Performance
Edited by Stuart Gordon, Noureddine Abidi

Cotton's importance as a crop and as a textile fibre is still significant. However, its importance has been and will continue to be seriously challenged by the growth in consumption of man-made fibre, particularly polyester.

This book is divided into three parts. The first part, covering seven chapters, describes the chemical and physical properties of cotton fibre. These chapters focus on the differences between cotton and polyester fibre properties, and highlight areas researchers will need to pursue to keep cotton competitive. Two lesser discussed properties receive attention: Cotton fibre's wax layer and cotton cellulose's glass transition temperature. The hydrophobic wax layer that protects cotton during mechanical processing and aids the dispersal of its seed by water, has been central in the development of the spinning technology used by cotton and polyester fibre alike. The wax provides lubrication between the fibre surface and the processing surfaces during opening, carding and spinning. The chapter on cotton cellulose's glass transition temperature introduces the less appreciated concept that cotton's cellulose can be plasticized at particular temperatures and moisture contents, wherein cotton's mechanical properties, e.g. elongation to break, can be improved. The range of fibre property values and the variation found in cotton stand as markers for future researchers to improve by way of plant and crop management, breeding (including genetic modification), and chemical processing. Long standing objectives include longer, stronger and finer fibre, which all translate to better looking and performing yarn and fabric. However, properties that give cotton fabric improved resilience, drape and dyed-colour appearance also stand as objectives to improve cotton's competitiveness.

The second part of the book introduces uses of cotton that are less considered; cotton nonwovens, bandages impregnated with natural anti-microbial agents and cellulose aerogels are products with excellent potential, and deserve further research and development. Standard textile products are not discussed in this section. These are discussed in the third and final part of the book. The final four chapters focus on the current performance of cotton in different apparel and home furnishing markets, in the commodity marketplace, and in spinning and dyeing. These final chapters point to a challenging future for cotton if the industry and its researchers curtail their pursuit of better crop productivity, fibre quality, processing technology and product development.

HB 9781536109139 £219.50 May 2017 Nova Science Publishers 365 pages



Plant Diseases
Identification & Management with Illustrations

Edited by Cornelio Losa

All species of plants, wild and cultivated alike, are subject to disease. Although each species is susceptible to characteristic diseases, these are, in each case, relatively few in numbers. Diseases are the outcome of some disturbance in the normal life process of the plant. Diseases may be the result of living and/or nonliving causes. Biotic diseases are caused by living organisms (e.g., fungi, bacteria, and viruses). Abiotic diseases are caused by non-living environmental conditions, (e.g., soil compaction, wind, frost, soil salt damage, and girdling roots). Weather plays a large role in fungal disease development. Plant diseases have caused severe losses to humans in several ways. The goal of plant disease management is to reduce the economic and aesthetic damage caused by plant diseases. Traditionally, this has been called plant disease control, but current social and environmental values deem “control” as being absolute and the term too rigid. More multifaceted approaches to disease management, and integrated disease management, have resulted from this shift in attitude, however, single, often severe, measures, such as pesticide applications, soil fumigation or burning are no longer in common use.

Plant Diseases: Identification and Management with Illustrations provides practical, conversant information that helps in the successful management of diseases on food, fiber, and landscape plants. information on; the precise identification of diseases and the pathogens that cause them; the development of epidemics of plant diseases; the application of biotechnology in plant pathology; the use of alternative methods of crop production and disease management that help protect the environment.

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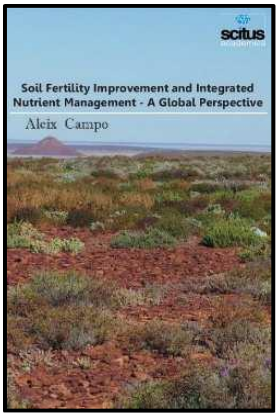

Soil Fertility Improvement & Integrated Nutrient Management
A Global Perspective

Edited by Aleix Campo

Crops need air, sun, water, and soil to thrive. When it comes to soil, however, quality usually trumps quantity. Rich and fertile land boasts a healthy mixture of phosphorous, potassium, and nitrogen, along with water, air, and soil microorganisms that break down organic matter. Soil is an incredibly complex substance. It has physical and chemical properties that allow it to sustain living organisms—not just plant roots and earthworms, but hundreds of thousands of different insects, wormlike creatures and microorganisms. When these organisms are in balance, soil cycles nutrients efficiently, stores water and drains the excess, and maintains an environment in which plants can thrive. Plant nutrition is only one of more than fifty factors which directly affect both crop yield and quality. The availability of required nutrients, together with the degree of interaction between these nutrients and the soil, play a vital role in crop development. A deficiency in any one required nutrient or, a soil condition that limits or prevents a metabolic function from occurring can limit plant growth. A soil nutrient management plan should include analyzing soil deficiencies to determine the type, application rate, application interval, and the placement of any nutrients required to optimize short and long term productivity. Soil nutrient management involves not only the physical properties and mineral structure of the soil, but also the balance between soil pathogens and beneficial microbes. Beneficial microbes increase nutrient availability, reduce disease, reduce nutrient losses, and help degrade toxic compounds. Soil Fertility Improvement and Integrated Nutrient Management - A Global Perspective provides a basic introduction to the biological, chemical, and physical properties affecting soil fertility and plant nutrition. The advances in the field of soil fertility are described in this book along with information regarding nutrient management.

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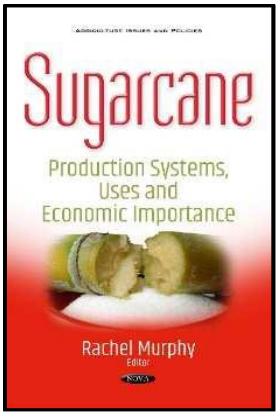
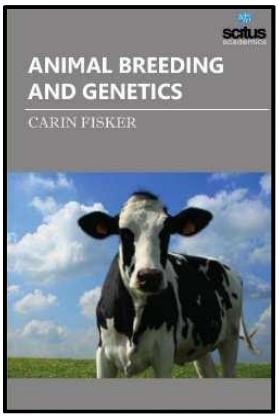


Sugarcane
Production Systems, Uses & Economic Importance
Edited by Rachel Murphy

Sugarcane is a globally important crop since it provides nearly 80% of the sugar consumed worldwide. The cultivation of sugarcane is one of the most important activities around the world due to their alimentary, environmental, social, economic implications and potential productive diversification with coproducts and byproducts. This book provides new research on production systems, uses and economic importance of sugarcane.

HB 9781536108989 £152.50 May 2017 Nova Science Publishers 225 pages

ANIMAL HUSBANDRY



Animal Breeding and Genetics
Carin Fisker

From the very early days human beings depend on animals and animal products for food and other requirements. In dairy and poultry farms high yielding animals are reared. These high yielding animals are produced by hybridization experiments. Previously the animals were developed basing on unscientific methods. Before the discovery of principles of heredity human beings have selected the animals with required characters and learned to develop the plants having the selected characters. This phenomenon is called Artificial selection. However, an increased knowledge of biology, especially genetics, has helped in improving the quality of animals and animal products as per the human requirements. The revolution in genetic mapping technology and the advent of whole genome sequences have turned quantitative genetics into one of the fastest growing areas of biology. The *animal breeding and genetics* provide new scientific discoveries to age-old livestock production problems to help producers and consumers. Animal breeding addresses the evaluation of the genetic value of livestock. Selecting for breeding animals with superior EBV in growth rate, egg, meat, milk, or wool production, or with other desirable traits has revolutionized livestock production throughout the world. The scientific theory of animal breeding incorporates population genetics, quantitative genetics, statistics, and recently molecular genomics. The book *animal breeding and genetics* encompasses topics such as genetic variability, genetic testing, and animal breeding focuses on various aspects of animal heredity, or the passing of traits from one generation to the next. It is of valuable tool for students, researchers, professors and a variety of employers, including government agencies, zoos, and food producers.

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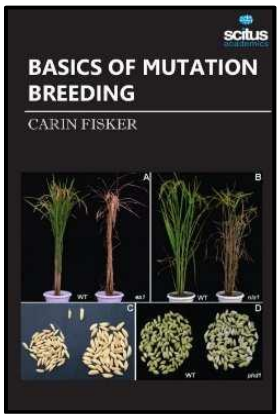

Basics of Mutation Breeding

Carin Fisker

Plant breeding is estimated to have begun 9,000 – 11,000 years ago and mutation breeding is simply a new device in the breeder's toolkit. Mutation breeding has been used since the 1930s. Mutation breeding, sometimes referred to as "variation breeding", is the process of exposing seeds to chemicals or radiation in order to generate mutants with desirable traits to be bred with other cultivars. Plants created using mutagenesis are sometimes called mutagenic plants or mutagenic seeds. Normal breeding involves cross breeding, from the parents, through a multi-generational process that may take four to five years to eliminate an unwanted genome and develop the sought-after traits before trial crops are tested, adding more time. Mutation breeding is based on selfing mutants until the induced character has a stable expression in the advanced mutant generations. Mutation breeding has many comparative advantages. It is cost effective, quick, proven and robust. In addition, mutation breeding is transferrable, ubiquitously applicable, non-hazardous and environmentally friendly. There are different kinds of mutagenic breeding such as using chemical mutagens like EMS and DMS, radiation and transposons are used to generate mutants. Mutation breeding is commonly used to produce traits in crops such as larger seeds, new colors, or sweeter fruits that either cannot be found in nature or have been lost during evolution. The book *Basics of Mutation Breeding* covers information on various types of mutagens and their effects, procedures for using mutagens for crop improvement, types of mutations (micro and macro) with statistical techniques to handle the mutation population. The book will be useful for both undergraduate and post graduate students of agriculture.

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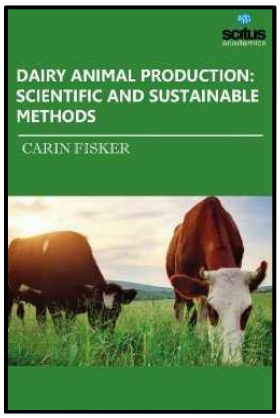

Dairy Animal Production
Scientific & Sustainable Methods

Edited by Carin Fisker

World milk production is almost entirely derived from cattle, buffaloes, goats, sheep and camels. Other less common milk animals are yaks, horses, reindeers and donkeys. The presence and importance of each species varies significantly among regions and countries. The key elements that determine the dairy species kept are feed, water and climate. Other factors that may influence the presence of a dairy species are market demand, dietary traditions and the socio-economic characteristics of individual households. Although cattle are kept in a wide range of environments, other dairy species make dairying possible in adverse environments that often cannot support any other type of agricultural production. Sheep allow milk production in semi-arid regions around the Mediterranean, goats in regions with poor soils in Africa, horses in the steppes of Central Asia, camels in arid lands, buffaloes in wet tropical regions, and yaks in high mountainous areas such as the Tibetan Plateau. In developing countries, milk producing animals are often raised in subsistence and smallholder systems. These animals are usually multi-purpose and grow and produce under difficult conditions, such as low inputs, minimum management and harsh environments. They are well adapted to local conditions, but have low genetic potential for milk production. Dairy cattle are cattle cows bred for the ability to produce large quantities of milk, from which dairy products are made. Dairy cows generally are of the species Bos taurus. Historically, there was little distinction between dairy cattle and beef cattle, with the same stock often being used for both meat and milk production. Today, the bovine industry is more specialized and most dairy cattle have been bred to produce large volumes of milk. Dairy cows may be found either in herds on dairy farms where dairy farmers own, manage, care for, and collect milk from them, or on commercial farms. Herd sizes vary around the world depending on landholding culture and social structure. The book *Dairy Animal Production: Scientific and Sustainable Methods* deals with basic management aspects and production methods of dairy animal. The informations are carefully presented in concise manner and to the point.

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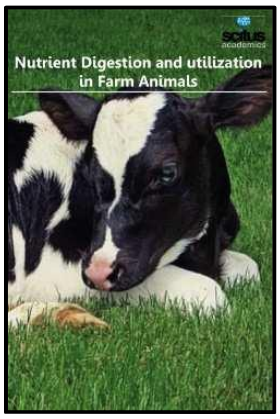

Nutrient Digestion and Utilization in Farm Animals

Edited by Almiro Salazar

Digestion in animals involves mechanical, enzymatic, and microbial processes in the gastrointestinal tract, which convert large feed particles to a size which can be absorbed, transported, and used by the animals. The digestive systems of all farm animals are not the same, rendering them less competitive and able to adapt to a wide range of available feed resource niches. Based on the structure and functions of the digestive tract, farm animals are divided into two major groups: ruminants or polygastrics, e.g. cattle, buffaloes, sheep, and goats; and non-ruminants or monogastrics, e.g. horses, donkeys, rabbits, dogs and cats. The key difference between these two groups of animals lies in the structure of the stomach. Ruminants, as opposed to non ruminants, have three additional stomach compartments where digestion takes place in different environments. In general, for farm animals the processes associated with digestion include prehension, ingestion, grinding or mastication, digestion of feed, absorption of nutrients, and excretion of waste products.

Nutrient Digestion and Utilization in Farm Animals to present comprehensive topics on nutrient digestion and utilization in cattle, sheep, pigs, poultry and fish. The book covers a range of topics and modelling approaches; these are absorption and passage; growth and development; mineral metabolism; methodology; environmental impact; and animal production and feed evaluation. Deterministic, stochastic, empirical and mechanistic modelling approaches are described. This book will be of significant interest to researchers and students of animal science, particularly those concerned with nutrition modelling.

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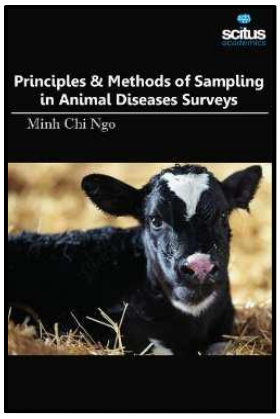


Principles & Methods of Sampling in Animal Diseases Surveys

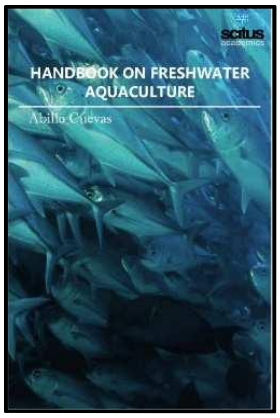
Julio Mendes

Animal diseases can have a negative impact on animal welfare, public health and the economy. This particularly applies to infectious diseases like bird flu, Q fever and swine fever. Farmers, vets and the government work together to control these diseases. Animal diseases result in increased mortality and morbidity in livestock populations. Disease may affect performance through reduced fertility, delays in reaching maturity for reproduction or sale, decreased production of milk, eggs, or wool, decreased draught power, or decreased weight of fattening or cull animals. Animals raised by small-scale producers and backyard farmers in developing countries tend to be plagued with re-infection, and they typically lack access to diagnosis and control programs. Epidemiological studies usually involve sampling from livestock populations in some way in order to make inferences about a disease or diseases present in these populations.

Principles & Methods of Sampling in Animal Diseases Surveys presents methods and techniques for conducting an animal disease surveillance program, and developing an animal health monitoring system. It will be of valued in veterinary epidemiology and regulatory medicine, where there is need for a crisp assortment of material on animal disease monitoring, surveillance, and reporting tactics. This need arises from a new age of international trade regulations established on animal diseases, new demands for accountability in utilization of research funds, and calls for prioritizing and economically justifying animal health regulatory and diagnostic accomplishments. The book is intended to researchers & practitioners, and other animal health authorities who are working in world-wide based programs.

HB 9781681176666 £160.99 January 2017 Scitus Academics 320 pages

AQUACULTURE & FISH-FARMING



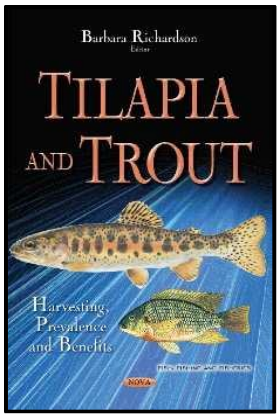
Handbook on Freshwater Aquaculture

Abilio Cuevas

Aquaculture is the practice of cultivating aquatic animals and plants in managed aquatic environments. Aquaculture in salt-water or marine environments is called mariculture. Fish culture, or pisciculture, refers to the husbandry of finfish. The most popular aquaculture species are finfish grown in fresh waters, accounting for over 40 percent of total aquaculture production. Aquaculture has a long history, but for much of the world it remains somewhat of a novelty, being practiced less than agriculture or capture fisheries. During the last 30 years of the twentieth century, aquaculture grew at an average annual rate of 10 percent, and emerged as the only growth sector of the fisheries industry. At the beginning of the twenty-first century, aquaculture's share of total fish production worldwide was 25 percent, and that proportion is projected to increase. Even though the production of fish from capture fisheries has not substantially increased over the past decade, capture fisheries nevertheless account for a far greater percentage than aquaculture. Aquaculture is practiced for a number of reasons, chief among them being food production and income generation. Most fresh-water aquaculture production (over 70 percent) comes from low-income, food-deficit countries. Even in the poorest countries, fish farming is seldom solely a subsistence activity. So while farmers may consume some of their product, typically fish are sold, thereby enabling farmers to earn income to purchase other goods and services. Aquaculture has two types, freshwater aquaculture and salt-water aquaculture. With the ever increasing demand of fish and increased fish catching activities, sea is facing shortage of fish and cannot fulfil this much demand. Freshwater aquaculture has also improved economies of many areas by providing new job opportunities. The fish produced there is mostly used by industries for processing which is then made available as canned food item.

Handbook on Freshwater Aquaculture is the ultimate guide to freshwater aquaculture, an essential resource for both professional aquaculturists and backyard fish growers.

HB 9781681175409 £160.99 January 2017 Scitus Academics 342 pages



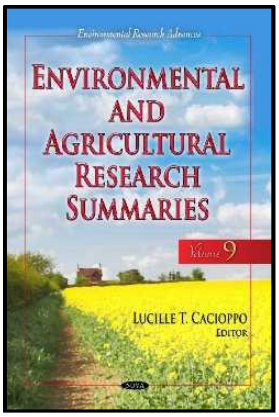
Tilapia & Trout
Harvesting, Prevalence & Benefits

Edited by Barbara Richardson

This book discusses the harvesting, prevalence and benefits of tilapia and trout. Chapter One begins with a review of the risks and benefits of tilapia. Chapter Two provides a human health risk assessment of heavy metals in the consumption of the fish. Chapter Three studies the utilization of by-products and waste generated from the tilapia processing industry. Chapter Four reviews thermal ecology of brown trout and the climate change challenge. Chapter Five examines reparative neurogenesis in the adult trout brain and peculiarity of development in the trout's brain cells in primary culture. Chapter Six focuses on the effects of plant-based feeds on the immune responses of rainbow trout.

PB 9781536105575 £78.50 January 2017 Nova Science Publishers 140 pages

ENVIRONMENTAL & AGRICULTURAL RESEARCH

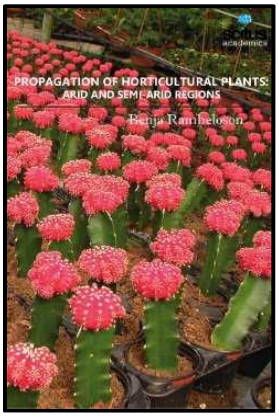


Environmental & Agricultural Research Summaries (with Biographical Sketches)
Volume 9
Edited by Lucille T. Cacioppo

This book compiles research summaries from a number of different focuses in the important field of environment and agriculture.

HB 9781536114164 £219.50 May 2017 Nova Science Publishers 433 pages

HORTICULTURE

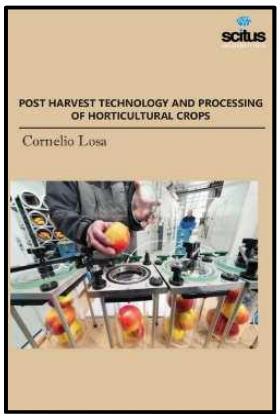


Propagation of Horticultural Plants
Arid & Semi-Arid Regions
Edited by Benja Rambeloson

Over the past 40 years, the world's agricultural systems have been changing in response to population pressures. Population growth and local economics are driving both the intensification of agriculture and its extensification in to the marginal lands, where risks of crop failure and environmental degradation are high. Horticulture based production systems are now considered to be the most ideal strategy to provide food, nutrition and income security to the people. Integration of annual crops with fruit trees yields multiple outputs that ensure production and income generation. The importance of horticulture in improving the productivity of the land, generating employment, improving economic conditions of the farmers and entrepreneurs, enhancing exports and above all, providing nutritional security to the desert dwellers, can hardly be overemphasized. Horticulture has assumed significant importance in the crop diversification in recent years, which has become essential to arrest serious land degradation and enhancing the farm income. In fact, the horticulture has also gained commercial importance with a very significant share in the economy of the region. Diversification of agriculture from traditional land use with predominantly cereal/legume-based cropping systems to more productive and remunerative has become a milestone to be achieved. Horticulture provides the few viable and most attractive alternative land use system. The improved cultivars of prevalent fruit crops with their propagation method, spacing and yield potential was worked out during past four decades. Plant propagation is the branch of horticulture which deals with the deliberate production of new plants using various starter materials (e.g. organs, tissues), including their intensive but temporary care. It is primarily practiced to produce seedlings or clones of nursery crops for out-planting, or for planting in containers for display or decor or other uses.

Propagation of Horticultural Plants: Arid and Semi-Arid Regions deals with the propagation of fruit and plantation crops, of spice and medicinal plants. The book is aimed at post-graduate horticultural students, researchers and horticulturists.

HB 9781681175812 £160.99 January 2017 Scitus Academics 328 pages



Postharvest Technology & Processing of Horticultural Crops

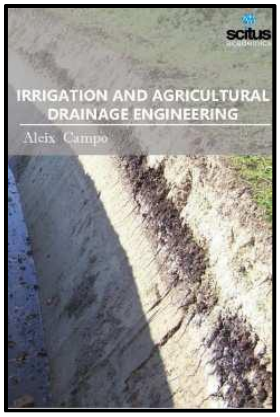
Edited by Cornelio Losa

Fruits and vegetables are very important food commodities. For self-sufficiency and also for processing, export and to meet additional requirements, a lot of emphasis need to be given to reduce post-harvest losses, besides increasing production and productivity of horticultural produces. Processing plays an important role in conservation and effective utilization of these perishable commodities. Many recent innovations in postharvest technology in have been in response to the desire to avoid the use of costly labor and the desire for cosmetically "perfect" produce. These methods may not be sustainable over the long term, due to socioeconomic, cultural and/or environmental concerns. For example, the use of postharvest pesticides may reduce the incidence of surface defects but can be costly both in terms of money and environmental consequences. In addition, the growing demand for organically produced fruits and vegetables offers new opportunities for small-scale producers and marketers. Local conditions for small-scale handlers may include labor surpluses, lack of credit for investments in postharvest technology, unreliable electric power supply, lack of transport options, storage facilities and/or packaging materials, as well as a host of other constraints.

Post-Harvest Technology Processing of Horticulture Crops will be of immense valuable for research professionals, quality control personnel and postharvest biology students anyone involved in the technology for handling and storing fresh fruits, vegetables, and ornamentals.

HB 9781681175805 £141.50 January 2017 Scitus Academics 296 pages

IRRIGATION



Irrigation and Agricultural Drainage Engineering

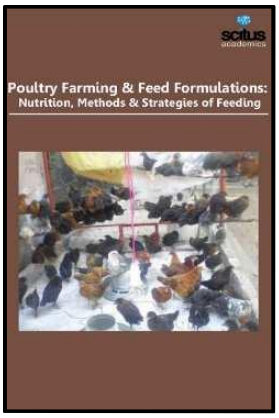
Edited by Aleix Campo

Drainage Water Management is a new practice in which water control structures are installed in the main drain lines to hold water back and allow farmers to drain only as needed. Irrigation Engineering is important since it helps determine future Irrigation expectations. Irrigation has been a central feature of agriculture for over 5000 years, and was the basis of the economy and society of numerous societies, ranging from Asia to Arizona. Irrigation can be termed as the artificial process of applying water to the soil to help in growing agricultural crops or maintaining the landscapes when there is shortage of natural water by rain. Additionally, irrigation also has a few other uses in crop production, which include protecting plants against frost, suppressing weed growth in grain fields and preventing soil consolidation. Irrigation is often studied together with drainage, which is the natural or artificial removal of surface and sub-surface water from a given area. water is required for agriculture. sometimes this water requirement is fulfilled by rain, but there are some dry areas where irrigation is the only process by which water is supplied to crops.

Irrigation and Agricultural Drainage Engineering informs students in the application of engineering principles to upkeep useful plant life, with minimum degradation of soil and water resources. The primary objective is to understand soil, water and plant relationships and how they can be applied to better manage natural resources in the production of food and fiber. Aspects covered include: management and maintenance; drainage application and design; and adverse impacts on the environment. This work is of particular value to university students as well as professionals within drainage development, engineering and management.

HB 9781681175416 £141.50 January 2017 Scitus Academics 294 pages

POULTRY FARMING

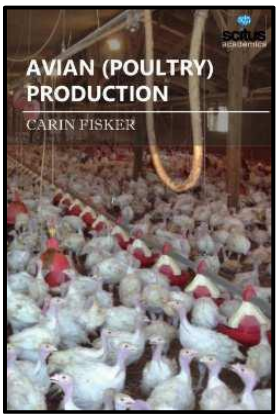


Poultry Farming & Feed Formulations
Nutrition, Methods & Strategies of Feeding

Edited by Almiro Salazar

Poultry farming means 'raising various types of domestic birds commercially for the purpose of meat, eggs and feather production'. The most common and widely raised poultry birds are chicken. Chickens, turkeys, ducks, and geese are of primary importance, while guinea fowl and squabs (young pigeons) are chiefly of local interest. Whatever the production system, all management procedures with adult stock – during incubation and hatching, brooding of young chicks, and rearing of young meat and layer stock – should focus on meeting the birds' physiological requirements at all stages of life by providing an ideal physical environment, minimizing exposure to disease, meeting the birds' behavioral and social needs, and providing them with clean water and goodquality feed that satisfies their nutrient requirements. Animals eat to acquire the energy and building materials that they need to live and grow. Animals use energy to perform normal body functions such as breathing, walking, eating, digesting, and maintaining body temperature. Nutrients provide poultry the energy and material needed for the development of bone, flesh, feathers, and eggs. Water is often overlooked, but it is one of the most important nutrients. An animal can live without food longer than it can live without water. Water plays an important role in the body of an animal. Water softens feed and carries it through the digestive tract. Carbohydrates (compounds with carbon, hydrogen and oxygen) are an energy source for animals and make up the largest portion of a poultry diet. Proteins are used in the construction of body tissues such as muscles, nerves, cartilage, skin, feathers, beak, and so on. Egg white is also high in protein. Minerals play a role in bone formation, but minerals are also needed for several other important functions, including formation of blood cells, blood clotting, enzyme activation, and energy metabolism and for proper muscle function. Vitamins are a group of organic compounds that poultry require in small quantities. Despite the low requirement levels, vitamins are essential for normal body functions, growth, and reproduction. If poultry are to achieve their genetic potential for meat or egg production, they need an environment that meets their physiological requirements. This includes: a suitable physical environment in terms of temperature, humidity, air movement and the surfaces on which they live; adequate food and water; minimal exposure to disease organisms; and avoidance of exposure to stress resulting from the physical and social environment. Poultry Farming Feed Formulations: Nutrition, Methods Strategies of Feeding presents topics on how appropriate diets can be formulated and how feeding programs can be integrated into poultry production system.

HB 9781681176246 £160.99 January 2017 Scitus Academics 320 pages



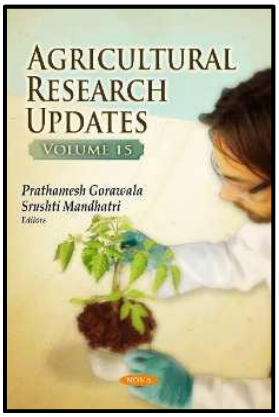
Avian (Poultry) Production

Carin Fisker

Poultry has a crucial place worldwide as the eggs and chicken meat are important and rich sources of protein, vitamins and minerals. Poultry provides rich organic manure and is an important source of income and employment to millions of farmers and other persons engaged in allied activities in the poultry industry. Chickens and turkeys that are commercially raised today are the result of many years of selection and breeding of two or more breeds to continually improve productivity. Poultry farming is the raising of domesticated birds such as chickens, ducks, turkeys and geese for the purpose of farming meat or eggs for food. Poultry are farmed in great numbers with chickens being the most numerous. More than 50 billion chickens are raised annually as a source of food, for both their meat and their eggs. The chicken industry is made up of meatproducing chickens and egg-producing chickens. The modern meat-type chicken is derived from the deep-breasted Cornish breed and has been selected with an emphasis on producing meat rather than eggs. Further processing of meat chickens has led to many new products geared to the conveniencemінded consumer, such as boneless, skinless breasts. The turkey industry has developed strains of birds with an emphasis on meat production and breast size, as the white meat has a higher market value in the United States. Many pure breeds of poultry are raised for exhibition, hobby and/or breed preservation purposes. There is lots to discover with the comprehensive poultry production. We all know that in order to get the best out of birds, poultry keepers need to be up to date with the latest ideas and techniques. The book *Avian (Poultry) Production* discusses about the anatomy and physiology of birds, building them the best housing, breeding, egg production and also about preventing parasites and diseases.

HB 9781681174167 £141.50 January 2017 Scitus Academics 274 pages

AGRICULTURAL RESEARCH UPDATES



Agricultural Research Updates
Volume 15

Edited by Prathamesh Gorawala, Srushti Mandhatri

This book examines the most up-to-date research in the agricultural field. Chapter One discusses advances in seed-priming. Chapter Two examines the relationship between TFS (Total Foliar Surface) and EFS (Efficient Foliar Surface) and quality of grapes and production of vine stocks. Chapter Three focuses on the influence of plant-fungal interactions viz-a-viz other agroecosystem variables on the mechanism of agronomic system's selection, and determination of crop development and production. Chapter Four focuses on biocontrol and the influence of bacterial small molecules on these interspecies interactions and on the survival of *Bacillus* spp. Chapter Five reviews the addition of leonardites to increase soil available phophorus levels in vineyard calcareous soils. Chapter Six introduces the artificial neural network modeling of sugar beet osmotic dehydration. Chapter Seven discusses microwave assisted drying of sugar beet pulp.

Volume 15 HB 9781536105599 £238.50 January 2017 Nova Science Publishers 165 pages
Volume 16 HB 9781536107944 £238.50 April 2017 Nova Science Publishers 180 pages
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Volume 19 HB 9781536110128 £238.50 May 2017 Nova Science Publishers

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