

## Monograph On Neem Azadirachta Indica A Juss 1st Edition

1 Introduction; 2. Morphology; 3. Anatomical features of leaf, bark and wood; 4. Silviculture and management 5. Genetics; 6. Insect Pest Problems and their management; 7. An overview: Neem in Pest Management; 8. Disease of Neem; 9. Utilisation of Neem; 10

Food security and the medicinal needs of billions of people around the world are pressing global issues, and the biodiversity and sustainable utilization of plants is of great significance in this context. Further, ethnobotanical studies are vital in the discovery of new drugs from indigenous medicinal plants, and plants with industrially important metabolites need to be cultivated to meet the growing market demand. In addition, the production of plant metabolites under in vitro conditions also has tremendous possibilities. The totipotency of plant cells plays a valuable role in the sustainable utilization of plant resources through cell, tissue and organ culture. At the same time, production can be enhanced using productive cell lines, treatment with elicitors, changing nutritional parameters and metabolic engineering. This book provides state-of-the-art information on biodiversity, conservation, ethnobotany, various aspects of In vitro secondary metabolite production, bioprospecting from various plant groups and drug discovery. It also discusses methods of extracting and characterizing drug leads from plant sources.?

Monograph on Neem (Azadirachta Indica A. Juss.)

Contributed articles.

Neem

Neem in Sri Lanka

Biofuels : Potential And Challenges

The Prosopis Julifora-Prosopis Pallida Complex

Natural Products from Plants, Second Edition

Neem is a fascinating tree. On the one hand, it seems to be one of the most promising of all plants and may eventually benefit every person on the planet. Probably no other yields as many strange and varied products or has as many exploitable by-products. Indeed, as foreseen by some scientists, this plant may usher in a new era in pest control, provide millions with inexpensive medicines, cut down the rate of human population growth, and perhaps even reduce erosion, deforestation, and the excessive temperature of an overheated globe. On the other hand, that all remains only a vague promise. Although the enthusiasm may be justified, it is largely founded on empirical or anecdotal evidence. Our purpose here is to marshal the various facts about this little-known species, to help illuminate its future promise, and to speed realization of its potential. This report has been produced by the National Research Council particularly for nonspecialists such as

government ministers, research directors, university students, private voluntary organizations, and entrepreneurs. It is intended as an economic development document, not a scientific monograph.

The chemicals from plant sources, generally termed as phytochemicals, play an important role in acceptance or rejection of the plant by the pests as they could be distasteful or toxic on one hand or on the other hand specialist herbivores have the capability to feed on many such chemicals, as they are able to process these natural products in a manner that is beneficial to them. In the wake of increasing environmental degradation due to burgeoning synthetic chemicals, there has been a process going on to rediscover the usefulness of plants and herbs and a continued effort for more than 2 decades has been to study the green products for cures for several ailments and pest management. In fact, according to Indian Medicinal Plants: A Sectoral Study, the global trade for medicinal plants amounts to about US \$ 60 billion and the world demand continues to grow at the rate of 7 per cent per annum. Although many such plants are known in literature, neem has been one of trees with manifold virtues. Indian neem tree, *Azadirachta indica* A. Juss, which is a large evergreen tree, is an outstanding example among plants that has been subject matter of numerous scientific studies concerning its utilization in medicine, industry and agriculture. So far neem preparations have been evaluated against more than 500 species of insects and more than 400 hundred are reported to be susceptible at different concentrations.

The neem tree, one of the most promising of all plants, may eventually benefit every person on the planet. Probably no other plant yields as many varied products or has as many exploitable by-products. Indeed, as foreseen by some scientists, this tree may usher in a new era in pest control; provide millions with inexpensive medicines; cut the rate of population growth; and perhaps even reduce erosion, deforestation, and the excessive temperature of an overheated globe. On the other hand, although the enthusiasm may be justified, it is largely founded on exploratory investigations and empirical and anecdotal evidence. The purpose of this book is to marshal the various facts about this little-known species, to help illuminate its future promise, and to speed realization of its potential.

Community-oriented conservation of natural resources and promotion and protection of trees in drylands are examples to deal with climatic adversities. This book provides knowledge on climatic, ecological, social and economic condition of dry areas and lay out approaches and strategies to restore degraded lands. There are 15 chapters and first five deals with physiography of Rajasthan, drylands ecology, problems of land degradation, its economic evaluation and the approaches and strategies of restoration and rehabilitation. Next two chapters describe the problems of sand drift, salinity, water logging and effluent inflicted areas and strategies to control them. Chapters 8-10 deal with seed production, quality planting materials, genetic improvement, propagation and planting techniques. Chapters 11-12 describe methods of rain water harvesting and irrigation, and resources

conservation for seed sowing and favouring regeneration and successions. Effective management of pests/diseases in nurseries and plantation, growth and yield prediction equations and models, and people's perception and participation in managing forest resources have been described in last 3 chapters. Purpose of this publication is to strengthen the forest functionaries and readers with wide ranging knowledge on land degradation, desertification and eco-biology of drylands; and methods to restore and rehabilitate degrading forest (lands) to increase forest cover, enhance resilience and people livelihoods and improve environmental conditions. Academician, researchers, forest managers, non-government organizations, extension agents and environmentalists can use it in developing, conserving and managing drylands ecosystems for its long lasting beneficial effects. This book is also useful to policy makers in effective planning of restoring, protecting and conserving dryland's ecological and socioeconomic services.

Home Remedies

Plant Metabolites: Methods, Applications and Prospects

Traditional Medicinal Plants and Malaria

The Indian Forester

PROSEA : Plant Resources of South-East Asia 11, Auxiliary Plants

***Discover the clinic in your kitchen Even before Charaka compiled the Samhita, his treatise on Ayurveda, in the second century B.C., women and men were using herbs from their kitchens, fields and forests to alleviate pain and cure sickness. But with the coming of Western medicine, such indigenous practices were condemned out of court as 'unscientific'. This book, the outcome of over three decades of journeying and interactions with barely recognized vaidas, ohjas and small community physicians, attempts to document these practices, while presenting also the findings of Western science that has only recently begun to acknowledge and legitimize them. Forty of the most common herbs in every Indian kitchen, including well-loved familiars such as garlic, ginger and pudina and the more special saffron, almonds and figs, are described here as known in local, specialized healing traditions. The botanical profile of each herb is followed by an extensive record of its medicinal uses in particular ailments, with detailed notes on the preparation and dosage of each remedy and an extensive bibliography of research articles. Comprehensive and separate glossaries of English and non-English technical terms and unfamiliar herbs, a multi-language index of plant names, and detailed illustrations make Home Remedies a unique reference guide to rediscovering a host of remedies for the most commonly encountered ailments.***

***The present edited volume 'Neem - A Treatise' provides a comprehensive and authoritative account of this wonder tree - Neem (Azadirachta indica A. Juss). An excellent reference text, it offers a***

**versatile and indepth account of occurrence, distribution, ethnobotany, uses in agroforestry, silviculture and social forestry, cultivation and improvement of neem, propagation by tissue culture, chemical constituents and their bioactivity against micro-flora and micro-fauna, disease, stored grain insect-pests, enhancing fertilizer use efficiency, neem in health and cosmetics, various therapeutic uses such as malaria and vector control, contraceptive, ancient veterinary medicines, uses of neem bark in dyeing cotton fabrics and steps for promoting neem and its cultivation. Hopefully, this book will be very useful for researchers of various disciplines such as botany, forestry, chemistry, toxicology, agrochemicals, soil science, agronomy, entomology, plant pathology, medical and veterinary science and to the environmental conscious farmers of developed and developing countries. The present book includes 37 chapters broadly divided in 8 sections contributed by eminent scientists working on different aspects of neem. An attempt has been made to present as many aspects as possible under the sections given below:**

**Study on Azadirachta indica, a multipurpose tree recognized for its historical, religious, and social values in Sri Lanka.**

**Healthcare professionals, including doctors, pharmacists and nurses, are often confronted with patients who use over-the-counter (OTC) herbal medicinal products and food supplements. While taking responsibility for one's own health and treatment options is encouraged, many patients use these products based on limited (and sometimes inaccurate) information from non-scientific sources, such as the popular press and internet. There is a clear need to offer balanced, well-informed advice to patients, yet a number of studies have shown that, generally, conventionally trained health practitioners consider their knowledge about herbal medicinal products and supplements to be weak. Phytopharmacy fills this knowledge gap, and is intended for use by the busy pharmacist, nurse, or doctor, as well as the 'expert patient' and students of pharmacy and herbal medicine. It presents clear, practical and concise monographs on over a hundred popular herbal medicines and plant-based food supplements.**

**Information provided in each monograph includes: • Indications • Summary and appraisal of clinical and pre-clinical evidence • Potential interactions • Contraindications • Possible adverse effects An overview of the current regulatory framework is also outlined, notably the EU Traditional Herbal Medicinal Products Directive. This stipulates that only licensed products or registered traditional herbal medicinal products (THRs), which have assured quality and safety, can now legally be sold OTC. Monographs are included of most of the major herbal ingredients found in THRs, and also some plant-based food**

**supplements, which while not strictly medicines, may also have the potential to exert a physiological effect.**

**Plant Gum Exudates of the World**

**Ecofriendly Pest Management for Food Security**

**A Monograph**

**Sources, Distribution, Properties, and Applications**

**Plantation And Agroforestry Pulpwood Value Chain Approach**

Ecofriendly Pest Management for Food Security explores the broad range of opportunity and challenges afforded by Integrated Pest Management systems. The book focuses on the insect resistance that has developed as a result of pest control chemicals, and how new methods of environmentally complementary pest control can be used to suppress harmful organisms while protecting the soil, plants, and air around them. As the world's population continues its rapid increase, this book addresses the production of cereals, vegetables, fruits, and other foods and their subsequent demand increase. Traditional means of food crop production face proven limitations and increasing research is turning to alternative means of crop growth and protection. Addresses environmentally focused pest control with specific attention to its role in food security and sustainability. Includes a range of pest management methods, from natural enemies to biomolecules. Written by experts with extensive real-world experience.

The book on "Forestry Technologies – A Complete Value Chain Approach" has been designed to cater to the needs of the stakeholders by judiciously incorporating the recent technologies and research outputs available in various sectors of institutions. The book has four major themes viz., basic and strategic technology, production technology, processing and value addition technology and consumption technology. The basic and strategic technology incorporated seven chapters which include basic information and the recent scientific applications such as: nano technology and urban forestry technology. The production technology incorporated 16 chapters that includes all the recent developments such as: mini clonal technology, high yielding short rotation variety, land development and precision silvicultural technology, and multifunctional agroforestry. Processing and value addition technology incorporated 11 chapters and the consumption technology incorporated five chapters which include the recent developments in processing, value addition and the associated supply chain process. In a holistic perspective, the current book will serve as a readymade reference material to the practicing foresters, scientific professionals, wood based industries, policy makers, forestry students, financial and other academic and research institutions.

Insect-Borne Diseases in the 21st Century provides a comprehensive look at the most notorious diseases carried by insects. It offers an assessment of current and potential insect-vectored diseases as they relate to human health and agricultural and livestock production. Written by a leading expert in insect-borne diseases, it examines the history of insect-borne diseases, beginning with those that have been well-known to scientists for decades, also including recent outbreaks like Zika. The book takes into consideration environmental conditions and climate change and explores the bionetworks and system biology of potential new superorganisms, offering preventative and protective solutions. This is a must-have resource for entomology researchers and students who seek the most up-to-date information on disease-causing pathogens transmitted by insects. This book will also serve as a resource for ordinary people whose lives may be affected by such diseases. Details the leading insect-transmitted diseases, including malaria, West Nile, Zika, dengue, yellow fever and Xylella Examines containment issues, including resistance phenomena among insects and microorganisms Offers alternative solutions to protection and prevention, including natural and environmentally-friendly insecticides

Proceedings of the World Neem Conference, held at Bangalore, India, from 24 to 28 February, 1993, organized by Indian Society of Tobacco Science.

Recent Advances

Monographs in Contact Allergy: Volume 2

Annals of Forestry

Insect-Borne Diseases in the 21st Century

Neem and Environment

Biofuel is a non polluting, locally available, accessible, sustainable and reliable fuel obtained from renewable sources. In order to deliberate the key issues by scientific and research community and industry to accelerate the growth of biofuel industry, Tropical Forest Research Institute, Jabalpur organized a National Conference on "Biofuels: Potential and Challenges" from 25 - 26 February, 2009. The conference has brought together researchers, policy makers, industries and all other stakeholders so that productive discussions can take place on how best to meet India's growing biofuel needs. This book is a edited collection of papers presented during the conference, published in the form of proceedings.

This comprehensive review on neem is an excellent collation of observations and research efforts by botanists, taxonomists and medical practitioners and will be of interest to everyone with an interest involved in medicinal and aromatic plant research. Plant Gum Exudates of the World: Sources, Distributions, Properties, and Applications is the most extensive collection of plant gum exudates in print, containing information on both well-established exudates and newer ones. It not only introduces an array of exudates never before described or reviewed, but also classifies gums according to their botanical taxonomy. This readily accessible book also supplies color plates of exudates in their natural environment along with relevant botanical parts. Each entry includes: Botanical name Common and vernacular gum names Geographical distribution information Appearance and color descriptions Water solubility information Chemical characteristics Structural features Physical and physicochemical properties Commercial availability Industrial and food applications Synonyms of and uses for the producing tree or shrub

The compendium is a compilation of research papers, covering various aspects of mycorrhiza, presented at the National Conference on Mycorrhiza held at Barkatullah University, Bhopal. There, the contributors come from different field of research have discussed - in recent future it will be possible the application of mycorrhizal inoculum in large-scale by developing cost-effective technology. Also demonstrations of the use of mycorrhizal-technology have to be carried out in farmer's field and forest nurseries to show the benefits of mycorrhiza in enhancing plant growth and reducing chemical fertilizer use in cultivation practices. The departments, companies and NGOs involved in afforestation and agricultural activities are advised to include eco-friendly mycorrhizal-technology in their programmes, thus, helping in reducing the use of chemicals. The book will serve as a useful guide for conducting further research studies on the interactions between plant and mycorrhiza.

Handbook of African Medicinal Plants, Second Edition

Monograph on Neem (Azadirachta Indica A. Juss.)

Genetic Improvement of Neem

An Evidence-Based Guide to Herbal Medicinal Products

Strategies for the Future : Proceedings of an International Consultation Held at Kasetsart University, Bangkok, Thailand, 18-22 January 1993

***Malaria is an increasing worldwide threat, with more than three hundred million infections and one million deaths every year.***

The worlds poorest are the worst affected, and many treat themselves with traditional herbal medicines. These are often more available and affordable, and sometimes are perceived as more effective than conventional antimala

This second volume in an exciting and detailed series on contact allergens provides monographs of all 181 fragrances and 79 essential oils which have caused contact allergy / allergic contact dermatitis, including the indicators for fragrance allergy (fragrance mixes I and II and Myroxylon pereirae resin [Balsam of Peru]) and non-fragrance allergens in botanical products used in the perfume industry. The monographs present: Identification section; Contact allergy (general population, patients with dermatitis, case reports and case series); Cross-reactions; Patch test sensitization; Presence in products and chemical analyses; Other side effects (irritant contact dermatitis, photosensitivity, immediate-type reactions, systemic side effects) and more. Key Features: Presents monographs of all known fragrance chemicals and essential oils which have caused contact allergy / allergic contact dermatitis Provides a full literature review of relevant topics of allergenic fragrances and essential oils Identifies INCI and IUPAC names, synonyms, CAS and EC numbers, structural formulas, RIFM and Merck Index monographs, SCCS opinions, IFRA and EU restrictions and advises on patch testing Presents an alphabetical list of all synonyms indicating their INCI names Covers an extensive amount of information to benefit dermatologists, allergists, and non-medical professionals involved with the research, development and marketing of fragrances and essential oils

This book consists of cutting-edge materials drawn from diverse, authoritative sources, which are sequentially arranged into a multipurpose, one-stop shop, user-friendly text. It is divided into four parts as follows: part 1: historical overview of some indigenous medical systems, an outline of the basic concepts of pharmacognosy, ethnopharmacology, common analytical methods for isolating and characterising phytochemicals, and the different methods for evaluating the quality, purity, and biological and pharmacological activities of plant extracts part 2: phytochemistry and mode of action of major plant metabolites part 3: systems-based phytotherapeutics, discussion on how the dysfunction of the main systems of the human body can be treated with herbal remedies part 4: 153 monographs of some medicinal plants commonly used around the world, including 63 on African medicinal plants. This book therefore demonstrates the scrupulous intellectual nature of herbalism, depicting it as a scientific discipline in its own right.

**PESTS OF FOREST IMPORTANCE AND THEIR MANAGEMENT** is a unique book

comprising all the major components of a sylvatic ecosystem from the standpoint of pests of economic importance and their control using both conventional and modern applications. The book is a compilation of 15 specialist articles woven around the central theme of the objective envisaging a variety of forest arthropod pests including both insects and arachnids as well as vertebrates. The book, written in a lucid and clearly comprehensible style, consists of closely knitted articles on taxonomy, biology, economic forestry, ecology, biogeography, prevention and control of the forest products from the pest attack, which all make an interesting reading and will hopefully serve a good purpose of a reference work for both a serious researcher and the amateur naïve enthusiast.

*Fundamentals of Herbal Medicine*

*The Unani Pharmacopoeia of India*

*Neem: Today and in the New Millennium*

*Neem, a Treatise*

**2008 NOMINEE The Council on Botanical and Horticultural Libraries**

**Annual Award for a Significant Work in Botanical or Horticultural**

**Literature From medicinal, industrial, and culinary uses to cutting-edge laboratory techniques in modern research and plant conservation**

**strategies, *Natural Products from Plants, Second Edition* reveals a vastly expanded understanding of the natural products that plants produce. In a single volume, this book offers a thorough inventory of the various types of plant-derived compounds. It covers their chemical composition, structure, and properties alongside the most effective ways to identify, extract, analyze, and characterize new plant-derived compounds. The authors examine new information on the chemical mechanisms plants use to deter predators and pathogens, attract symbiotic organisms, and defend themselves against environmental stress—insights which are key for adapting such mechanisms to human health. Along with updated and revised information from the highly acclaimed first edition, the second edition presents seven new chapters and features more than 50% new material relating to plant constituents, natural product biochemistry, and molecular biology. The book incorporates in-depth treatment of natural product biosynthesis with new collection and extraction protocols, advanced separation and analytical techniques, up-to-date bioassays, as well as modern molecular biology and plant biotechnology for the production of natural products. Unique in its breadth and coverage, *Natural Products from Plants, Second Edition* belongs on the shelf of interested researchers, policymakers, and consumers— particularly those involved in disease prevention, treatment, and pharmaceutical applications—who need a complete guide to the properties, uses, and study of plant natural products.**

**This full-color text and practical clinical reference provides comprehensive information on herbal remedies for both large and small animal species. Key coverage includes clinical uses of medicinal plants, specific information on how to formulate herbal remedies, a systems-based review of plant-based medicine, and in-depth information on the**

**different animal species--dog, cat, avian and exotic, equine, food animal, and poultry.**

**This is the second volume in a series of monographs which are intended to promote information exchange and international harmonised standards for the quality control and use of herbal medicines. It contains scientific information on 30 selected plants, and each entry includes a pharmacopoeial summary for quality assurance purposes, information on its clinical application and sections on contraindications, pharmacology, safety issues, and dosage forms. It provides two cumulative indexes with entries in alphabetical order by plant name and according to the plant material of interest.**

**In all, 1550 species of whiteflies have been identified. The rapid spread of Bemisia tabaci has occurred throughout the globe and it is regarded as the most notorious species. It is a complex species known to contain many biotypes namely, New World (Biotype -A), B-biotype MEAM1 (Biotype-B or Bemisia argentifolii, and MED (Biotype-Q) depending upon the geographical location. The complete information on the bio-ecology of important species along with the feeding mechanism has been presented in this book. The use of modern techniques of identification has added more biotypes considering the variations in host range, species of endosymbionts, virus transmission efficiency, and resistance to pesticides. The resistance and resurgence due to pesticides has been discussed in the monograph. The information on economic thresholds for judicious use of pesticides or release of natural enemies against whiteflies has been quoted in this compilation. The pest control methods, namely chemical, cultural measures, biocontrol agents, resistant varieties, and mechanical devices have been elaborated on. Based on the availability of information the integrated model has been suggested to contain the whitefly menace under different situations. Considering the key factors responsible for the outbreak of whiteflies, a sound system of IPM has been formulated. The book also contains the use of semiochemicals and biotechnological tools likely to gain momentum in the future.**

**A Manual for Dryland Afforestation and Management**

**A Tree for Solving Global Problems**

**The Divine Tree Azadirachta indica**

**Insecticides Resistance**

**A Guide to the Identification of Diseases and Pests of Neem (Azadirachta Indica)**

With over 50,000 distinct species in sub-Saharan Africa alone, the African continent is endowed with an enormous wealth of plant resources. While more than 25 percent of known species have been used for several centuries in traditional African medicine for the prevention and treatment of diseases, Africa remains a minor player in the global natural products market largely due to lack of practical information. This updated and expanded second edition of the Handbook of African Medicinal Plants provides a comprehensive review of more than 2,000 species of plants employed in indigenous African medicine, with full-color photographs and references from over 1,100 publications. The first part of the book contains a catalog of the plants used as ingredients for the preparation of traditional remedies, including their medicinal uses and the parts of the plant used. This is followed by a pharmacognostical profile of 170 of the major herbs, with a brief description of the diagnostic features of the leaves, flowers, and fruits and monographs with botanical names,

common names, synonyms, African names, habitat and distribution, ethnomedicinal uses, chemical constituents, and reported pharmacological activity. The second part of the book provides an introduction to African traditional medicine, outlining African cosmology and beliefs as they relate to healing and the use of herbs, health foods, and medicinal plants. This book presents scientific documentation of the correlation between the observed folk use and demonstrable biological activity, as well as the characterized constituents of the plants.

This book contains 20 chapters, which are divided into 5 sections. Section 1 covers different aspects of insecticide resistance of selected economically important plant insect pests, whereas section 2 includes chapters about the importance, development and insecticide resistance management in controlling malaria vectors. Section 3 is dedicated to some general questions in insecticide resistance, while the main topic of section 4 is biochemical approaches of insecticide resistance mechanisms. Section 5 covers ecologically acceptable approaches for overcoming insecticide resistance, such are the use of mycoinsecticides, and understanding the role of some plant chemical compounds, which are important in interactions between plants, their pests and biological control agents. Interest in the molecular and mechanistic aspects of cosmetic research has grown exponentially during the past decade. Herbal Principles in Cosmetics: Properties and Mechanisms of Action critically examines the botanical, ethnopharmacological, phytochemical, and molecular aspects of botanical active ingredients used in cosmetics.

Along with dermato

Herbal Principles in Cosmetics

Major Plant Families, Analytical Methods, Materia Medica

Forestry Technologies - A Complete Value Chain Approach

Pests of Forest Importance and Their Management

A Monograph on Whiteflies