
This is a new and comprehensive treatment of the original monograph, Forest Soils and Forest Growth, by one of the leading authorities in the field of forest soils. It deals with the fundamentals of soil science and their application in the field of silviculture.

The book is written in two sections. The first, Soil as a medium for plant growth, contains 10 chapters as an orthodox development of forest soil science. The section covers the historical development of forest soils, soil minerals, organisms, humus, soil genesis, great soil groups, physical and chemical properties of forest soils, and their relation to vegetation. The second section: Soil science and silviculture, stresses the application of soil science to forest management. This section is headed by three excellent chapters on nursery management, including chapters on fertility adjustment and control of pests in nursery soils. Most of the background work on nursery management stems from the author’s extensive research and experience in the Lake States, but the principles established are applicable in any region. The succeeding chapters include techniques and problems in forest soil survey, reforestation, soil improvement, silvicultural cuttings and forest management. Forest problems discussed in these chapters dwell at length on Lake States conditions, but they are well documented and augmented by many examples of European work.

The book contains 552 references, including most of the pertinent European literature along with a rather complete coverage of American forest soils work. Dr. Wilde has introduced and defined many new technical terms, some of which have already been accepted by workers in the field of forest soils.

This text is an outstanding contribution to American forestry literature and will be welcomed by students and workers in the field of forest soils.

### FINE PARTICLE MEASUREMENT


This book contains a description of many of the techniques currently used for the measurement of particle size, particle size distribution, surface area, pore size, and pore size distribution. Along with each description, adequate theory is presented to give a basic understanding of the method. A discussion of the significance of measurement techniques and their selection is given in Chapter 1.

Methods for determination of particle size include microscopy, sieving, sedimentation, inertial techniques, and radiation scattering and transmission. For surface area measurement, such techniques are described as those involving permeametry, gas adsorption, and liquid-phase sorption, along with several other techniques. In this book, the authors define pore volume as the volume of pores within individual particles. It does not include the volume between individual particles. Several techniques are discussed for measuring pore volume. These include direct measurement, displacement, x-rays, gas flow analysis, gas adsorption or desorption, liquid-phase sorption, and measurements from powder flow properties.

Data are presented in the Appendix which show comparisons of different methods and which give the order-of-magnitude of the various properties for certain type materials. Over 600 references are listed in the Bibliography.

This book should be very useful for anyone interested in fine particle measurement.—D. D. Evans, Oregon State College, Corvallis.

### PORUMBUL, STUDIU MONOGRAPHIC. (Maize, a Monographic Study) Edited by Acad. Traian Savulescu and published by Academicii Republicii Populare Romine, Institutul de Cercetare Agronomice. Bucuresti, Rumania, 1957; 926 pages.

This ambitious monograph on maize, the most important farm crop of Rumania, comprises 22 chapters by 31 authors. It is a well-produced publication with numerous illustrations and several very good colored plates depicting Rumanian corn types and ear diseases.

From 8 to 10 million acres of corn are grown annually in Rumania with about 15% of the area being planted with hybrid varieties of North American origin in 1958. Hybrid seed production was undertaken on approximately 20,000 acres in 1958, from foundation seed stocks largely imported from America or elsewhere.

A precis of the chapters follows:

Chapters 1 and 2 discuss the importance and distribution of maize in Rumanian and world economy.

Chapter 3 covers the origin, systematics, morphology and anatomy of the maize plant.

Chapter 4 describes the chemical composition and use of corn.

Chapter 5 covers the influence of climate and soil on corn culture and zones of culture in Rumania.

Chapter 6 deals with maize improvement, including both historical and modern methods.

Chapter 7 describes Rumanian open-pollinated varieties, largely flint types and flint-dent varietal hybrids.

Chapters 8-14 are concerned with seed production, seed testing, storage and treatment, isolation of seed fields, soil preparation, fertilizers and organic manures, planting, cultural methods, and weed control, including the use of herbicides.

Chapter 15 deals with corn production under irrigation and Chapter 16 with corn harvesting.

Chapters 17 and 18 concern diseases and insect pests of corn and their incidence in the corn growing regions of Rumania.

Chapter 19 covers corn storage, the influence of moisture and temperature, corn drying and shelling.

Chapters 20 and 21 deal with corn for livestock feed, as green fodder, silage, and as grain. The final chapter is devoted to the mechanization of corn production and harvesting largely as practiced in Rumania.

Each chapter is followed by a bibliography. Though, understandably, references to recent American literature are not extensive some American publications as late as 1955 were noted. A seven-page author index is provided. The subject matter index is substantially indicated in an addenda page.—Neal, Department of Agronomy, University of Wisconsin.