International and National Outlook—The Necessity for Efficient Nutrient Utilization

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Coeditors: Noble R. Usherwood Eugene C. Doll
Editor-in-Chief: Matthias Stelly
Managing Editor: David M. Kral
Assistant Editor: Linda C. Eisele

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Foreword

The purposes of this publication are to present current information and to project through 1980 the world supplies of fertilizer as related to crop production requirements. There are critical shortages of fertilizer today which are related principally to energy shortages. These fertilizer shortages pose problems not only for the American farmer as he seeks to improve production efficiency at a time of marked inflation, but also for those developing countries which are vitally in need of food. The information contained herein is not only current but technically sound. The contributing authors are qualified specialists in their fields.

This special publication includes the papers from a symposium of particular interest to agronomists and soil scientists. The symposium, *International and National Outlook—the Necessity for Efficient Nutrient Utilization*, was presented on November 12, 1974 during the annual meetings of the American Society of Agronomy and Soil Science Society of America in Chicago, Illinois. The session was co-sponsored by four divisions of the American Society of Agronomy and the Soil Science Society of America—Fertilizer Technology and Use (S-8), Soil Fertility and Plant Nutrition (S-4), Extension Education (A-4), and International Agronomy (A-6).

Our commendation and thanks go to Drs. E. C. Doll and John A. Stewart who organized the symposium, to Dr. Noble Usherwood who served as chairman of the editorial committee, to Dr. M. H. McVickar who presided and, of course, to the distinguished panel of contributors who expeditiously handled their papers so that publication could be quickly effected.

W. P. Martin, President
American Society of Agronomy

C. F. Eno, President
Soil Science Society of America
In many high population regions of the world, food supply and demand are in a precarious balance—a balance easily upset by continuing population growth, by unpredictable and destructive environmental forces, and by shortages of production inputs. Inadequate food supplies in Africa, Bangladesh, and other regions have caused attention to be focused upon food production systems throughout the world. Many commodities essential for food production are obviously in short supply. Fertilizers are one such commodity.

Fertilizers are recognized by many nations as a production input which provides a large return of food and fiber for a reasonable economic and technological investment. Consequently, the recent all-out effort to produce food triggered a demand for fertilizer raw materials and finished products which rapidly exceeded the existing supply. The developing material shortages were further intensified by economic conditions favoring the reduction in fertilizer production capacity.

Reliable information on fertilizer demand, supply, and production capability is essential as the foundation for projecting future needs and manufacturing capacity to meet these needs. This ASA special publication serves to present information identifying the present status of the fertilizer industry and the fertilizer production requirements believed needed to supply the future demands for fertilizer.

Appreciation is expressed to both the American Society of Agronomy and the Soil Science Society of America for publishing this timely information. The symposium participants are commended not only for the information assembled and the excellent presentations but also for preparing the manuscripts promptly for early publication.

Noble R. Usherwood, Chairman
Editorial Committee