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Microbiology & Plant Pathology - Dr. P.D. Sharma 2010

PRINCIPLES OF PLANT PATHOLOGY - DR. A.K KUSHWAHA 2020-04-21

Plant Pathology comprises art of treating a sick plant as well as science of understanding the nature of the diseased plant. Primarily aimed to cater to the needs of undergraduate students, this book provides comprehensive treatment of fundamental facts, terminology and general aspects of Plant Pathology. it provides an introduction to the subject for beginners in this field. it can also serve as a laboratory manual. CONTENTS 1.introduction 2. Causes of plant diseases 3. Classification of plant diseases 4. Effect of pathogen on the plants 5. Dissemination of plant diseases 6. Diseases caused by abiotic factor 7. Role of enzymes and toxins in plant disease development 8. Defense mechanism in plants 9. Infection and host-parasite relationship 10. Principles and methods of plant disease control 11. Culture media and sterilization 12. Disease forecasting 13. Remote sensing - meaning, scope, objectives, advantages 14. Host plant resistance 15. Disease of rice 16. Disease of wheat 17. Diseases of sorghum 18. Diseases of pearl milled 19. Diseases of maize 20. Diseases of turmeric 21. Diseases of tobacco 22. Diseases of groundnut 23. Diseases of sunflower 24. Diseases of sesamum 25. Diseases of cotton 26. Diseases of pigeonpea or arhar 28. Diseases of bengal gram 29. Diseases of soybean 30. Diseases of sugarcane 31. Diseases of citrus 32. Diseases of mango 33. Diseases of banana 34. Diseases of

grapes 35. Diseases of apple 36. Diseases of papaya 37. Diseases of chilli 38. Diseases of brinjal 39. Diseases of bhendi 40. Diseases of potato 41. Diseases of cabbage 42. Diseases of cucurbits 43. diseases of tomato 44. Diseases of beans 45. Diseases of onion & garlic 46. Diseases of coffee and tea Definition and terms References

Integrated Pest Management. November 1972 - Council on Environmental Quality (U.S.) 1972

Pest Management Strategies in Crop Protection - United States. Congress. Office of Technology Assessment 1979

Plant Disease: An Advanced Treatise - James G. Horsfall 2012-12-02
Plant Disease An Advanced Treatise, Volume II: How Disease Develops in Populations deals with the epidemiological aspect of disease in population of plants. Comprised of 18 chapters, this volume discusses the comparative anatomy, methods of research, instrumentation, computer simulation, and genetic basis of epidemics. After briefly discussing the sociology of plant pathology, the book presents the comparative anatomy of epidemics in terms of their structure, patterns of development, and dynamics. This volume describes the rational processes of epidemiological research and how they differ from the processes used to investigate disease in individual plants. A chapter examines the instrumentation for measuring the weather component, including temperature, humidity, air movement, and irradiance. Other chapters

discuss the measurement of disease on whole living plants; the theory and measurement of inoculum potential; the dispersal of pathogens in both time and space; and the movement and maintenance of infectivity by pathogens that operate below ground. This volume also deals with computer simulators of plant disease and the use of predictive models to forecast epidemics for management decision making. It describes some general patterns of changes in plant-part susceptibility with time for various groups of diseases caused by fungi or viruses. A discussion on the problems of genetic uniformity and susceptibility and the breeding and deployment strategies needed to cope with these problems is included. Other chapters examine the influence of climate and weather on epidemics; the analysis of the geographical and climatic distribution of plants in various parts of the world; and the hazardous practices that have favored epidemics. Lastly, the probabilities of success for quarantines against diseases of various types are provided. This volume is an invaluable source for plant epidemiologists and pathologists, botanists, and researchers.

Cultural Practices and Infectious Crop Diseases - Josef Palti 2012-12-06

The development of a crop, and therefore its health, is always the result of interplay between biological and environmental factors, as influenced by human agency. In other words, crop health is a highly complex affair. This book is concerned with only one group of agents affecting crop health, the pathogens, and not with animal pests or direct effects of physiological or weather factors. Even within this one group, however, the interaction of causal agents with environmental and biotic factors is highly complex. No less complex is the effect of cultural practices on the crop and its health. There is probably no major practice that does not affect diverse facets of crop growth, which in turn affects crop/pathogen relationships. Thus tillage sequentially affects depth and rate of root development, hence nutrient uptake, hence general plant size and habit as well as crop climate and crop susceptibility. Irrigation affects all these parameters, and facilitates crop growth under diverse macro climatic conditions, with all the ensuing implications for disease development. In

this book an attempt is made to superimpose one set of complexities, the cultural practices, on another such set, crop health. This may seem overambitious, not to say foolhardy, unless we remember that it has been done by farmers, consciously or unconsciously, ever since the beginnings of agriculture. We are here chiefly trying to rationalize traditional practices, review modern research on the development of further practices, and assess the place of the latter in integrated disease control.

Plant Pathology V1 - James G. Horsfall
2012-12-02

Plant Pathology: An Advanced Treatise, Volume I: The Diseased Plant presents an integrated synthesis of the scope, importance, and history of plant pathology, emphasizing the concept of disease, not of diseases. The book focuses on pathological processes, defense devices, predisposition, and therapy of the diseased plant. It explores the normal pathways that are obstructed in sick plants; how the pathogen causes dysfunction; and how the host plant reacts to the pathogen. This book also considers the logistics and the strategy of disease and how to combat it. This volume is organized into 15 chapters and begins with an overview of plant pathology, its history, and its relation to other sciences, along with plant predisposition to disease, and the resistance-susceptibility problem. The next chapters examine how sickness in plants is recognized and diagnosed, the tissue breakdown in diseases, and the effects of parasites on the processes in plants. The impact of disease on water balance and respiration in plants and the histology of disease resistance in plants are also explained. This volume also covers the physiological and chemical basis of defense by higher plants against potential or invading pathogens and the hypersensitivity concept in plant pathology. The final chapter discusses the physical and chemical therapy of the diseased plant. This book will appeal to all who are interested in a theoretical treatment of plant pathology and in the broad ecological relationships among organisms, as well as to research workers and advanced students of applied biology.

Principles of Plant Pathology - E. C. H. Stakman 1967

Advances in Virus Research - 1980-01-23

Advances in Virus Research

DISEASES OF CROP PLANTS IN INDIA - G.

RANGASWAMI 1998-01-01

This fully-revised and enlarged fourth edition introduces the students to the basic and applied aspects of plant pathology and to the major diseases of crops and fruit trees in India. Latest developments in the molecular biology of diseased plants and control measures are incorporated in the book.

AGRICULTURAL MICROBIOLOGY - D. J.

BAGYARAJ 2007-08-30

This book is the study of microbes and the fundamental aspects of microorganisms and their relationship to agriculture. Designed for undergraduate and postgraduate students of agriculture and biology, this basic and well illustrated text provides a comprehensive presentation of microorganisms. The book begins with some basic information on microorganisms including methods of study and classification. It then goes on to describe their morphology, physiology, biochemistry and genetics. A discussion on soil micro-organisms along with pathogenic forms and their effect on plants is also given. The text concludes with a fairly detailed account of microbial biotechnology which covers most of the recent advances in the area. This is the second edition of the author's highly successful earlier edition for which Dr. Selman A. Waksman, discoverer of Streptomycin, write the Foreword. The author worked with this Nobel Laureate at Rutgers State University.

Seed-Borne Diseases of Agricultural Crops: Detection, Diagnosis & Management -

Ravindra Kumar 2020-05-18

The global population is increasing rapidly, and feeding the ever-increasing population poses a serious challenge for agriculturalists around the world. Seed is a basic and critical input in agriculture to ensure global food security. Roughly 90 percent of the crops grown all over the world are propagated by seed. However, seed can also harbour and spread pathogens, e.g. fungi, bacteria, nematodes, viruses etc., which cause devastating diseases. Seed-borne pathogens represent a major threat to crop establishment and yield. Hence, timely detection and diagnosis is a prerequisite for their effective

management. The book "Seed-Borne Diseases of Agricultural Crops: Detection, Diagnosis & Management" addresses key issues related to seed-borne/transmitted diseases in various agricultural crops. Divided into 30 chapters, it offers a comprehensive compilation of papers concerning: the history of seed pathology, importance of seed-borne diseases, seed-borne diseases and quarantine, seed health testing and certification, detection and diagnosis of seed-borne diseases and their phytopathogens, host-parasite interactions during development of seed-borne diseases, diversity of seed-borne pathogens, seed-borne diseases in major agricultural crops, non-parasitic seed disorders, mechanisms of seed transmission and seed infection, storage fungi and mycotoxins, impact of seed-borne diseases on human and animal health, and management options for seed-borne diseases. We wish to thank all of the eminent researchers who contributed valuable chapters to our book, which will be immensely useful for students, researchers, academics, and all those involved in various agro-industries.

Selected List of American Agricultural Books in Print and Current Agricultural Periodicals - 1960

Pacific Northwest Pest Control Handbook - 1977

Integrated Pest Management - Council on Environmental Quality (U.S.) 1972

Plant Pathology - George Agrios 2012-12-02

Plant Pathology, Second Edition incorporates developments in identifying pathogens and disease diagnosis. This book is organized into two major parts encompassing 16 chapters that discuss general aspects of plant diseases and specific plant diseases caused by various microorganisms. This edition includes chapters or sections on diseases caused by mycoplasma-like organisms, rickettsia-like bacteria, viroids, and protozoa. Information on the genetics of plant diseases, the development of resistant varieties, and their vulnerability to new pathogen races is added in this release. It also includes information on the development of epidemics. The presentation of these topics is followed by a discussion on systemic fungicides and biological control of diseases, as well as

postharvest diseases of plant products. Furthermore, this edition also explains mycotoxins and mycotoxicoses, as well as techniques of isolation, culturing, indexing, and identification of pathogens. It also studies mycorrhiza and root-nodule bacteria. Considerable chapters describe diseases caused by fungi and those caused by bacteria, which have been organized in logical, cohesive groups according to their most important symptoms. Diagrams of disease cycles, groups of pathogens and symptoms, and techniques and concepts of plant pathology are incorporated in each chapter. Moreover, this edition provides numerous photographs (macroscopic, microscopic, electron micrographs, and scanning electron micrographs) that illustrate concepts, pathogens, and symptoms. Teachers and students who are interested in plant pathology and plant diseases and control will find this book very helpful.

Mechanisms of Resistance to Plant Diseases

- R.S. Fraser 2012-12-06

Plant resistance to pathogens is one of the most important strategies of disease control. Knowledge of resistance mechanisms, and of how to exploit them, has made a significant contribution to agricultural productivity. However, the continuous evolution of new variants of pathogen, and additional control problems posed by new crops and agricultural methods, creates a need for a corresponding increase in our understanding of resistance and ability to utilize it. The study of resistance mechanisms also has attractions from a purely academic point of view. First there is the breadth of the problem, which can be approached at the genetical, molecular, cellular, whole plant or population levels. Often there is the possibility of productive exchange of ideas between different disciplines. Then there is the fact that despite recent advances, many of the mechanisms involved have still to be fully elucidated. Finally, and compared with workers in other areas of biology, the student of resistance is twice blessed in having as his subject the interaction of two or more organisms, with the intriguing problems of recognition, specificity and co-evolution which this raises.

Sourcebook of Laboratory Exercises in Plant

Pathology - Arthur Kelman 1967

Pest Management Strategies - United States. Congress. Office of Technology Assessment 1979

Agriculture in Dry Lands - I. Arnon 2012-12-02
Throughout history, man has, by over-use, consistently reduced the productive capacity of dry lands. This degradation of one-third of the land area of the globe is, unfortunately, increasing. In recent years, world interest has turned to the problems of pollution of the environment and the impending food shortage as world population grows explosively. Thus the attention of international and other agricultural bodies has turned to the need for preserving and developing more effectively the agricultural potential of these areas. This book provides a comprehensive review of present knowledge of the agriculture of dry lands, with special emphasis on measures for conserving their natural resources. Management practices are described which aim at optimizing productivity of rainfed and irrigated agriculture without adverse effects on sustainability. Land use in the dry regions, and its evolution throughout history is described and analysed, and the lessons to be learnt from destructive technologies are stressed. In particular, current proposals for an alternative agriculture are discussed and their justification is questioned. This is a generalist work, which specialists can also find interesting, not only in their own discipline but as a concise way of acquainting themselves with the state-of-the-art in associated fields. Increasing specialisation with each discipline using its own vocabulary leads inevitably to communication problems, and the need for multi-disciplinary teams makes inter-discipline communication indispensable.

Principles of Plant Pathology - M. K. Dasgupta 1988

Plant Pathology in Agriculture - David W. Parry 1990-07-27

Exotic Plant Pests and North American Agriculture - Charles Wilson 2012-12-02
Exotic Plant Pests and North American Agriculture examines the threat posed by exotic pests introduced to North American agriculture.

It considers the impact of introduced pests on humans, and it highlights the need for intensified research efforts and international cooperation to prevent further introductions. Organized into 17 chapters plus an epilogue, this volume begins with a historical overview of pest introductions, including insects and mites, and possible introductions in the future. It then discusses the impact of introduced weeds in North America; ecology and genetics of exotic species; how to detect and stop pest introductions; and research on exotic insects, plant pathogens, and weeds. The reader is also introduced to the use of exotic natural enemies for biological control of exotic pests, prediction of potential epidemics caused by exotic pests, insurance against exotic plant pathogens, and international cooperation on controlling exotic pests. Scientists, plant pathologists, ecologists, and those working in academics, government research laboratories, and regulatory agencies will benefit from reading this book.

Scientific, Medical and Technical Books.
Published in the United States of America -
Reginald Robert Hawkins 1953

World Food Problem - Professor Miloslav Rechcigl 2018-01-10

The aim of this publication is to provide the interested reader with an authoritative and comprehensive up-to-date bibliography on all important facets of the world food problem, encompassing such questions as the availability of natural resources, the present and future sources of energy, environmental quality, population growth, world malnutrition, the state of food production, food consumption patterns, future food needs, toxicological aspects of food, agricultural and industrial aspects of food production, and family planning. It is the first compilation of its kind in that it covers the subject from a multidisciplinary point of view, including publications that deal with the description and analysis of the world food problem as well as those that offer alternative strategies and specific technological measures for alleviating the problem.

Progress in Mycology - Tulasi Satyanarayana 2021-08-20

Indian mycologists have extensively studied various groups of fungi such as soil fungi,

aquatic fungi, marine fungi, endophytic fungi, fungi associated with man and animals. Though several books on various aspects of fungi are published, this is the first account of the history and developments in mycology in India. It discusses at length various stages of development of mycology including both classical and biotechnological aspects. It begins with a historical account of Indian mycology, followed by a description of research on fossil fungi. Further chapters cover the latest updates on different taxonomic groups of fungi. A dedicated section describes the roles and applications of fungal endophytes. The book also includes research in other important areas such as mushrooms and wood rotting fungi. Different chapters are written by leading mycologists. This book is useful to students, teachers and researchers in botany, microbiology, biotechnology and life sciences, agriculture and industries using fungi to produce various valuable products.

Plant Pathology (Pathogen and Plant Disease) - Pandey B.P. 2001

□ The book is revised according to the latest UGC syllabus and caters to graduate and postgraduate students of all Indian Universities. The book is also used to serve as a laboratory manual. □ The matter is presented in simple language with well-illustrated and self-explanatory diagrams and photographs. □ A new chapter on Biopesticides in Disease Management has been added. □ Multicoloured photographs showing symptoms of various plant diseases have been included.

Manual of Plant Diseases - Fred DeForest Heald 1926

Symptoms of disease in plants; Non-parasitic diseases; Diseases due to deficiencies of food materials in the soil; Diseases due to excesses of soluble salts in the soil; Diseases due to unfavorable water relations; Diseases due to improper air relations; Diseases due to high temperatures; Diseases due to low temperatures; Diseases due to unfavorable light relations; Diseases due to manufacturing or industrial processes; Diseases due to control practices; Virus and related diseases; Parasitic diseases; Bacterial diseases of plants; Diseases due to slime molds; The conditions of a fungus in or on the substratum; Diseases due to downy

mildews and allies; Diseases due to pondscum parasites; Diseases due to black molds and allies; Diseases due to leaf curls and related fungi; Diseases due to cup fungi and allies; Diseases due to powdery mildews and allies; Diseases due to sphere fungi and allies; Diseases due to imperfect fungi; Diseases due to smut fungi; Diseases due to rust fungi; Diseases due to palisade fungi and allies; Parasitic seed plants and the troubles they cause; Nematodes and the diseases they cause.

Plant Pathology - Dr. P.D. Sharma 2013

Atlas and Manual of Plant Pathology - E.H. Barnes 2012-12-06

Ideally a textbook should integrate with the lectures and labs in a science course. Selecting such a book can be an onerous (and sometimes impossible) task for the teacher. Students are wary of getting stuck with a "useless" book, i. e. , one to which the instructor never refers. The reader probably has some practical appreciation of their concern. I remember an instructor who not only denounced the very text he had chosen, but also informed the class that he wouldn't be using it. This was after I had already purchased a copy! Being mindful of the foregoing, I decided to try Barnes' Atlas and Manual of Plant Pathology in 1973. Six years and 800 students later I have no regrets about my choice. As far as I am concerned it is still the finest book of its kind on this continent. Barnes' Atlas contains an excellent blend of the diagnostic and experimental aspects of plant pathology. His treatment of each disease on an individual basis allows the instructor to omit some pathogens without disturbing the book's continuity. My one-semester course in Forest Pathology is largely descriptive. Strong emphasis is placed on field recognition of symptoms and signs. This is facilitated by Barnes' technique. In a sequence of photographs, the diseased plant or part is first viewed as a whole to show the general symptoms. This is usually followed by a close-up of the signs (i. e.

Pathogens, Vectors, and Plant Diseases - Kerry F. Harris 2013-09-03

Pathogens, Vectors, and Plant Diseases: Approaches to Control is a collection of papers that discusses how vector host interactions, vector ecology, and disease epidemiology can be

applied to disease prevention and control. The book deals with innovative strategies pertaining to control of vector-borne viruses and viral infections in plants. One paper discusses nonpesticidal control of vector-borne viruses including soil solarization that uses solar energy for crop protection, and insect sterilization through radiation, chemosterilants or genetic modifications. Another paper discusses chemicals that interfere with nucleic acid and protein synthesis; as these interactions pose no hazards to animal (mammals), the chemicals are suitable for controlling viral diseases. One author examines the use of oil sprays and reflective surfaces as a means of controlling plant viruses transmitted by insects. In the United States, the entry of vector-borne plant pathogens is controlled by plant quarantine. One author lists several ways in effective quarantine procedures, as well as, the safe importation of potential vectors as cultures. This book is suitable for environmentalists, biologists, conservationists, agriculturists, botanists, and researchers in botany and plant genealogy.

Principles of Plant Disease Management - William E. Fry 2012-12-02

This book is intended to provide a substantive treatment of plant disease management for graduate and undergraduate students in which theoretical and practical elements are combined. Reference is made to specific diseases and control practices to illustrate basic principles or strategies. The section on epidemiology includes a chapter in which arthropod vectors (aphids, leafhoppers, whiteflies, Coleoptera and mites) are briefly discussed, and the section on control includes references to the use of crop varieties with resistance to such vectors, and also contains information on mechanical, cultural, biological and chemical measures that contribute to vector control. The technology of disease management is presented according to epidemiological principles. Sections on diagnosis, epidemiology, environmental factors, disease forecasting, disease control (exclusion, physical, chemical and biological), plant resistance, cultural modifications to suppress epidemics, effects of chemicals and their major groups and uses, and examples of disease management in practice are included. A bibliography and index are appended.

Handbook of Pest Management - John R. Ruberson 1999-07-09

"Provides a detailed summary of pest management principles and techniques, outlining a broad selection of critical issues regarding current practice and future technology in this area. Discusses the role of soils, weather, and surrounding habitats in regulating pest occurrence and severity."

Library List - National Agricultural Library (U.S.) 1956

Plant Pathology - George N. Agrios 2012-12-02

Plant Pathology, Third Edition, provides an introduction to the fundamental concepts of plant pathology, incorporating important new developments in the field. The present volume also follows closely the organization and format of the Second Edition. It includes two new chapters, "Plant Disease Epidemiology" and "Applications of Biotechnology in Plant Pathology." Extensively updated new information has been added about the history of plant pathology, the stages in the development of disease, the chemical weapons of attack by pathogens, and the genetics of plant disease. The book is organized into three parts. Part I discusses basic concepts such as classification of plant diseases; parasitism and disease development; how pathogens attack plants; effects of pathogens on plant physiology; plant defenses against pathogens; and genetics, epidemiology, and control of plant diseases. Part II on specific plant diseases covers diseases caused by fungi, prokaryotes, parasitic higher plants, viruses, nematodes, and flagellate protozoa. Part III deals with applications of biotechnology in plant pathology.

Selected List of American Agricultural Books in Print and Current Periodicals - 1975

Westcott's Plant Disease Handbook - R. Kenneth Horst 2013-06-29

It was a compliment to me to be asked to prepare the fourth edition of Westcott's Plant Disease Handbook, and the decision to accept the responsibility for the fourth edition, the fifth edition, and now the sixth edition was not taken lightly. The task has been a formidable one. I have always had great respect professionally for

Dr. Cynthia Westcott. That respect has grown considerably with the completion of the three editions. I now fully realize the tremendous amount of effort expended by Dr. Westcott in developing the Handbook. A book such as this is never finished, since one is never sure that everything has been included that should be. I would quote and endorse the words of Dr. Westcott in her preface to the first edition: "It is easy enough to start a book on plant disease. It is impossible to finish it. . . ." This revision of the Handbook retains the same general format contained in the previous editions. The chemicals and pesticides regulations have been updated; major taxonomic changes have been made in the bacteria, fungi, nematodes and viruses; the changing picture in diseases caused by viruses and/ or viruslike agents have been described. New host plants have been added, and many recently reported diseases as well as previously known diseases listed now on new hosts have been included.

Fungus Diseases of Tropical Crops - Paul Holliday 1980-10-30

Standard reference provides remarkably full, compact descriptions of fungal pathogens and diseases they cause. Alphabetically arranged, with copious references. Appendix of Hosts and Pathogens. Bibliography.

Westcott's Plant Disease Handbook - Cynthia Westcott 2008

Westcott's Plant Disease Handbook, 7th Edition, should be useful to anyone with a keen interest in gardening. The seventh edition uses the traditional convenient format of previous editions providing easy access to essential information quickly with special dictionary-type entries on plant hosts and on symptoms. It provides useful cross references, indexes, illustrative plates of 34 key diseases, and 40 black and white illustrations of other diseases. New and updated material includes: significant taxonomic changes in fungi, bacteria, viruses and nematodes, and recently discovered diseases and new hosts for previously known plant-pathogens.

Principles and Practices of Plant Quarantine - M.C. Muthaiyan 2009-04-06

Plant Quarantine deals with alien pests which could become serious threat to our agricultural, horticultural and forest plants. Brief introduction

of alien pests such as bacteria, fungi, insects, nematodes, plant viruses, etc. is given in the preliminary chapters. Risk factors involved in these pests are analyzed. Various methods available to detect these pests from imported plants and plants material and their elimination procedures are discussed. The role of legislation containing the alien pests and efforts made by governments in implementing the legislative measures are described. The global approach to prevent the spread of pests across international

borders and obligation of governments are brought out. The functioning of Plant Quarantine system in India and further strengthening the system are suggested. Whenever necessary, relevant illustration are provided. The, text, tables and illustrations could be a good reference sources not only for persons engaged in Plant Quarantine organizations but also for the users of plant quarantine services. This book could also be useful in organizing training programs and could serve as a teaching aid.