Martins-Loução, M.A., Lips, S.H. (ed.): **Nitrogen in a Sustainable Ecosystem. From the Cell to the Plant.** - Backhuys Publishers, Leiden 2000. 441 pp. USD 140.00. ISBN 90-5782-063-3.

Nitrogen is the most important mineral nutrient of plants and very often determines their physiological and structural characteristics as well as their productivity. For this reason, considerable research in plant nutrition has been devoted to this element. This is well documented in the reviewed book, which summarises our knowledge of what has been learned about nitrogen metabolism, economy and fertilisation by the end of the 2nd millennium. The book is the result of the Fifth International Symposium on Inorganic Nitrogen Assimilation which took place in Portugal in 1998. It resulted from the activities of the European Nitrate and Ammonium Assimilation Group (ENAAG) within the Federation of European Societies of Plant Physiology.

The publication itself contains 65 contributions representing both reviews and original papers. In the Prologue, the editors give a broad overview of recent progress and perspectives of cell and plant nitrogen research. Subsequently, Section I (75 pages with 12 contributions) describes nitrogen uptake and assimilation. Section II (72 pages, 11 contributions) deals with regulation of N metabolism. Section III entitled "N and growth regulation: environmental adaptation", is divided into Part I (80 pages, 11 contributions) describing inorganic N uptake, supply, allocation, partitioning and reduction, and Part II (47 pages, 7 contributions) on signalling systems. Section IV, "NH_4 in the environment. Molecular and physiological responses of plants", contains 3 parts the first of which (20 pages, 5 contributions) is devoted to methods for NH_4^+ measurement. Part II (23 pages, 5 contributions) describes NH_4^+ in the environment - soil and atmosphere, while Part III (18 pages, 4 contributions) is devoted to responses of plants to external NH_4^+ with respect to physiological and molecular approaches. The last Section V (68 pages, 9 contributions) deals with N fertilisation and land management. General conclusions presented by the editors close the text.

The book is supplemented with an Address list of the majority of the contributors. An author index and detailed Subject index have also been included.

The publication represents a valuable source of up to date information on the majority of problems of the inorganic nitrogen nutrition of plants. Its prime advantage consists in the broad spectrum of topics covered by the individual contributions ranging from the uptake and assimilation of nitrogen to the general significance of this element for ecosystems as well as the effect of fertilisers on crops. I recommend the book not only to researchers studying any aspects of the role of nitrogen in plant biology but also to scholars and students who wish to have modern information on N metabolism.

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