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# **NUTRIENT MOBILITY IN SOILS: ACCUMULATION AND LOSSES**

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## FOREWORD

The effect of man on his environment is no longer of concern solely to conservationists, ecologists, and earth scientists. In the view of many, the issue has become one that concerns the health of all of us now living and the survival of our children. Many current statements on this problem, however, are based on atypical information or on no fact at all. This expressed anxiety has, on the other hand, moved scientists to assess facts at hand and to strive to obtain needed information on the changing environment.

One aspect of this problem is the effect of fertilizer use on water that drains through or off fertilized soils and ultimately to underground and surface water supplies.

In a symposium, held at the 1969 annual meeting of the Soil Science Society of America, outstanding soil scientists presented a significant portion of the information needed to answer questions about nutrient mobility and pointed out information gaps and research needs in this area.

Dr. Orvis P. Engelstad, agronomist in the Soils and Fertilizer Research Branch of the Division of Agricultural Development in TVA, organized this symposium. Sincere thanks are given to Dr. Engelstad and to the symposium participants.

March 1970

C. I. Rich, President  
Soil Science Society of America



## PREFACE

The papers in this publication were originally presented at an invitational symposium held during the 1969 annual meeting of the Soil Science Society of America at Detroit, Michigan.

The objectives of this symposium were to bring together existing knowledge regarding losses and accumulation of nutrients in the soil profile and to discuss research needed to identify conditions under which agriculture may affect the eutrophication of surface waters.

To provide the kind of perspective needed, soil scientists representing a wide range in backgrounds and responsibilities were invited to present papers at this symposium. The factors that affect the movement of nutrients in the soil are covered in these papers as well as the accumulation and losses that occur under natural processes of soil development. The possible contribution of nutrients to underground and surface waters from livestock feeding operations and commercial fertilizer application are discussed, also the research required to provide badly needed information on the extent of nutrient losses.

Since this is indeed a timely subject, these papers are being published in this form to reach a greater number of interested people, both within and outside the society. Appreciation is expressed to C. I. Rich, current President of SSSA, and to V. J. Kilmer, Chief, Soils and Fertilizer Research Branch of TVA, for their advice and encouragement.

March 1970

Orvis P. Engelstad, Editor  
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