Metals and Micronutrients Uptake Utilization By Plants

Metals and Micronutrients: A, Bubul 2013-04-22 Metals and Micronutrients: Uptake and Utilization by Plants contains the contributions of invited speakers at 1981 Easter meeting of the Phytochemical Society of Europe. The meeting brings together chemists, biochemists, physiologists, and agronomists to discuss aspects of the biochemical and biological utilization of metals and micronutrients in plants. It is meant to emphasize stages in the sequence, that is, uptake-incorporation-function. This book first describes the process of absorption and distribution of metals and micronutrients to the shoot and root systems. It then examines the processes that occur within the plant, including the mechanisms of metal and micronutrient transport. A vital question, particulary in today's world of increasing environmental contamination... The answer can be found in this book. It has an extraordinarily broad basis, compiling up-to-date information from numerous sources and microorganisms. This unique mixture of detailed coverage of the events that control biological activities of Fe, Mn, Zn, and Cu, as well as the influences of the environment, is meant to emphasize stages in the sequence, that is, uptake-incorporation-function. This book first describes the process of absorption of metals and micronutrients in plants, as well as the influences of the environment. This... The final definitions address soil contamination and reclamation. There are eleven chapters on subjects that include the single and interactive effects of aluminum, the effectiveness of EDTA-Ca and the value of pig-iron cultures, a test for edible crop growth. These and other innovative techniques make Remediation and Management of Degraded Lands a valuable addition to any environmental library.

Zinc in Soils and Plants-A. Robson 2012-12-26 Proceedings of the International Symposium on ‘Zinc in Soils and Plants’, held at The University of Western Australia, Perth, Western Australia, 27–28 September 1993. Comprehensively reviews the latest research on zinc and its relationship to different aspects of mineral nutrition and plant growth. The book is divided into two main sections: the first section covers molecular and genetic aspects of zinc deficiency and toxicity, while the second section focuses on the functional aspects of zinc. The book provides a comprehensive overview of the latest research on zinc and its effects on plant growth and development. The book also includes case studies of zinc deficiency in different plant species, as well as a discussion of the role of zinc in the regulation of gene expression and zinc transport in plants.

Green Production Strategies for Sustainability-Tsai, Sang-Bing 2017-11-30 When getting electronic products, manufacturing enterprises are producing pollution, but also saving the environment. As a result of this increasing event, green production techniques will become a valuable resource. In the book, the author presents a comprehensive analysis of green production strategies, focusing on the development of sustainable production methods and their impact on the environment. The book covers a range of topics such as corporate social responsibility, environmental performance, and green manufacturing. It includes case studies of successful green production strategies and provides practical guidance for managers, professionals, and researchers seeking current research on green production on use sustainability.

Handbook of Plant Nutrition-A. Barker 2016-04-19 The handbook on plant nutrition is an essential resource for the latest empirical research and relevant information on the topic. It covers a range of topics such as soil chemistry, biological factors, and the effects of environmental changes on plant nutrition. The book is divided into two main sections: the first section covers the chemical aspects of plant nutrition, while the second section focuses on the biological aspects. The book provides an overview of the latest research on plant nutrition and includes case studies of successful nutrition practices. It also provides practical guidance for managers, professionals, and researchers seeking current research on plant nutrition.

Nutrient Regulation of Plant Growth by P. Gyanendra Nath Mitra 2015-03-30 This book describes the mechanisms of nutrient uptake taken by plants at the biochemical and physiological levels, and the role of nutrient availability in the regulation of plant growth. The book covers a range of topics such as nutrient uptake mechanisms, nutrient transport, and nutrient allocation. It includes case studies of the effects of nutrient availability on plant growth and development. The book provides an overview of the latest research on plant nutrient regulation and includes practical guidance for managers, professionals, and researchers seeking current research on nutrient regulation of plant growth.
Recent research indicates that nutrient uptake, its transport and redistribution in plants are under genetic control. It is now accepted that several groups of enzymes are involved in the transport of ions across the plasma membrane of root hairs for use in plant metabolism. Deficiency or sufficiency of a plant nutrient induces different sets of genes to produce m-RNA transcripts for translation of protein transporter. A large number of metalloenzymes are up or down regulated in response to deficiency of plant nutrients. Morphological and metabolic adaptations in order to better acquire and use nutrients are induced in the state-of-the-art strategies for plant nutrient management. Nitrogen, phosphorus and heavy metals, which are toxic to plants, induce different sets of defence mechanisms. In 20 chapters, the book provides an introduction to the applied aspects of plant nutrition in terms of its relationship with the functioning of plants and their environments. The book contains information about the air quality based on the lichen community structure and distribution of bioindicator species. Important features of lichens which facilitate their survival in extreme climates and makes them an ideal tool for historical research. The book contains 266 illustrations, 17 tables and 13 appendices. Emphasis in the present volume was to offer a detailed overview of the applied aspects of Botany in terms of its both applied and fundamental value written by leading scientists in the area of their specialization. The objective of the present work has been made in all aspects of plant sciences and to bring the widely difference aspects under one cover is indeed a remarkable achievement. It will provide a valuable reference for all those interested in lichens and its role in ecosystem studies.
colonies of symbiotic bacteria able to "capture" atmospheric nitrogen molecules to the benefit of the host plant heralded a growing realization of the importance of soil biota in fertility studies. Biological fixation of nitrogen has been the theme of many meetings and publications hitherto but at this Conference, convened on the delightful campus of Reading University, attention was mainly focussed on other biological processes in soil fertility. These Proceedings record the dominant themes and include six keynote addresses delivered at plenary sessions and seven introductory lectures to paper reading sessions by invited individuals plus 22 of the preferred papers, in six sections as tabled in the contents list.