Recent Trends In Sericulture

#sericulture trends #silk farming innovations #sustainable sericulture #advanced silk production #future of sericulture

Explore the dynamic landscape of modern sericulture with an overview of recent trends and innovations. This includes advancements in sustainable silk farming, technological integration, and new methods enhancing efficiency and quality in silk production globally, shaping the industry's future.

Shoot Feeding and Sericultural Trends

Sericulture is highly technical and job-oriented subject hence, emerging fastly at global level. The book provides national and international status of sericulture and its development. Rearing of silk worms, shoot feeding rearing method for silkworms, ecology of rearing silkworms, and different trends in rearing technology of silkworms are also important aspects of the book. The book will certainly enrich the knowledge on rearing techniques of silkworm. Therefore, the book is the need of sericulturist, farmers, students, teachers and researchers involved in sericultural activities. Contents Chapter 1: General Introduction, Chapter 2: Rearing of Silkworms, Chapter 3: Shoot Feeding Rearing Method for Silkworms, Chapter 4: Ecological Aspects of Rearings, Chapter 5: Rearing Trends in Silkworms, Chapter 6: Conclusion, Chapter 7: Summary.

Sericulture and Seri-Biodiversity

The concept of biodiversity conservation and gene bank maintenance have gained greater momentum in the recent times and the biodiversity wealth are considered as common heritage of mankind and sovereign rights of the nations. Seri-biodiversity refers to the variability in sericigenous insects and their host plants, which are economically and ecologically important biodiversity and by and large, forest based. There are several wild sericigenous insects and their host plants, which are abundant in the north eastern and sub-Himalayan regions and other parts of the country. However, only 5 types of sericigenous insects are commercially exploited in India and there remains a great scope for producing novel silk from Cricula trifenestrata and Attacus atlas etc. The importance of these lesser known silk producing insects and their host plants are highlighted in Sericulture and Seri- biodiversity where the authors have tried to share their knowledge with eminent sericulturists and sericultural scientists of India and abroad. The book highlights information on various types of silk produced by different types of silkworms and host plants and their interaction. Also, this book provides details on recent trends in global sericulture scenario, apart from utilization and conservation of seri-biodiversity. The book also highlights industries allied to sericulture . As a matter of fact, in the recent times China, Thailand and Korea have embarked on production of various other products from silkworm and their host plants, which makes sericulture more profitable and highly sustainable. It is now essential for India to develop allied industries related to sericulture and make total use of the food plants and silkworm for different products, particularly pharmaceutical products. The book also gives an insight into the environmental impact due to sericulture; being forest based, the wild silkworms contribute to the development of sustainable natural environment, which is very much required these days, since ozone layer is very much in threat due to rapid industrialization and other man made hazards. India should acquire the top

position in the sericultural map of the world - with this dream, the authors have presented this book to the sericulturists, PG students, scientists, educationists, planners, administrators and executives of the country. This is also a ready reference manual on seri-biodiversity in India and thereby very useful to all those engaged in biodiversity, conservation, naturalists, foresters, teachers and students of sericulture.

Silkworm Biofactory

While silk derived from silkworm has been of economic importance for centuries, more recently silkworm has been found to have utility in biomedicine. This has attracted attention for expressing eukaryotic recombinant proteins, which require post-translational modifications. In 1985 Dr. Susumu Maeda demonstrated that silkworm larvae could produce a functional human-interferon. Since then various techniques have been developed to express recombinant proteins in silkworm. With the development of the Bombyx mori nucleopolyhedrovirus (BmNPV) bacmid system, which is capable of replicating in both Escherichia coli and Bombyx mori derived cell lines or silkworm, silkworm larvae or pupae have been used for the expression system for recombinant protein production. This method has the advantage of a bacmid, in that it can be easily prepared for sufficient bacmid DNA for subsequent expression in silkworm. It is potentially a big breakthrough in production of recombinant eukaryotic proteins and viruses, which will be a powerful tool in a new proteome era. This volume contributes to the advancement of our knowledge in the subject, for example gene expression systems and silkworm research, and focuses on silkworm biofactories for the recombinant protein production and commercial applications of proteins.

Methods in Microbiology

The book Methods in Silkworm Microbiology is the first ever publication that provides in-depth reviews on the latest progresses about silkworm –pathogen interactions, diseases and management practices for sustainable development of sericulture. Different molecular and immunodiagnostic methods for the detection of pathogens have been comprehensively addressed. Most recent advancements on the role of Micro RNAs in silkworm and pathogen interactions are provided with suitable illustrations. Recent technological advances and emerging trends in exploring silkworm gut microbial communities towards translation research, particularly to understand microbiome functions have been highlighted. Information on various immune mechanisms of silkworm against invading pathogens is summarized. The book further highlights the silkworm gut microbiota as a potential source for biotechnological applications. Provide comprehensive reviews and valuable methods from the selected experts on the topic "Methods in silkworm microbiology/pathology" Provides latest information on application of genomics and transcriptomics to decipher silkworm gut microbial communities. Different molecular and immunodiagnostic methods for the detection of pathogens have been comprehensively addressed Provides up to date information on silkworm-pathogen interactions, different silkworm diseases and immune mechanisms

Recent Trends in Agriculture towards Food Security and Rural Livelihood- Vol.1

This book is an extensive collection of new research on nanoscience and nanomaterials by experts working in the fields of nanoscience, material science, energy, agriculture, computer science and engineering, atmospheric nanoscience, medicine, and nanobiotechnology.

Silk Fibroin: Advances in Applications and Research

Proceedings of the 31st Annual Conference of Ethological Society of India, held at Bangalore during 10-12 April 2007.

Recent Trends in Animal Behaviour

Current Trends in Biological Sciences are more inclined toward interdisciplinary studies.The present book provides a balanced approach to higher levels of biological organization. It also serves in the emerging disciplines of conservation biology and natural resource management. Recent developments in the technologies have led to a better understanding of the living system and this has removed the demarcations between various disciplines of biological sciences. This book discusses and interprets major issues in environmental science, environmental technology, the effect of climate and weather on sericulture and aquaculture, toxicology, ecotoxicology, oncology, epidemiology, public health, biology and control of insect pests, haloarchaea, antimicrobials, transgenic plant development, ethnobotany,

food and nutrition, pharmaceutical, soil science, biofertilizers this is all used to understand the challenges found in biological sciences. We attempted to provide up-to-current knowledge based on a basic concept in biological research involving a merger of diverse disciplines. Moreover, it takes a futuristic look at such important topics as sustainability, environmental problems and the relationship between toxicology, ecotoxicology and environmental science.

CURRENT TRENDS IN BIOLOGICAL SCIENCES

This book provides an overview on the basics in insect molecular biology and presents the most recent developments in several fields such as insect genomics and proteomics, insect pathology and applications of insect derived compounds in modern research. The book aims to provide a common platform for the molecular entomologist to stimulate further research in insect molecular biology and biotechnology. Insects are one of the most versatile groups of the animal kingdom. Due to their large population sizes and adaptability since long they attract researchers' interest as efficient resource for agricultural and biotechnological purposes. Several economically important insects such as Silkworms, Honey Bee, Lac and Drosophila or Termites were established as invertebrate model organisms. Starting with the era of genetic engineering, a broad range of molecular and genetic tools have been developed to study the molecular biology of these insects in detail and thus opened up a new horizon for multidisciplinary research. Nowadays, insect derived products are widely used in biomedical and biotechnology industries. The book targets researchers from both academia and industry, professors and graduate students working in molecular biology, biotechnology and entomology.

Trends in Insect Molecular Biology and Biotechnology

Silk: Processing, Properties and Applications, Second Edition, examines all aspects of silk technology, including its manufacture, processing, properties, structure-property relationships, dyeing, printing and finishing, and applications. This new edition is updated and expanded to include the very latest developments in silk production. Detailed chapters discuss silk reeling and silk fabric manufacture, the structural aspects of silk, its mechanical and thermal properties, and silk dyeing. Further chapters focus on the latest developments in terms of processing and applications, covering emerging topics, such as spider silks, non-mulberry silks, the printing and finishing of silk fabrics, and by-products of the silk industry. This book will be a highly valuable source of information for textile technologists, engineers and manufacturers, fiber scientists, researchers and academics in natural fibers or textile technology. Offers in-depth coverage of silk production, properties and structure-property relationships Provides an authoritative reference on sericulture, silk fabric processing and applications of silk Expanded to include non-mulberry silks, printing and finishing of silk fabrics, and by-products of sericulture

Silk

Study conducted at Sholinghur Block of Walajapet Taluk in Vellore District of Tamil Nadu, India.

Recent Trends and Possibilities in Mycological Research

Despite being the biggest group of organisms inhabiting Earth in both diversity and sheer numbers, insects are barely commercialized. Most of the standard textbooks of applied entomology talk about insect pest management, and when it comes to commercial aspects of insects, only apiculture, sericulture, and lac culture are talked about. This book will help bring other commercial uses of insects and their economic potential to the fore. This will generate interest in further research on the commercial potential of insects, thereby harnessing a much-found resource. The book has the following salient features: 1. Encompasses all major aspects of beneficial and commercial insects. 2. Deals with edible insects and mass culture of natural enemies and beneficial insects. 3. Emphasis on the mass cultivation of beneficial insects for obtaining yields. 4. Discusses stingless bees and their products. 5. Helps to solve the problem of food scarcity and improve food security.

New Trends in Christian Theology

Immunity in insects is different from immunity in vertebrates. Insects lack immunoglobulins even though they are capable of reacting against foreign components with effective defense mechanism. There has been a marked advancement in most of the fields of science in the past two decades. Insect immunity is also one of them. It is a developing subject which is now established as a new branch in insect study. This treatise is an attempt to compile meaningful articles of leading workers in this field, nevertheless

we do not claim that leadership in insect immunity is by any means restricted to them. The idea is to provide a vibrant description of various aspects of "Insect Immunity". With the rapid development of the subject, it is difficult for any one author to discuss all the aspects of an area in a limited number of pages, even then they have done their utmost to include the entire development of the subject in their articles. The treatise deals with insect haemocytes, their population, isolation and role in defense mechanism, humoral encapsulation, inducible humoral antibacterial immunity, cellular immune reactions, role of endocrines, role of prophenol oxidase system in cellular communication, haemagglutinins and impact of parasite on insect immune system. Some topics could not be covered because experts in those area though willing could not complete their commitment within time limits.

Commercial Insects

This work is intended to serve as a textbook on sericulture for academic courses. It may also be useful to farmers and field workers.

Insect Immunity

Edited by a leading expert in the field with contributions from experienced researchers in fibers and textiles, this handbook reviews the current state of fibrous materials and provides a broad overview of their use in research and development. Volume One focuses on the classes of fibers, their production and characterization, while the second volume concentrates on their applications, including emerging ones in the areas of energy, environmental science and healthcare. Unparalleled knowledge of high relevance to academia and industry.

Silkworm Rearing

This comprehensive volume covers recent studies into agricultural problems caused by soil and water contamination. Considering the importance of agricultural crops to human health, the editors have focused on chapters detailing the negative impact of heavy metals, excessive chemical fertilizer use, nutrients, pesticides, herbicides, insecticides, agricultural wastes and toxic pollutants, among others, on agricultural soil and crops. In addition, the chapters offer solutions to these negative impacts through various scientific approaches, including using biotechnology, nanotechnology, nutrient management strategies, biofertilizers, as well as potent PGRs and elicitors. This book serves as a key source of information on scientific and engineered approaches and challenges for the bioremediation of agricultural contamination worldwide. This book should be helpful for research students, teachers, agriculturalists, agronomists, botanists, and plant growers, as well as in the fields of agriculture, agronomy, plant science, plant biology, and biotechnology, among others. It serves as an excellent reference on the current research and future directions of contaminants in agriculture from laboratory research to field application.

Handbook of Fibrous Materials, 2 Volumes

The environment is an all-encompassing component of the ecosystem of "Blue planet - the earth\

Contaminants in Agriculture

The remarkable properties of silk fibres have gained them a prominent place in the field of technical textiles. Advances in Silk Science and Technology explores recent developments in silk processing, properties and applications. Techniques for manufacturing spider silk are also discussed and the current and future applications of this fibre are reviewed. Part One focuses on the properties and processing of silk from both silkworms and spiders. It addresses recent advances in our understanding of the properties of silk and offers systematic coverage of the processing of silk from spinning through to finishing, as well as an analysis of quality testing for silk fibres, yarns and fabrics. Part Two then addresses important applications of silk from silkworms and spiders, and includes chapters on the use of silk in polymer matrix composites and in different kinds of biomaterial. The book concludes with a chapter on developments in the use of silk waste. Reviews the properties of silk from both silkworms and spiders Offers systematic coverage of the processing of silk from spinning through to finishing Cover a range of applications, including on the use of silk in polymer matrix composites and in different kinds of biomaterial

Emerging Trends in Environmental Biotechnology

"If you can't beat it, eat it." Words of wisdom from the author of this portable guide that emphasizes finding practical uses for weeds rather than waging pesticidal war on them. CRC Handbook of Edible Weeds contains detailed descriptions and illustrations of 100 edible weeds, representing 100 genera of higher plant species. Some of the species are strictly American, but many are cosmopolitan weeds. Each account includes common names recognized by the Weed Science Society of America, standard Latin scientific names, uses, and distribution (geographic and ecological). Cautionary notes are included regarding the potential allergenic or other harmful properties of many of the weeds. CRC Handbook of Edible Weeds is an excellent volume for botanists, plant scientists, horticulturalists, herbalists, and others interested in the edibility and practical uses of weeds.

Bibliography of Agriculture

This volume comprises normal tables (description of normal development) for protozoa and invertebrates widely used in developmental biology studies. The species chosen reflect their advantages for laboratory studies, the information avail able, and their availability for experimentation. Chapter 11, which contains the normal tables for the starfish Asterina pectinifera, was written specially for this edi tion, which is the invertebrate section of the revised and augmented translation of Ob"ekty Biologii Razvitiya published in Russian in 1975 as a volume in the series of monographs Problemy Biologii Razyitiya (Problems of Developmental Biology) by Nauka Publishers, Moscow. The description of every species is preceded by an introduction in which the advantages of working with the particular animal are stated and the problems stud ied (with the main references) are outlined. Data are also provided on its taxonomic status and distribution of the animal, and conditions of keeping the adult animals in laboratory. Methods of obtaining gametes, methods of artificial fertilization, meth ods of rearing embryos and larvae, and tables of normal development are also given.

Advances in Silk Science and Technology

This book highlights the role of women in various activities involved activities involved in raising mulberry crop and rearing of silk worms. This research study supports the argument that sericulture is a highly profitable income generating activity to elevate the status of rural poor especially women. Contents: Introduction, Progress of Sericulture in Andhra Pradesh, Progress of Sericulture in Rayalaseema Region, Economics of Sericulture, Employment Generation for Women Through Sericulture, Problems of Sericulture, Summary and Conclusions.

Handbook of Edible Weeds

This book is intended as a reference guide for graduate students, postgraduate students and researchers with a basic knowledge of protein chemistry who would like to know more about the biomedical applications of natural proteins to promote healthier lives. The book is divided into ten chapters, each of which explains different natural proteins and their established biomedical applications. The first chapter extensively deals with protein based natural fibers and provides an overview of all protein based fibers currently available. In turn, chapter two mainly focuses on the biomedical applications of a special class of proteins called Heat Shock Proteins; the biomedical applications of silkworm pupae proteins are dealt in chapter three. Chapter four examines an interesting use of Eri silk fibroin as a biomaterial for Tissue Engineering, while chapter five discusses the key experimental details involved in converting Tasar silk sericin into self-assembled nanoparticles. Chapter six offers brief descriptions of bioactive proteins with respect to their sources, synthesis and applications. Chapter seven is dedicated to Interleukine-8 and its role in human life, while chapter eight addresses the importance of natural proteins in infectious diseases. Chapter nine explores the issue of excess intake of dietary proteins and its adverse effects, and finally, chapter ten discusses the efficiency of drug delivery systems made up of gelatin nanocomposites. The book is above all intended as a valuable resource for students and researchers alike, sparking their curiosity with regard to the applications of natural proteins and motivating them to focus their own energies on the discovery or identification of additional natural proteins for diverse biomedical uses.

Annual Plan

Social sciences have always been an important tool that enables human beings to examine and understand society. Through social sciences, researchers gain understandings of social phenomena and changes by providing commentaries, producing explanations, and attempting to synthesize a diversity of information sets to formulate theories. Since the concept of change has been the hallmark

of the new millennium, researchers have witnessed a transformation in every aspect of the modern world at an ever-increasing speed, particularly in the social facet of human life. Ways of thinking that had previously been upheld and taught may, therefore, no longer be appropriate or effective as tools to understand contemporary phenomena and changes. The Handbook of Research on Current Trends in Asian Economics, Business, and Administration is a critical reference source that examines different aspects of social sciences, management, sociology, and education to better understand today's society and social life in the Asian context. The book identifies trends, impacts, and implications of disruptive technologies for business and socio-economic development as well as strategic advantage on different levels of business and administration. Covering topics that include e-commerce, green management, information technology, economic growth, and distance learning, this book is essential for economists, academicians, government officials, policymakers, social scientists, managers, leaders, behavioral scientists, academicians, researchers, and students.

Animal Species for Developmental Studies

Study conducted at Maharashtra State, India.

Women in Sericulture

This book presents the peer-reviewed proceedings of the 2nd International Conference on Computational and Bioengineering (CBE 2020) jointly organized in virtual mode by the Department of Computer Science and the Department of BioScience & Sericulture, Sri Padmavati Mahila Visvavidyalayam (Women's University), Tirupati, Andhra Pradesh, India, during 4–5 December 2020. The book includes the latest research on advanced computational methodologies such as artificial intelligence, data mining and data warehousing, cloud computing, computational intelligence, soft computing, image processing, Internet of things, cognitive computing, wireless networks, social networks, big data analytics, machine learning, network security, computer networks and communications, bioinformatics, biocomputing/biometrics, computational biology, biomaterials, bioengineering, and medical and biomedical informatics.

Biomedical Applications of Natural Proteins

White biotechnology is industrial biotechnology dealing with various biotech products through applications of microbes. The main application of white biotechnology is commercial production of various useful organic substances, such as acetic acid, citric acid, acetone, glycerine, etc., and antibiotics like penicillin, streptomycin, mitomycin, etc., and value added product through the use of microorganisms especially fungi and bacteria. The value-added products included bioactive compounds, secondary metabolites, pigments and industrially important enzymes for potential applications in agriculture, pharmaceuticals, medicine and allied sectors for human welfare. In the 21st century, techniques were developed to harness fungi to protect human health (through antibiotics, antimicrobial, immunosuppressive agents, value-added products etc.), which led to industrial scale production of enzymes, alkaloids, detergents, acids, biosurfactants. The first large-scale industrial applications of modern biotechnology have been made in the areas of food and animal feed production (agricultural/green biotechnology) and pharmaceuticals (medical/red biotechnology). In contrast, the production of bio-active compounds through fermentation or enzymatic conversion is known industrial or white biotechnology. The beneficial fungal strains may play important role in agriculture, industry and the medical sectors. The beneficial fungi play a significance role in plant growth promotion, and soil fertility using both, direct (solubilization of phosphorus, potassium and zinc; production of indole acetic acid, gibberellic acid, cytokinin and siderophores) and indirect (production of hydrolytic enzymes, siderophores, ammonia, hydrogen cyanides and antibiotics) mechanisms of plant growth promotion for sustainable agriculture. The fungal strains and their products (enzymes, bio-active compounds and secondary metabolites) are very useful for industry. The discovery of antibiotics is a milestone in the development of white biotechnology. Since then, white biotechnology has steadily developed and now plays a key role in several industrial sectors, providing both high valued nutraceuticals and pharmaceutical products. The fungal strains and bio-active compounds also play important role in the environmental cleaning. This volume covers the latest research developments related to value-added products in white biotechnology through fungi.

Handbook of Research on Current Trends in Asian Economics, Business, and Administration

Contents: Introduction, Cultivation of Mulberry for Seed Crop, Silkworm and its Races, Disinfection and Hygiene, Seed Production, Oviposition and Egg Preservation, Diapause and Hatching, Seed Crop Rearing, Hybrid Vigour and Heritability, Silkworm Diseases and Pests.

Silk Worm Crops

Wild crop relatives are now playing a significant part in the elucidation and improvement of the genomes of their cultivated counterparts. This work includes comprehensive examinations of the status, origin, distribution, morphology, cytology, genetic diversity and available genetic and genomic resources of numerous wild crop relatives, as well as of their evolution and phylogenetic relationship. Further topics include their role as model plants, genetic erosion and conservation efforts, and their domestication for the purposes of bioenergy, phytomedicines, nutraceuticals and phytoremediation. Wild Crop Relatives: Genomic and Breeding Resources comprises 10 volumes on Cereals, Millets and Grasses, Oilseeds, Legume Crops and Forages, Vegetables, Temperate Fruits, Tropical and Subtropical Fruits, Industrial Crops, Plantation and Ornamental Crops, and Forest Trees. It contains 125 chapters written by nearly 400 well-known authors from about 40 countries.

Sericulture Industry in Bangladesh

Contents: Biodiversity, Living with Diversity, Saving the Planet, Population and the Environment, Ecosystems, Our Unknown Protectors, Climate Change and Human Health, Population Growth and Climate Change, Economics and Sustainable Development, Urbanization and the Environment, Sustainable Cities, Fresh Water and the Environment, Forests, Towards Healthy Cities, Global Warming, Money Alone is not Enough, Tourism and the Environment, Energy and Sustainability, Cities Residents to the Rescue, Children s Health and the Environment, Ecotourism or Ecocide? Sustainable Tourism Development, Economics and Environment, Population Growth and Energy, Population Growth and Urbanization, Population Growth and Waste, Using Economics to Advantage, Water, Solutions for a Water-Short World, Living with Leviathan, An Agenda for Change, Sustainable Tourism and the Environment, Big-Dam Construction is on the Rise, Population Growth and Fresh Water, Population Growth and Natural Recreation Areas, Development of Sericulture, The Do s and Don ts of Risk Reduction, Consuming the Future, Crisis Prevention, Crisis and New Orientation of Development Policy, Aid Effectiveness as a Multi-Level Process, The Dematerialisation of the World Economy, What s Driving Migration, Not Yet Fossil Fuel.

Research Trends in Multidisciplinary subjects - Volume 1

Contents: Opening Markets for Agriculture, The Future of Agricultural Trade, The Uruguay Round and Agricultural Reform, WTO Agricultural Negotiations, Export Subsidies, Developing Countries and the WTO Agricultural Negotiations, The Uruguay Round Agreement on Agriculture, Food First, India s Food Challenge, Food Security, Irrigation Management, Population Growth and Cropland, Population Growth and Grain Production, Population Growth and Meat Production, Watershed Development Programme, Development of Sericulture, Solving Conflicts Over Water Uses, End of Controversy on Large Dams?, Controlling the Global Tobacco Epidemic Towards a Transnational Response, A Breakthrough in the Evolution of Large Dams?, Water Facts and Findings on Large Dams, Trading Towards Peace, Development, A New World Order for Whom?, State Trading Enterprises, Developing Countries and the Uruguay Round, The WTO and the Developing Countries, Rural Poverty in India, Economics and Sustainable Development, Solving the Unemployment Problem by Looking Beyond the Job, Social Summit, Tapping the Market, The Trade Related Intellectual Property Rights (TRIPS) Agreement and the Developing Countries, What s Driving Migration, Crisis Prevention.

Indian Silk

Proceedings of the 2nd International Conference on Computational and Bio Engineering