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in Sustainable Agriculture**

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Exploring the Role of Diversity in Sustainable Agriculture

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FOREWORD

The terms *diversity* and *sustainable agriculture*, noted in the title of this book, have become an integral part of the vocabulary for many agronomists this past decade. Although much has been written about sustainable agriculture, relatively small amounts of literature are available on diversity of agroecosystems. The symposium and the resulting book on “Exploring the Role of Diversity in Sustainable Agriculture” is one of the first efforts in attempting to summarize existing knowledge on the subject. The selection of authors and their resulting chapters have produced an excellent range of topics on diversity. We thank the authors, reviewers, and supporters (e.g., W.K. Kellogg Foundation) for their contributions to produce this book. The book should contribute to our knowledge of diversity in agroecosystems, and we hope this effort will stimulate research and discussion of this important subject.

John Foss, *President*
American Society of Agronomy

PREFACE

The terms diversity and biodiversity have recently come into wide public use. Most typically, they are used in discussions about conservation issues, particularly the magnitude and importance of species loss. At other times, however, diversity and biodiversity are referred to as desirable properties of natural systems and, perhaps in a different sense, of human society. It is this second use of the term that has inspired this publication. What meaning for agriculture does the term (bio)diversity have? The organizers of this symposium (Olson, Francis and Oberle) thought that it would be useful to undertake an initial assessment of this question.

The authors in this volume are among the first to struggle with the implications of diversity for agriculture in a formal way. For agricultural scientists, thinking about farming systems from the perspective of the role and use of diversity is a new challenge. In most cases there is no prior body of research or much relevant literature available. The discipline of ecology is of surprisingly little help because for the most part ecologists study unmanaged systems that differ in many ways from agricultural ones. Or, if they do study managed systems, ecologists frequently ask questions that are not directly related to the interests or needs of agriculturists.

The knowledge base that does exist is uneven among the different spatial scales addressed by the chapters of this book, and as a result the chapters are uneven with respect to the information they provide and the amount of conjecture they offer. Because there is little prior research with this specific focus, authors in this volume can at times only offer hypotheses or speculate about important structural or functional relationships linked to diversity in farming systems. Some readers, accustomed to a more experimental basis for agricultural science, may have difficulty with this approach.

Among the charges to the authors was to consider how knowledge of diversity could be applied to the development of more viable and profitable agricultural systems. Given that diversity has been broadly defined to include biological, economic, and social components of agricultural systems, some authors' recommendations for the use or preservation of diversity have inevitably included political and social changes. Any political recommendations or views are open to discussion, and should be taken by the reader as part of an important and spirited

debate. Much debate among the authors and editors occurred in the writing of this book, and the compromises reached are reflected in its chapters.

Exploring the Role of Diversity in Sustainable Agriculture had its genesis in a symposium of similar title held as part of the 1994 Annual Meetings of the American Society of Agronomy (ASA), 13-18 November, Seattle, WA. The symposium was co-sponsored by ASA Divisions A-1 (Resident Education), A-4 (Extension Education), A-6 (International Agronomy), A-8 (Integrated Agricultural Systems), C-3 (Crop Ecology, Production, & Management), and S-6 (Soil & Water Management & Conservation); the Women in Agronomy Committee (ACS-526); and the Soil Ecology Section of the Ecological Society of America. Presiding at the symposium were Wanda Collins, North Carolina State University, and Steve Oberle, Washington State University.

Financial support for the writing and publication of this book was provided by the W. K. Kellogg Foundation, Battle Creek, Michigan. Michele Strickler of the Center for Sustainable Agricultural Systems, University of Nebraska, assisted in production of the camera-ready copy. Lana Johnson, IANR Communications & Computing Services, University of Nebraska-Lincoln, rerendered most of the figures and created the spiral design that appears on the book cover and serves as an integrating motif throughout the book.

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