The Waste Products Of Agriculture

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STOUT HEAVEN

Biotechnology for Agro-Industrial Residues Utilisation National Academies Press
Agricultural wastes (AW) can be defined as the residues from the growing and processing of raw agricultural products such as fruits, vegetables, meat, poultry, dairy products and crops. Agricultural wastes can be in the form of solid, liquid or slurries depending on the nature of agricultural activities. Furthermore, agricultural industry residues and wastes constitute a significant proportion of worldwide agricultural productivity. Although the quantity of wastes produced by the agricultural sector is significantly low compared to wastes generated by other industries, the pollution potential of agricultural wastes is high on a long-term basis. This book discusses the characteristics, types and management options for agricultural wastes.
The Utilization of Waste Products and Waste Places New India Publishing Agency
Apart from being termed as a pollution source, agriculture and kitchen waste is also a rich source of carbohydrates, minerals, antioxidants and vitamins, and can be utilized to develop value-added products and for energy production, which is the main theme of this book. It also focuses on the minimization of this waste via different routes like conversion into bio-fertilizers, organic acids, other industrial products, and efficient energy production. It comprises different topics and concepts related to waste utilization contributed by recognized researchers and experts. Features: Covers all the technical aspects of utilization of agricultural and kitchen waste. Discusses the quality characteristics of value-added products. Provides overview of different options for processing of organic wastes. Includes production of acids and enzymes from agriculture/kitchen wastes. Reviews effects of kitchen/agricultural waste on environment and its role in pollution control. This book is aimed at researchers and graduate students in chemical and environmental engineering.
Agricultural Waste Diversity and Sustainability Issues Academic Press
Agricultural Waste Diversity and Sustainability Issues: Sub Saharan Africa as Case Study presents solutions for overcoming limitations, guiding developmental processes, and improving knowledge transfer in agricultural waste management and development. The book gives considerable attention to treatment and conversion, with best management practices involving the reduction and elimination of waste volume in its various forms, sectors and streams. Sections cover waste management in the agriculture and food sector, including methodological approaches in waste preparation and processes, the most important energy generation techniques and strategies, and best practices, management, sustainability, associated technologies, accountability, communications, and involvement surrounding diverse stakeholders. Agricultural Waste Diversity and Sustainability Issues: Sub Saharan Africa as Case Study illustrates the use of mathematical models to minimize operational cost in agro-waste management processes and discusses the application of eco-efficiency. Ultimately, the book focuses on the prospect of agro-wastes management and risk associated in the sub-Saharan African region, including Nigeria, Uganda, and South Africa as case studies. Captures a solutions-based assessment that redresses the challenges created by a poor biodiversity strategy in Sub-Saharan Africa to meet present needs in SSA and around the world Provides foundational information for agricultural diversity, food waste elimination, clean energy production, and technology emergence Enables a greater understanding of the state-of-the-art approach for effective biodegradable waste management Inspires further research into sustainable and cost-effective biowaste operations, wastes management models, methodologies for utilization and nascent technologies that are capable of bolstering clean energy generation
Composition of Organic Manures and Waste Products Used in Agriculture University Press of Kentucky
Excerpt from Explanatory Notes of Increases, Decreases, and Changes in Languages in the Budget for the Department of Agriculture for the Fiscal Year Ending June 30, 1934, and of Work Done Under Each of the Appropriation Items The activities under this appropriation involve the application of chem istry to agriculture to further the utilization of agricultural pr'wducts, ih cluding the raw materials and the waste products therefrom; development of ih dustrial uses for agricultural products; improvement of methods of handling and prepa ation of known products and development of new products having com mercial value; reducing wastes; and preventing losses from spoilage, deteriora tion, and destruction. The work includes studies on carbohydrate crops and products, such as sugarcane, sugar beets, farm-made sirups, honey, and starchy plants; chemical investigations of foods, of the biological changes in raw and manufactured foods, of the causes of deterioration of foods, and of methods of preservation; development of profitable uses for fruit and vegetable Dy-prod ucts, surpluses and waste materials; study of the nutritive value of foods and foodstuffs With special reference to their protein and vitamin content; inves tigations of hides and skins, tanning materials, leather, farm fabrics, paper, and farm wastes such as cornstalks, straw and hulls; research on lignin; ih vestigation of oils, fats, and waxes, including the development of new sources

and recovery from agricultural Waste products; studies on the spontaneous heat ing of hay and other agricultural products; and the prevention of farm fires. Field laboratoreis for the fruit and vegetable by - products investiga tions are maintained at Los Angeles, Calif., Winter Haven, Fla., and Weslaco, Tex., where the problems are studied in relation to the conditions peculiar to each region. The work on utilization of cornstalks and similar farm wastes is carried on at Ames, Iowa, in cooperation with the Iowa State College. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works.

Sustainable Agriculture Reviews 56 Springer Science & Business Media

This book reviews the sources, extraction, processing and applications of value-added compounds from agro-waste, with a focus on drug delivery, tea, apple pomace, lignin nanocomposites, bioethanol, fertilizers and sitosterol. Food residues provide bioactive molecules, enzymes, vitamins, antioxidants, and animal feed.

Biotransformation of Agricultural Waste and By-Products John Wiley & Sons

The dramatic worldwide increase in agricultural and industrial productivity has created severe environmental problems. Soil and groundwater reservoirs have been polluted with pesticides, xenobiotics and agro-chemicals. The global consensus to reduce inputs of chemical pesticides and agrochemical fertilizers, which are perceived at being hazardous by some consumers, has provided opportunities for the development of novel, benign sustainable crop management strategies. The future of agricultural depends upon our ability to enhance the productivity without damage to their long-term production potential. One of the strategies is the application of effective microbial products beneficial for both farmers and ecosystems. This kind of approach can ensure both ecological and economic sustainability. Soil microbial populations are immersed in framework of interactions, which are known to affect plant fitness and soil quality. For betterment of life of human being, improved quality and variety of products are formed due to versatile action of different group of microorganisms, Microbes are able to degrade solid waste material into compost which is a mixture of decayed organic matter, manure etc. Incomplete microbial degradation of organic waste where the microbial process varies aerobic to anaerobic form is stated as compost, if added to soil improves plant growth and development. The biological activities and microbial metabolism in the soil contribute to alter its mixture and fertility. Incorporation of organic remain in the form of compost is known to influence favourably the physio-chemical and biological properties of soil. The beneficial activities bestowed upon plants by compost utilization are multifaceted, hence most promising alternatives for achieving sustainable agricultural production. An increased awareness on compost has led to their use in agricultural concern. Contents in the present book will comprised various chapters on the role of beneficial bacteria in the composting process. The application is depicted to achieve the attainable productivity besides, in disease management and suppressiveness of organisms of phytopathogenic in nature. Significance of the compost elicits certain responses e.g. soil reclamation, soil fertility, soil health and disease management exhibit due to quality compost amendment in soil. It serves as low cost prospective option for sustainable crop production and protection.

Agricultural and Kitchen Waste CRC Press

During his years as a scientist working for the British government in India, Sir Albert Howard conceived of and refined the principles of organic agriculture. Howard’s The Soil and Health became a seminal and inspirational text in the organic movement soon after its publication in 1945. The Soil and Health argues that industrial agriculture, emergent in Howard’s era and dominant today, disrupts the delicate balance of nature and irrevocably robs the soil of its fertility. Howard’s classic treatise links the burgeoning health crises facing crops, livestock, and humanity to this radical degradation of the Earth’s soil. His message—that we must respect and restore the health of the soil for the benefit of future generations—still resonates among those who are concerned about the effects of chemically enhanced agriculture.

The Waste Products of Agriculture Academic Press

The present book deals with the research work carried out in the past related to conversion and utilization of agricultural waste into useful products and to increase their economic values. The book mainly aims in analysing the various application and research carried in the fields of potential utilization of agricultural wastes. The recycling and utilization of agricultural wastes is an important step forward towards environmental protection, energy structure and agricultural development. The recycling and utilization pathway of agricultural wastes have also been discussed. The book also deals with the laws and regulations and strengthening of rural market. It will provide more comprehensive fundamental information for the recycling and utilization of agricultural wastes during the modernization and urbanization around the globe.

Agricultural Uses of By-products and Wastes CABI

The production of this manual is a joint activity between the Climate, Energy and Tenure Division (NRC) and the Technologies and practices for smallholder farmers (TECA) Team from the Research and Extension Division (DDNR) of FAO Headquarters in Rome, Italy. The realization of this manual has been possible thanks to the hard review, compilation and edition work of Nadia Scialabba, Natural Resources officer (NRC) and Ilka Gomez and Lisa Thivant, members of the TECA Team. Special thanks are due to the International Federation of Organic Agriculture Movements (IFOAM), the Research Institute of Organic Agriculture (FiBL) and the International Institute for Rural Reconstruction (IIRR) for their valuable documents and publications on organic farming for smallholder farmers.

The Soil and Health Forgotten Books

Feeding our globally expanding population is one of the most critical challenges of our time and improving food and agricultural production efficiencies is a key factor in solving this problem. Currently, one-third of food produced for humans is wasted, and for every pound of food produced, roughly an equal amount of nonfood by-product is also generated, creating a significant environmental impact. In Integrated Processing Technologies for Food and Agricultural By-Products experts from around the world present latest developments, recognizing that while some by-

products have found use as animal feed or are combusted for energy, new technologies which integrate conversion of production and processing by-products into higher-value food or nonfood products, nutraceuticals, chemicals, and energy resources will be a critical part of the transition to a more sustainable food system. Organized by agricultural crop, and focusing on those crops with maximum economic impact, each chapter describes technologies for value-added processing of by-products which can be integrated into current food production systems. Integrated Processing Technologies for Food and Agricultural By-Products is a valuable resource for industry professionals, academics, and policy-makers alike. Provides production-through-processing coverage of key agricultural crops for a thorough understanding and translational inspiration Describes and discusses major by-product sources, including physical and chemical biomass characterizations and associated variability in detail Highlights conversions accomplished through physical, biological, chemical, or thermal methods and demonstrates examples of those technologies

The waste products of agriculture, by albert howard Elsevier

Sustainable agriculture is a rapidly growing field aiming at producing food and energy in a sustainable way for humans and their children. Sustainable agriculture is a discipline that addresses current issues such as climate change, increasing food and fuel prices, poor-nation starvation, rich-nation obesity, water pollution, soil erosion, fertility loss, pest control, and biodiversity depletion. Novel solutions are proposed based on integrated knowledge from sciences as diverse as agronomy, soil science, molecular biology, chemistry, toxicology, ecology, economy, philosophy and social sciences. Because actual society issues are now intertwined, global, and fast-developing, sustainable agriculture will bring solutions to build a safer world. This book series gathers review articles that analyze current agricultural issues and knowledge, then propose alternative solutions. It will therefore help all scientists, decision-makers, professors, farmers and politicians who wish to build a safe agriculture, energy and food system for future generations.

The Waste Products of Agriculture: Their Utilization As Humus John Wiley & Sons

Valorization of Agri-Food Wastes and By-Products: Recent Trends, Innovations and Sustainability Challenges addresses the waste and by-product valorization of fruits and vegetables, beverages, nuts and seeds, dairy and seafood. The book focuses its coverage on bioactive recovery, health benefits, biofuel production and environment issues, as well as recent technological developments surrounding state of the art of food waste management and innovation. The book also presents tools for value chain analysis and explores future sustainability challenges. In addition, the book offers theoretical and experimental information used to investigate different aspects of the valorization of agri-food wastes and by-products. Valorization of Agri-Food Wastes and By-Products: Recent Trends, Innovations and Sustainability Challenges will be a great resource for food researchers, including those working in food loss or waste, agricultural processing, and engineering, food scientists, technologists, agricultural engineers, and students and professionals working on sustainable food production and effective management of food loss, wastes and by-products. Covers recent trends, innovations, and sustainability challenges related to food wastes and by-products valorization Explores various recovery processes, the functionality of targeted bioactive compounds, and green processing technologies Presents emerging technologies for the valorization of agri-food wastes and by-products Highlights potential industrial applications of food wastes and by-products to support circular economy concepts

Agricultural Wastes Scientific Publishers - UBP

Traditional agriculture and emerging biofuels technology produce a number of wastes and by-products, ranging from corn fiber and glycerin to animal manure, that have the potential to serve as the basis for additional sources of bioenergy that includes both liquid biofuels and biogas. Biofuels from Agricultural Wastes and Byproducts is the first book to focus solely on the production of biofuels primarily from agricultural waste and by-products. The book is divided roughly into two sections. The first section looks at liquid biofuel production from agricultural byproducts, densification of agricultural residues, and the delivery from farm to processing plant of waste and byproducts for use in biofuel production. The second section focuses on anaerobic digestion of food and animal wastes, microbial diversity, molecular and biochemical aspects of methanogensis. Together these sections solidify Biofuels from Agricultural Wastes and Byproducts as a definitive source of information on the use of agricultural waste and by-products in biofuel production.

The Utilization of Waste Products and Waste Places Nova Science Publishers

Ranging from biofuels to building materials, and from cosmetics to pharmaceuticals, the list of products that may be manufactured using discards from farming and fishery operations is extensive. Byproducts from Agriculture and Fisheries examines the procedures and technologies involved in this process of reconstitution, taking an environmentally aware approach as it explores the developing role of value-added byproducts in the spheres of food security, waste management, and climate control. An international group of authors contributes engaging and insightful chapters on a wide selection of animal and plant byproducts, discussing the practical business of byproduct recovery within the vital contexts of shifting socio-economic concerns and the emergence of green chemistry. This important text: Covers recent developments, current research, and emerging technologies in the fields of byproduct recovery and utilization Explores potential opportunities for future research and the prospective socioeconomic benefits of green waste management Includes detailed descriptions of procedures for the transformation of the wastes into of value-added food and non-food products With its combination of practical instruction and broader commentary, Byproducts from Agriculture and Fisheries offers essential insight and expertise to all students and professionals working in agriculture, environmental science, food science, and any other field concerned with sustainable resources.

The Waste Products of Agriculture Academic Press

Petroleum-based industrial products have gradually replaced products derived from biological materials. However, biologically based products are making a comeback--because of a threefold increase in farm productivity and new technologies. Biobased Industrial Products envisions a biobased industrial future, where starch will be used to make biopolymers and vegetable oils will become a routine component in lubricants and detergents. Biobased Industrial Products overviews the U.S. land resources available for agricultural production, summarizes plant materials currently produced, and describes prospects for increasing varieties and yields. The committee discusses the concept of the biorefinery and outlines proven and potential thermal, mechanical, and chemical technologies for conversion of natural resources to industrial applications. The committee also illustrates the developmental dynamics of biobased products through existing examples, as well as

products still on the drawing board, and it identifies priorities for research and development.
Waste Products of Agriculture Springer
Nutrients in livestock wastes. Feeding animal wastes. Health hazards and safety considerations. Commercial recycling processes. Conversion of manure into biomass by fermentation. Photosynthetic reclamation of nutrients from animal wastes. Circularly integrated farms utilizing animal wastes.
Report by Special Department Committee on Major Farm Producing Areas and Commodities for Research Labroatories Springer Science & Business Media
Pollution Control for Agriculture is a substantial revision of the ""Agricultural Waste Management"" book that discusses the implications and possible management systems for crop production. This 14-chapter text also provides the basic information needed to understand the concern on pollution from agricultural wastes. Agricultural wastes are defined as the excesses and residues from the growing and first processing of raw agricultural products, such as fruits, vegetables, meat, poultry, fish, and dairy products. The introductory chapters deal with the influence of legal constraints and changing agricultural practices on the environmental problems associated with agricultural production. The following chapter focuses on the characteristics of food processing wastes and animal wastes. The remaining chapters are devoted to the fundamentals, principles, and benefits of various waste management processes and treatment systems, including biological and biochemical processes, ponds and lagoons, oxygen transfer, aerobic, anaerobic, physical and chemical treatments, nitrogen control, and land disposal. This book is of great value to food agricultural producers, scientists, and engineers who are interested in knowing and applying feasible agricultural waste management concepts and approaches.
Pollution Control for Agriculture Elsevier
Rapid urbanization has created a major challenge with regard to waste management and environmental protection. However, the problem can be ameliorated by turning organic waste into compost for use as an agricultural fertilizer in peri-urban areas. This is especially significant in less developed countries, where food security is also a key issue. This book addresses these subjects and is based on papers presented at a workshop held in Ghana by the International Board for Soil Research and Management (IBSRAM, now part of the International Water Management Institute) and FAO. Special reference is given to Sub-Saharan Africa, with acknowledgement to experiences from other parts of the world. Contributing authors are from several European, as well as African, countries.
Feed from Animal Wastes Springer Nature
A rapidly growing population, industrialization, modernization, luxury life style, and overall urbanization are associated with the generation of enhanced wastes. The inadequate management of the ever-growing amount of waste has degraded the quality of the natural resources on a regional, state, and country basis, and consequently threatens public health as well as global environmental security. Therefore, there is an existent demand for the improvement of sustainable, efficient, and low-cost technologies to monitor and properly manage the huge quantities of waste and convert these wastes into energy sources. Innovative Waste Management Technologies for Sustainable Development is an essential reference source that discusses management of different types of wastes and provides relevant theoretical frameworks about new waste management technologies for the control of air, water, and soil pollution. This publication also explores the innovative concept of waste-to-energy and its application in safeguarding the environment. Featuring research on topics such as pollution management, vermicomposting, and crude dumping, this book is ideally designed for environmentalists, policymakers, professionals, researchers, scientists, industrialists, and environmental agencies.
Establishment of Laboratory for Utilization of Waste Agricultural Products, Forest Products Laboratory, Miscellaneous Department Bills, Engineering Experiment Stations CreateSpace
Residues from agriculture and the food industry consist of many and varied wastes, in total accounting for over 250 million tonnes of waste per year in the UK alone. Biotechnological processing of these residues would allow these waste products to be used as a resource, with tremendous potential. An extensive range of valuable and usable products can be recovered from what was previously considered waste: including fuels, feeds and pharmaceutical products. In this way Biotechnology can offer many viable alternatives to the disposal of agricultural waste, producing several new products in the process. This book presents up-to-date information on a biotechnology approach for the utilisation of agro-industrial residues, presenting chapters with detailed information on materials and bioconversion technology to obtain products of economic importance: The production of industrial products using agro-industrial residues as substrates The biotechnological potential of agro-industrial residues for bioprocesses Enzymes degrading agro-industrial residues and their production Bioconversion of agro-industrial residues. Written by experts in Biotechnological processing of Agro-Industrial Residues, this book will provide useful information for academic researchers and industry scientists working in biotechnology, waste management, agriculture and the food industry.