



**Agriculture, Forestry & Food
New Titles**

Agricultural Research
Updates

Agriculture, Water
Supply and Vegetation

Sweet Sorghum

Innovative Bio-Products
for Agriculture

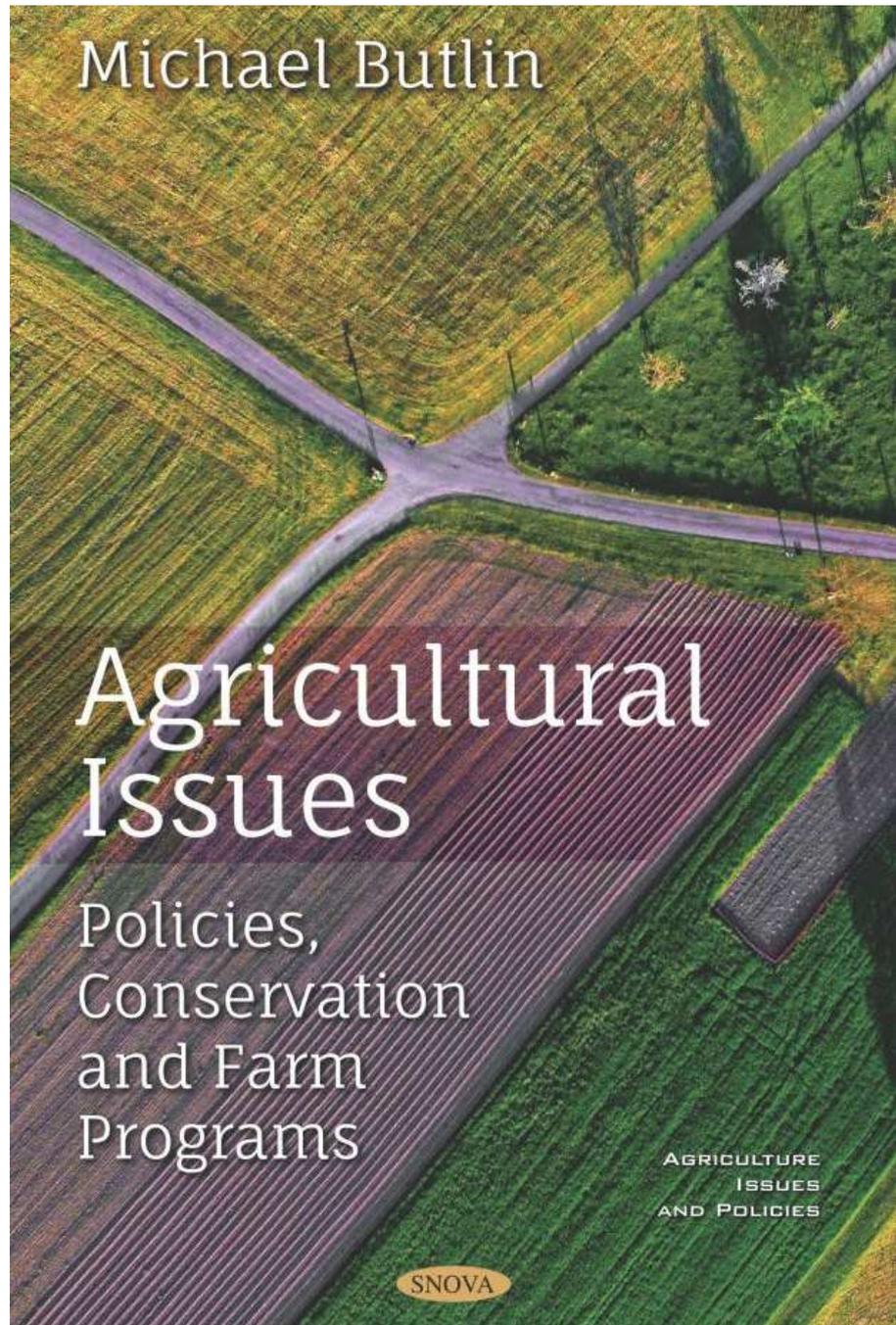
Innovative Phosphorus
Bio-Fertilizers

Agricultural Policy,
Appropriations and
Discretionary Spending

Agricultural Issues

Agricultural
Developments & Policy
Implications

Oilseeds

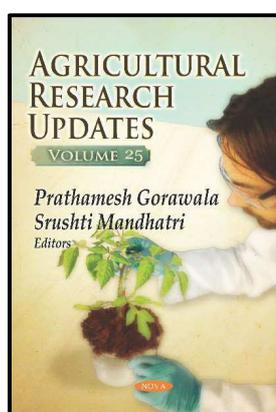


Titles published by Nova Science

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Agricultural Research Updates Series



Agricultural Research Updates Volume 25

Edited by Prathamesh Gorawala, Srushti Mandhatri

Among management systems that are intended to prevent soil erosion or degradation is the no-tillage system which allows for the accumulation of vegetal material of plant material on the surface, over which the next crop will be sown or planted. *Agricultural Research Updates. Volume 25* opens with a presentation of the results of research on different sustainable systems of soybean and maize production in northwest São Paulo.

Following this, the authors review the feasibility, convenience and challenges accompanying various drying technologies from conventional methods (sun drying, hot air-drying, vacuum drying and freeze drying) to smart drying technologies (hybrid drying, near infrared reflectance, refractance window drying and ultrasonic drying).

Other topics reviewed in this compilation include packaging antioxidant activity that prevents food tainting; packaging antimicrobial properties that prevent food contamination; and packaging biodegradability to meet environmental protection requirements.

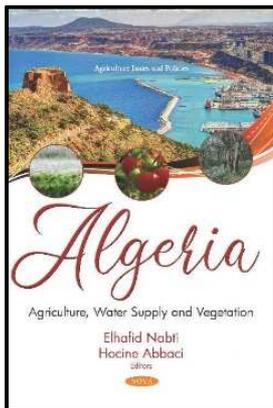
Next, the authors investigate the occurrence, characterization and survivability of two pathogenic vibrios, namely *Vibrio cholerae* and *Vibrio parahaemolyticus* in fish-based street food. The detection of these two pathogens is completed using Loop mediated isothermal amplification, multiplex polymerase chain reaction and thiosulphate citrate bile-salt sucrose.

The following study aims to investigate the prevalence and characteristics of toxigenic *Campylobacter jejuni* in ulam (Malaysian salad vegetables) at retail outlets in Terengganu. The prevalence of these genes at retail outlets is determined by multiplex-PCR/the charcoal cefoperazone deoxycholate agar method for 123 vegetable samples.

The authors close by describing a recent technology in stimulating glucosinolates concentrations in Brassica plants using recycled animal manures. This need for natural fumigants in horticultural crops has increased due to the national prohibition of synthetic soil fumigants such as methyl bromide and ethylene dibromide.

Volume 25 HB 9781536147896 £238.99 January 2019 Nova Science Publishers 224 pages

Volume 26 HB 9781536149302 £238.99 February 2019 Nova Science Publishers 212 pages



Algeria

Agriculture, Water Supply and Vegetation

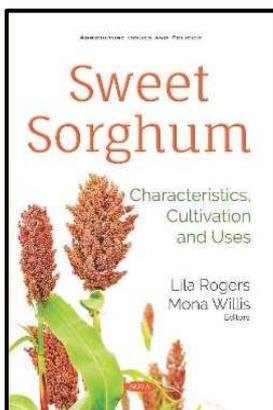
Edited by El Hafid Nabti, Abbaci Hocine

Specifically, this book features detailed information about tomato production, water supply and cork production compiled in three different chapters. Beside these fundamental topics covered in this book, important insights concerning uses of biological processes i.e. bioremediation are also provided. In total, five chapters are grouped into three sections namely: agriculture, water supply and vegetation as it is reflected in the book title. The first chapter provides a comprehensive and accessible overview of the production of one of the most important horticultural crops in the country: tomato.

Nowadays and worldwide, there is a trend towards alternative agriculture. To meet the growing demand, many viable options need to be explored, and one of these is the use of seaweed extracts. The second chapter is provided to show the significance of “algae-bacterium” combination in the restoration of plant growth under heavy metal stress. The last chapter, sealing the first section, focuses exclusively on general knowledge highlighting the significance and potential use in the near future of plant extracts as natural fertilizers and for the control of plant diseases. In the second section, the editors included a unique chapter dealing with water resources to address the lack of comprehensive and unified data.

Indeed, this chapter is an ideal resource for study and reference on water input and output issues covering irrigation, groundwater, river basins...The central message of the last section is quite relevant from an economic and social point of view, especially when the editors consider the contribution of forests and woodlands to national economy through production of cork, though neglected, is quite considerable. Editors collected data on this remarkable tree species taking into account some conservation and economic values to sound the alarm that, in near future, production of cork will not be viable anymore if there is no serious revision of existing policies. The book will be of interest to various audience targets: horticulture students, lecturers and local policymaker’s as well environmental and agricultural officials.

PB 9781536155624 £78.99 July 2019 Nova Science Publishers 98 pages



Sweet Sorghum

Characteristics, Cultivation and Uses

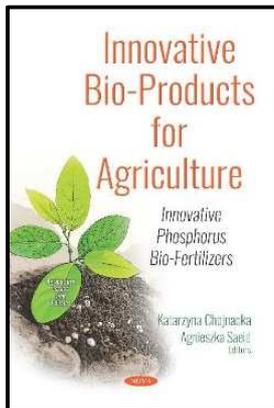
Edited by Lila Rogers, Mona Willis

Sweet sorghum is a cereal that belongs to the species *Sorghum bicolor (L) Moench*. Although the crop is reportedly native to Africa, it is grown worldwide largely because it thrives well under wide rainfall, varied day lengths, and varied soil conditions and can tolerate varying degrees of biotic and abiotic factors and stresses. In *Sweet Sorghum: Characteristics, Cultivation and Uses*, the authors review the physiology and adaptation of sweet sorghum crops to varied environmental and climatic conditions across Sub-Saharan Africa.

The authors also discuss the saline soil distribution and cultivation of sweet sorghum in China. Soil salinization is one of the most prominent environmental problems in the world, which limits crop yield and productivity seriously. Today, about 20% of the world’s cultivated land and nearly half of all irrigated lands are affected by salinity.

Lastly, the utilization of sweet sorghum bagasse as raw material in the development of an environmentally friendly particleboard bonded with a natural adhesive without the addition of harmful chemical substances such as citric acid was carried out. The effectiveness of several manufacturing conditions such as pre-treatment of particles before hot pressing condition, citric acid contents, pressing temperature and time, and sucrose addition were investigated.

PB 9781536153866 £78.99 May 2019 Nova Science Publishers 118 pages



Innovative Bio-Products for Agriculture

Innovative Phosphorus Bio-Fertilizers

Edited by Katarzyna Chojnacka, Henryk Górecki

The presented book describes the results of the research of the project titled 'Phosphorus Renewable Raw Materials – A Resource Base for the New Generation of Fertilizers' attributed to the National Center for Research and Development of Poland. This book is divided into three chapters that are assigned to different stages of the project undertaken by different R&D institutions.

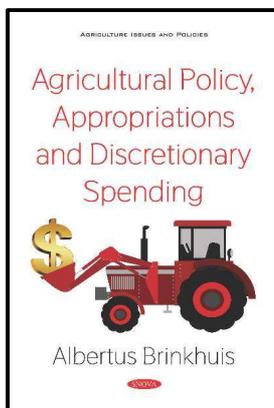
The concept and possible options of valorization of waste biomass, such as bones, fish bones, and ashes originated from the incineration of sludge from a waste-water treatment plant from the tertiary stage of biological treatment as resources of phosphorus were described by the team from Wrocław University of Science and Technology. As a method of by-products valorization, the solubilization process was proposed. Two strategies were proposed: Ex-situ and in-situ. The in-situ manner resulted with suspension fertilizer with a low concentration of P₂O₅ while ex-situ gave the possibility to obtain two solid formulations with the high content of P₂O₅.

All of them could be used in agriculture and horticulture as granular fertilizers or as substrates. The different content of P₂O₅, as well as other nutrients in obtained formulations, were described as an effect of utilization of different raw materials as well as various additional substances such as binders necessary for the stability of final formulations. What is more, the efficiency of obtained formulations was strongly related to the kind of microorganism used as an 'activator' of unavailable phosphorus, which was discussed in details.

The technology of production for biofertilizers in pilot-scale was described by the Institute of New Chemical Synthesis in Pulawy with the following issues underlined: Design of installation to produce fertilizers based on renewable raw materials; plant construction and production of the product; and preliminary economic analysis.

The University of Warmia and Mazury in Olsztyn described the utilitarian properties of new fertilizer formulations that were evaluated in field tests with special attention to granular and suspension biofertilizer. In that chapter, the major results of the agronomic evaluation of new suspension and granular phosphorus biofertilizers from secondary raw materials (sewage sludge ash, animal bones, and animal blood) were presented. Biofertilizers contained *Bacillus megaterium* or *Acidithiobacillus ferrooxidans* bacteria. New bioproducts were tested in field experiments in reference to traditional commercial phosphorus fertilizers (superphosphate, phosphorite, etc.). The research confirmed that phosphorus biofertilizers from renewable raw materials were similar to commercial fertilizers in terms of their crop-enhancing efficiency and did not reduce yield quality and quantity.

PB 9781536147797 £78.99 February 2019 Nova Science Publishers 103 pages

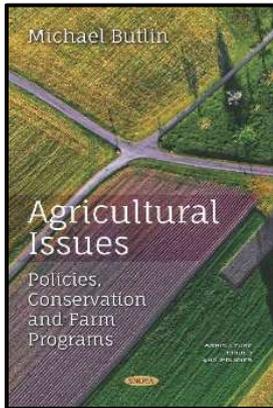


Agricultural Policy, Appropriations and Discretionary Spending

Edited by Albertus Brinkhuis

The Agriculture, Rural Development, Food and Drug Administration, and Related Agencies appropriations bill provides funding for a wide array of Federal programs, mostly in the U.S. Department of Agriculture (USDA). These programs include agricultural research, education, and extension activities; natural resources conservation programs; farm income and support programs; marketing and inspection activities; domestic food assistance programs; rural housing, economic and community development, and telecommunication and electrification assistance; and various export and international activities of the USDA. Agriculture appropriations include both mandatory and discretionary spending. Discretionary amounts, though, are the primary focus during the bill's development. This book provides information on the 2018 and 2019 discretionary spending as well as a copy of the 2019 Agriculture appropriations act.

HB 9781536152159 £152.99 April 2019 Nova Science Publishers, Inc 233 pages



Agricultural Issues Policies Conservation and Farm Programs

Edited by Michael Butlin

Agricultural Issues: Policies Conservation and Farm Programs is a compilation of government reports. The Agriculture appropriations bill, as described in chapter 1, funds all of USDA, excluding the U.S. Forest Service. It also funds the Food and Drug Administration (FDA) in the Department of Health and Human Services (HHS).

The Natural Resources Conservation Service (NRCS) and the Farm Service Agency (FSA) in the U.S. Department of Agriculture (USDA) currently administer 20 programs and subprograms that are directly or indirectly available to assist producers and landowners who wish to practice conservation on agricultural lands. These programs are discussed in chapter 2.

Chapter 3 provides background on the trade dispute that triggered the trade-aid package as well as the authority used by USDA to respond to the trade dispute with financial assistance and then describes the three components of the trade-aid package with details on their implementation. For each crop year, the U.S. Department of Agriculture (USDA) makes billions of dollars in payments to agricultural producers for which being actively engaged in farming is a requirement. As described in chapter 4, the largest programs in terms of payments are the Price Loss Coverage program, which makes payments in years in which a crop's market price is less than a statutorily set price, and the Agriculture Risk Coverage program, which makes payments in years in which a crop's revenue is less than a revenue guarantee.

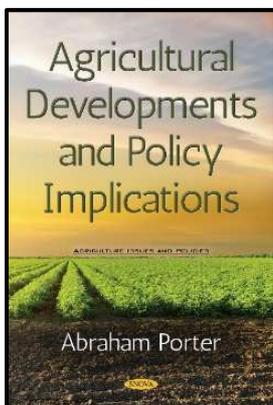
Chapter 5 describes cotton's special treatment, relative to other traditional farm program crops, in the 2014 farm bill.

The outlook for lower net farm income and relatively weak prices for most major program crops signals the likelihood of continued relatively lean times ahead. Chapter 6 incorporates USDA's August 30, 2018, farm income projections and its August 29, 2017, U.S. agricultural trade outlook update.

The 2014 Farm Act provides eligible U.S. farmers with new commodity supports in the Agriculture Risk Coverage (ARC), the Price Loss Coverage (PLC), and the Supplemental Coverage Option (SCO) programs. Chapter 7 provides an analysis of these programs with a focus on how various combinations of the programs impact producer revenue and its variability, producer well-being, and expected program costs.

Chapter 8 focuses on how specialty crops are covered under the federal crop insurance program. The Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture (USDA) is the U.S. government authority tasked with regulating the import, transit, and release of regulated animals, animal products, veterinary biologics, plants, plant products, pests, organisms, soil, and genetically engineered organisms as reported in chapter 9.

HB 9781536154740 £219.99 May 2019 Nova Science Publishers, Inc 261 pages

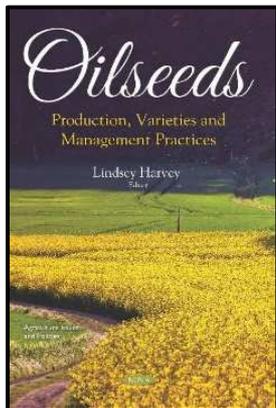


Agricultural Developments and Policy Implications

Edited by Abraham Porter

This book is a compilation of CRS reports on agricultural developments and policies. Some topics discussed herein include industrial hemp, federal agricultural disaster assistance programs and the 2014 farm bill.

PB 9781536144918 £90.99 November 2018 Nova Science Publishers, Inc 103 pages



Oilseeds Production, Varieties and Management Practices

Edited by Lindsey Harvey

The predicted depletion of fossil fuels has mobilized society and the scientific community towards the use of alternative and sustainable sources of energy. A promising alternative could be the valorization of oil bearing crops via transesterification reactions towards the production of biodiesel. As such, the first chapter of *Oilseeds: Production, Varieties and Management Practices* assesses the most significant contributions in the homogeneous and heterogeneous catalyzed transesterification under acidic or alkaline conditions considering the parameters affecting the processes as well as biodiesel yields.

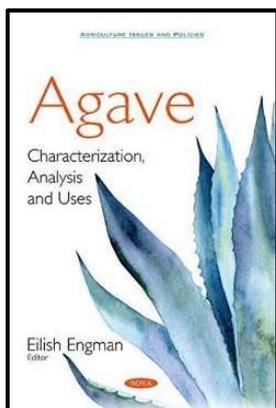
The following chapter highlights the synthesis of copper soaps derived from edible oils, the synthesis of complexes with 2-amino-6-methyl Benzothiazole derived from already synthesized copper soaps for comparative studies, spectral studies, thermogravimetric analysis of copper soaps derived from groundnut, sesame, neem and karanja, and more.

The authors go on to highlight biocidal studies performed to assess the comparative toxicity on two easily available fungi, *Alternaria alternata* and *Aspergillus niger*.

The synthesis of copper soaps with increasing carbon atom p-substituted benzothiazoles is also examined.

In the concluding chapter, the authors summarize the results of the microencapsulation technology of butylated hydroxyanisole carried out in their laboratory in recent years. Both free and microencapsulated butylated hydroxyanisole were in situ evaluated for controlling the mycoflora present in peanut stored in different systems intended for confectionery, seed and industry.

PB 9781536156355 £90.99 June 2019 Nova Science Publishers, Inc 137 pages



Agave Characterization, Analysis and Uses

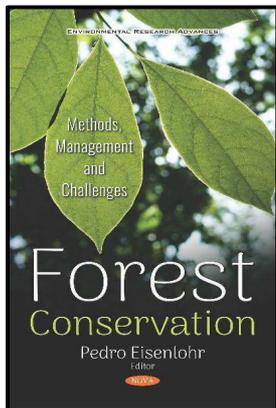
Edited by Eilish Engman

The genus *Agave* has about 200 species naturally distributed in the Neotropics. *Agave* is a genus with a long tradition of uses, mainly alimentary, medicinal and industrial. *Agave: Characterization, Analysis and Uses* opens with a summary of the introduction of the genus *Agave* in the Iberian Peninsula, while also providing some insight into its spread. Some species of *Agave* are important for obtaining steroidal hormones, which are synthesized from saponins present in the plant. As such, the objective of the following chapter is to analyze the multiple ways of using species of the *Agave* genus in Mexico, taking into consideration aspects such as their metabolisms, development environments, artisanal and industrial processes, regulations, research and marketing.

The previously mentioned saponins are naturally occurring compounds that are widely distributed in plant materials. They are found in many different plant families including the *Agavaceae* family. The authors discuss their applications in the pharmaceutical industry, particularly in the treatment of diseases such as cancer, diabetics, and hypertension among others.

The authors also discuss how *Agaves* may be used to produce alcoholic beverages. The variety of *Agave* species, geoclimatic conditions and the production process has resulted in an important variety of beverages with specific aromatic and sensory characteristics, including Tequila and Mezcal.

PB 9781536146981 £78.99 February 2019 Nova Science Publishers, Inc 116 pages



Forest Conservation Methods, Management and Challenges

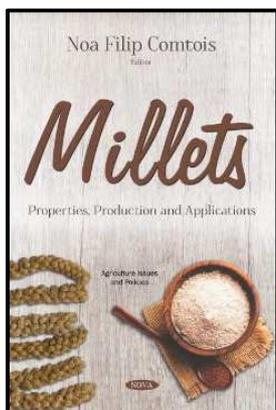
Edited by Pedro Eisenlohr

Forest Conservation: Methods, Management and Challenges offers to readers the opportunity to understand, consider and plan strategies that aim to conserve forest ecosystems around the world. This book presents ten chapters written by renowned researchers from Brazil, Argentina, Tunisia and Germany, offering to the scientific community – as well as to human society as a whole – important concepts, methods and gaps that we need to fill if we wish to preserve the Earth's forests.

The authors begin this collection by demonstrating how rare tree species could be a surrogate for biodiversity in conservation decision-making (Chapter One). Sustainable management of biodiversity in woody ecosystems is the theme of Chapter Two, followed by an interesting synthesis and discussion on challenges for conservation of forests and Brazilian reptiles (Chapter Three). Prioritization of areas for permanent preservation for forest recovery aiming at landscape connectivity (Chapter Four), conservation of Aleppo pine forests for post flood and fire plantings (Chapter Five), agroforestry and its connections to REDD+ activities in the Amazon (Chapter Six), forest conservation and its challenges in tropical Africa (Chapter Seven), large dams in the Amazon and their effects on the fauna (Chapter Eight) and selection and propagation of native tree species for improving ecological restoration (Chapter Nine) are themes deeply addressed in the next contributions, including interesting case studies. This book ends with an approach to environmental suitability modeling and its potential to support conservation decisions and ecological restoration programs in virtually any part of the world (Chapter Ten).

Forest Conservation: Methods, Management and Challenges is an important tool for students, researchers, decision-makers, governmental and non-governmental agencies that are interested in preserving different forest types in order to assure biodiversity conservation for current and future generations.

HB 9781536145595 £185.99 January 2019 Nova Science Publishers, Inc 265 pages



Millets Properties, Production and Applications

Edited by Noa Filip Comtois

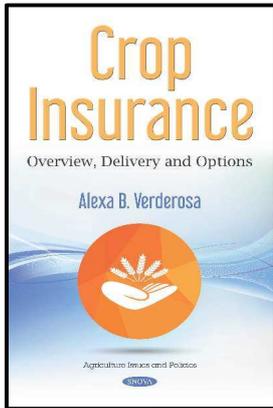
Millets: Properties, Production and Applications opens with an investigation on the effects of natural fermentation and drying methods on physicochemical properties of proso millet flour. Fermented proso millet flour is either oven dried or dried at room temperature, and its chemical content and characterization are ascertained using standard methods.

Following this, the authors evaluate the forage production and chemical composition of two pearl millet cultivars fertilized with four doses of nitrogen with three cutting heights. Results are presented which indicate that ammonium sulfonitrate treated with nitrification inhibitor revealed possible toxic effects at lower doses and is recommended only when high nitrogen doses are used.

One chapter is dedicated to Count Sámuel TELEKI de Szék (1845-1916), a Hungarian explorer who was the first European to see and name Teleki's Volcano (1888), Lake Rudolf (1888) (syn.: Lake Turkana; renamed in 1975) in Kenya; and Lake Stefanie (1888; named after Princess Stéphanie of Belgium; now called Lake Chew Bahir) in Ethiopia. S. Teleki was among the first in the World to attempt to climb the summit of Mount Kilimanjaro.

In closing, the authors concluded that the use of pearl millet as forage is increasing in the Brazilian Cerrado due to its adaptability to harsh conditions and high protein and digestibility levels. There are very few studies evaluating the animal performance in Brazil, especially related to silage use. Thus, there is a necessity for more research involving animal performance in order to recommend or discourage its use, especially as silage for dairy cows.

PB 9781536146929 £78.99 January 2019 Nova Science Publishers, Inc 97 pages



Crop Insurance Overview, Delivery and Options

Edited by Alexa B. Verderosa

Since its inception in 1938, the program has evolved from an ancillary program with low participation to a central pillar of federal support for agriculture. As the program has grown—in types of insurance policies, breadth of crops covered, and millions of acres enrolled—so has the cost of the program to the federal government. The first two chapters provide an overview of the federal crop insurance program.

Chapter 3 focuses entirely on delivery subsidies and explains how delivery subsidies are calculated, the limitations of publicly available data on the actual delivery expenses of Approved Insurance Providers (AIPs), and how AIPs spend delivery subsidies.

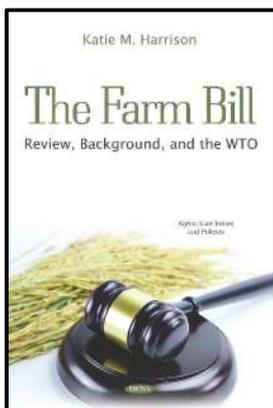
In 2010, USDA negotiated an agreement with insurance companies to set a national cap on the annual payments it makes to them for expenses and a target rate of return. Chapter 4 examines (1) the changes in expense payments to companies due to the cap, (2) the extent to which the program's target rate of return reflects market conditions, and (3) opportunities for the federal government to reduce its delivery costs for the program.

Before the Agricultural Act of 2014 cotton was eligible for most Federal farm programs. The 2014 Farm Act eliminated multiple programs, including the Direct and Countercyclical Program, while introducing several new programs, including the Supplemental Coverage Option (SCO), and Stacked Income Protection Plan (STAX). Chapter 5 focuses on the two new programs for cotton and examines the mechanics of the programs and their revenue impacts.

Catastrophic coverage for noninsurable crops, known as the Noninsured Crop Disaster Assistance Program (NAP), has been available since the Federal Crop Insurance Reform Act of 1994. Chapter 6 examines the effects of the 2014 NAP policy change.

Crop insurance premium subsidies are an important part of Compliance incentives under the 2014 Act. Farm program benefits under the 2014 Act could be as high or higher than under the 2008 Farm Act; but for individual farms, the shift toward a crop insurance-oriented policy could increase or decrease Compliance incentives as reported in the last chapter.

HB 9781536152746 £185.99 April 2019 Nova Science Publishers, Inc 263 pages



The Farm Bill Review, Background, and the WTO

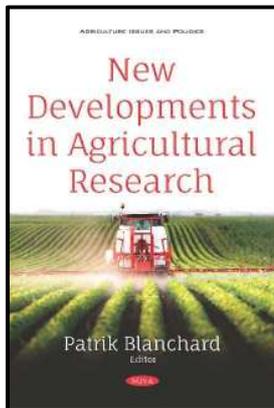
Edited by Katie M. Harrison

The farm bill is an omnibus, multi-year law that governs an array of agricultural and food programs. Although agricultural policies are sometimes created and changed by freestanding legislation or as part of other major laws, the farm bill provides a predictable opportunity for policymakers to comprehensively and periodically address agricultural and food issues. Chapter 1 reviews our current farm programs and discuss solutions for the upcoming 2018 bill.

Chapter 2 provides background on each of the major titles of the current farm bill and previews of some of the potential issues that could factor into the debate.

Every new farm bill involves some modification or replacement of existing farm programs. A key question likely to be asked of every new program is how it will affect U.S. commitments under the World Trade Organization's (WTO's) Agreement on Agriculture (AoA) and its Agreement on Subsidies and Countervailing Measures (SCM) as described in chapter 3.

HB 9781536152722 £219.99 March 2019 Nova Science Publishers, Inc 276 pages



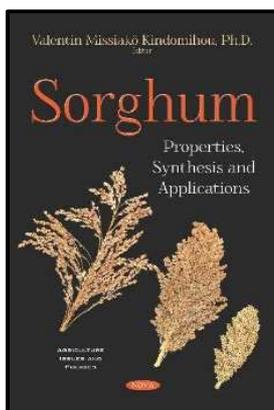
New Developments in Agricultural Research

Edited by Patrik Blanchard

New Developments in Agricultural Research provides a comprehensive introduction and overview of portable MMSs applied to agricultural and forestry, to highlight the potentialities and challenges of this novel technology in this specific application field. The application of these systems for dendrometric parameters is presented, as well as a review about their applications. The authors discuss the issue of how to assess the sustainability of farms, one of the most topical for researchers, farmers, investors, administrators, policymakers, interest groups, and the public at large around the globe. A practical and holistic approach is suggested for assessing the sustainability of farms in Bulgaria.

The closing chapter examines farm-size and partial food availability relationships as well as modern technology adoption, and provides a detailed account of constraints faced by farmers in producing food from farming operations.

PB 9781536153637 £78.99 May 2019 Nova Science Publishers, Inc 150 pages



Sorghum

Properties, Synthesis and Applications

Edited by Valentin Missiakô Kindomihou

The applications of sorghum, which have significant impacts on human and animal development, have recently increased. This book includes chapters derived from original research and the synthesis of current knowledge on specific topics in the field. It is an original collection of research findings or summaries of articles from around the world that are part of discussions on the status of sorghum and its applications in various areas of development. This volume addresses physiological, ecological, functional and genetic foundations of sorghum through the examination of theories and case studies that explain various properties, synthesis and applications. The chapters address, respectively, sorghum attributes, heterosis association and molecular mapping for grains traits, ecophysiology, reproductive competence, molecular mechanism of flowering time control, sensory and nutritional properties, mechanisms involved in allelochemical biosynthesis, and applications of bioactive compounds, i.e., polyphenolic and acidic phenolics.

This book offers essential approaches including: (i) A generic and rapid way to combine the diversity of single nucleotide polymorphisms with heterosis, which facilitates the dissection of the molecular mechanisms underlying the quality and quantity of grains in an important sorghum crop; (ii) the principles and processes of extrusion in order to obtain grains of good sensory and nutritional characteristics; (iii) the indicators in assessing the role of sorghum as a source of energy in the productivity of poultry farming systems; and (iv) some characteristics of root and foliar responses to water stress of a genotype amenable to genetic modification. It also makes a sweeping analysis concerning the progress of current research in the floral transition of sorghum and the photoperiod response.

The final chapter highlights the importance of bioactive compounds of sorghum species, mainly in fighting diseases related to human nutrition. Case studies from around the world were reported, giving readers a real view of the extent of sorghum properties along with real-world applications. This book can be used as a reference for students, scholars, professionals and political decision-makers involved in the study and management of sorghum.

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**Agriculture, Forestry & Food
New Titles**

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Forest Conservation

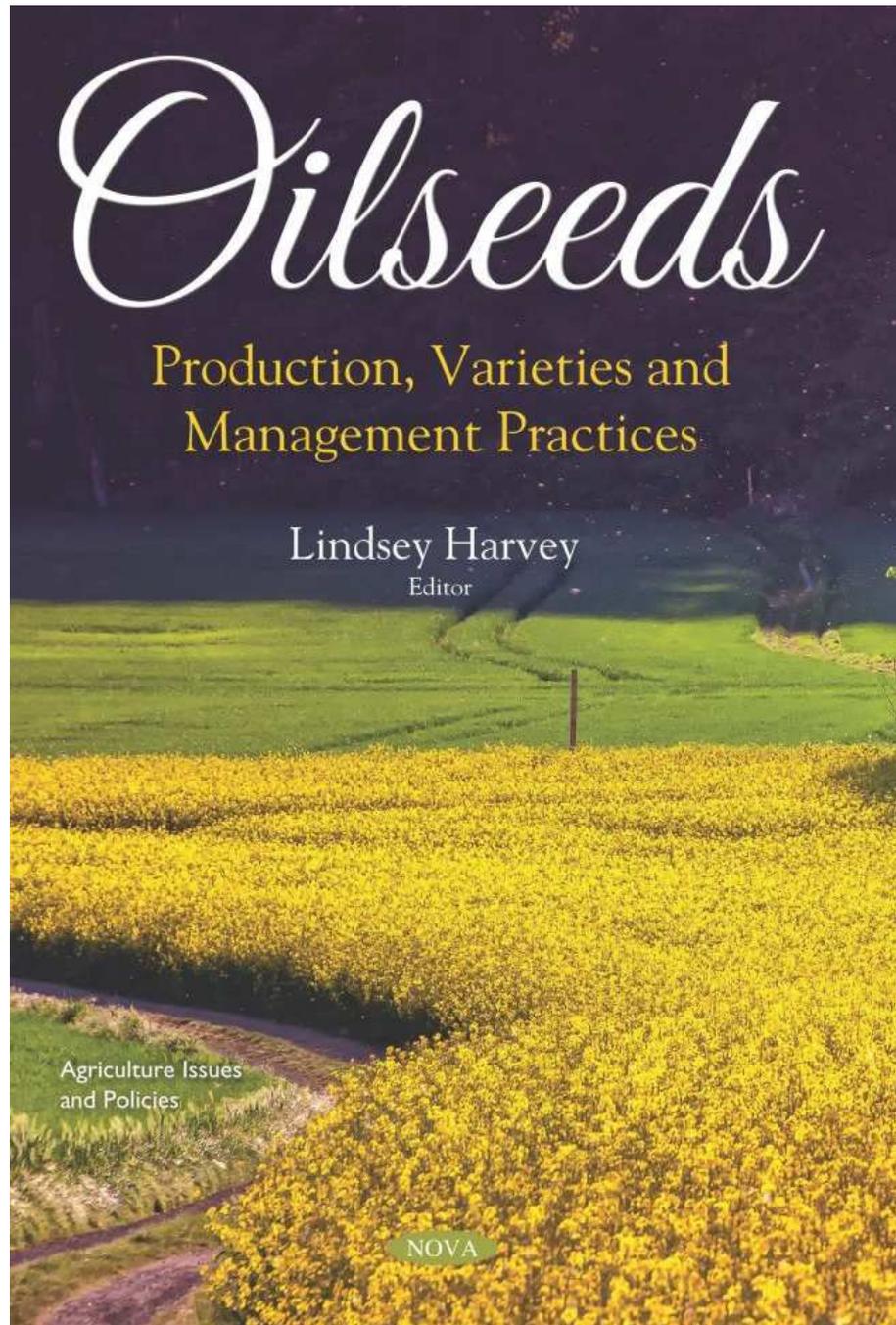
Millets

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The Farm Bill

New Developments in
Agricultural Research

Sorghum



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