BOOK REVIEWS, continued

Grasses and Legumes for Soil Conservation in the Pacific Northwest and Great Basin States

This outstanding handbook summarizes 32 years of work with grasses and legumes for use in soil and water conservation in the Pacific Northwest and Great Basin States. It covers such important items as growth habits, adaptation, cultural requirements, principal uses, and management requirements for soil protection and forage and seed production, as well as special uses such as food and cover for wildlife and recreational use; 56 species of grass and 16 species of legumes are covered.

This publication should be invaluable to everyone interested in grasses and legumes and their use and management. Outstanding features are the presentation of data by conservation-use groups, colored maps that delineate 46 agricultural zones, 31 plates of line drawings of important and new species, and a table giving average seed characteristics and standards for each of the 72 species.

The use groups are based on the conservation job each species can do on the farm, ranch, watershed, or other kind of land needing plant treatment and use. The ten use groups are used to divide more than 15,000 accesses that were comparatively evaluated in the five Plant Materials Centers in the area.

Varieties of 36 species are described, and 23 of these varieties are new and were developed by the Soil Conservation Service Plant Materials Centers. Data presented for each species include one or several of the following: yield of roots, tops, and seed under irrigated and nonirrigated conditions; ability to resist soil erosion by wind or water; quality of forage as measured by lignin content and digestibility; resistance to insects and plant diseases; cultural methods for establishment; management of established plants; response to fertilizers for cover, forage, or seed; and methods for grazing in pastures or rangelands.

Another outstanding feature of this handbook is the maps, which divide the area into 46 agricultural zones according to major land use, soil associations, and climatic and geographical characteristics. Each of the 72 species is oriented to the agricultural zones to which it is adapted and to the typical major soil series in each zone.

The black and white photographs and the line drawings of 31 species are excellent. (These original line drawings are by Lucretia B. Hamilton, wife of the former manager of the Tucson, Ariz., Plant Materials Center.) Each plate includes the major plant characteristics: the above-ground portion and root. In addition there are detailed drawings of the seed head, spikelet or floret, and ligule and the legend for identification purposes.

Dr. Hafenrichter and his staff of Plant Materials Specialists have done an excellent job of condensing a large amount of factual detailed information and are to be congratulated for their work.—W. W. Austin, Consulting Conservation Agronomist, Orinda, Calif. 94563.