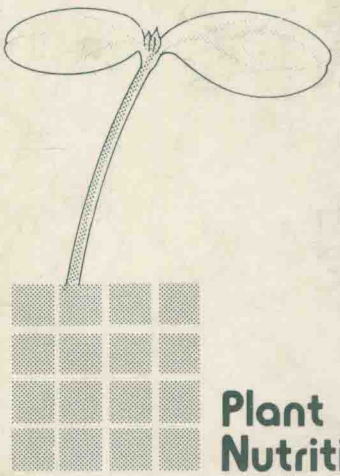
DEVELOPMENTS IN PLANT AND SOIL SCIENCES

Plant Nutrition

Physiology and Applications

M. L. VAN BEUSICHEM
editor



Plant Nutrition
XI International Colloquium

KLUWER ACADEMIC PUBLISHERS

Plant Nutrition – Physiology and Applications

Proceedings of the Eleventh International Plant Nutrition Colloquium, 30 July – 4 August 1989, Wageningen, The Netherlands

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KLUWER ACADEMIC PUBLISHERS
DORDRECHT / BOSTON / LONDON

Library of Congress Cataloging in Publication Data

ISBN 0-7923-0740-2

Published by Kluwer Academic Publishers,
P.O. Box 17, 3300 AA Dordrecht, The Netherlands.

Kluwer Academic Publishers incorporates
the publishing programmes of Martinus Nijhoff,
Dr W. Junk, D. Reidel, and MTP Press.

Sold and distributed in the U.S.A. and Canada
by Kluwer Academic Publishers,
101 Philip Drive, Norwell, MA 02061, U.S.A.

In all other countries, sold and distributed
by Kluwer Academic Publishers Group,
P.O. Box 322, 3300 AH Dordrecht, The Netherlands.

Printed in the Netherlands

PLANT NUTRITION – PHYSIOLOGY AND APPLICATIONS

Developments in Plant and Soil Sciences

VOLUME 41

The titles published in this series are listed at the end of this volume.

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Assistance and financial support
Generous support and advice from the following Institutions is gratefully acknowledged.

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Preface

Exactly 35 years after the first Colloquium was held, the Eleventh International Plant Nutrition Colloquium took place from 30 July to 4 August 1989 in Wageningen, The Netherlands. Although impressive progress has been made during the past decades in our understanding of the mechanisms of uptake, distribution and assimilation of nutrients in relation to crop yield and quality, there are still significant gaps in our insight into many fundamental aspects of plant mineral nutrition and related metabolic processes. In spite of improved knowledge of nutrient requirements of crops and improved fertilizer application strategies, the world population remains to be burdened with an enormous shortage of plant products for food, timber, fuel, shelter, and other purposes. The main challenge facing the plant nutrition research community is to at least alleviate the increasing world-wide need for applying scientific knowledge to practical problems in agriculture, horticulture, and forestry. It is therefore felt by many scientists that the Plant Nutrition Colloquia, which are intended to bring together scientists and to integrate knowledge and approaches acquired in plant physiology, biochemistry, soil science, agronomy and related disciplines, have indeed made a significant contribution to the advancement of our knowledge and understanding in this vital and interdisciplinary field of agrobiology.

About 260 scientists from 40 nations attended the Colloquium in Wageningen. A wide spectrum of topics was presented, but almost all contributions were directly or indirectly focussed on the following themes, which at the same time clearly reflect the major areas of contemporary concern in plant nutrition research:

> – nutrient acquisition by plant roots (phosphate, micronutrients, *etc.*); – nutrient uptake, assimilation, and distribution processes in plants; – plant responses to stress factors in the root environment (aluminium, acidity, salinity, *etc.*); – fertilizer application in relation to yield and quality; – nutrient management decisions (diagnostic systems, modelling, *etc.*).

In the Colloquium the above themes were covered by 195 abstracts, 162 of which were actually presented either as an oral or a poster contribution. The present Proceedings contain 136 refereed full papers, providing an excellent overview of the latest developments and actual problems in pure and applied plant nutrition research.

I wish to thank the contributors for the generally high standard of their presentations and for conscientious preparation of their manuscripts. The serious attempts to meet the editorial standards and to satisfy the wishes of the referees are highly appreciated. I am very grateful to the other members of the Organizing Committee for their generous participation and cooperation in all possible ways, from the planning of the scientific programme and the arrangements for non-conventional accomodation, to their indispensable help in editing the Proceedings.

The success of a scientific meeting heavily depends on maintaining a balance between scientific and social aspects. An elaborate programme can not be realized without a rather large group of more or less back-stage assistants with special tasks and responsibilities. It is no exaggeration to state that the excellent support of the Colloquium Assistants has resulted in a very smooth progress of the meeting and in a relaxed atmosphere throughout the week; they may thus be highly commended for their contribution to the overall success of the Colloquium.

The Twelfth International Plant Nutrition Colloquium will be held in Perth, Western Australia, and is tentatively scheduled for September 1993. The local organizer will be Prof. J.F. Loneragan, Murdoch University, School of Biological and Environmental Sciences, Murdoch WA 6150, Australia.

Wageningen, April 1990 *M.L. van Beusichem*

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* Contributions indicated with an asterisk were first published in *Plant and Soil*, Volume 124 (1990).