New Books

Rodenticide Evaluation

A 35-page bulletin, "Biological Methods for the Evaluation of Rodenticides," has been published by the United Kingdom's Ministry of Agriculture. Author is E. W. Bentley of the ministry's infestation control division. It is available for 3s. 4d. from H. M. Stationery Office, London.

Magnesium, the Fifth Major Plant Nutrient

A. JACOB, 1955. Ferdinand Enke Verlag, Stuttgart, Germany. (Translated from the German by NORMAN WALKER, 1958. Staples Press Ltd., London.) Reviewed by J. E. MCMURTREY, JR., Agricultural Research Service, USDA, Beltsville, Md.

THE BOOK is essentially a review of the literature on the effects of magnesium on plants, with brief references to animals. Soil magnesium and experiments with fertilizers supplying this element are discussed. There is no index, and the references are not easy to check. There is some duplication, such as a structural formula for chlorophyll on both page 7 and page 55. (This formula does not agree with some published formulae for chlorophyll.) An obvious error, in the amount of MgO removed per acre by tobacco, occurs on page 86. There is no attempt to cover the literature on effects of excesses of magnesium salts, such as occur in arid soils.

The author makes a conscientious effort to give all that is known about magnesium as a plant and an animal nutrient. But there are large gaps in available information. The information is incomplete as to all the functions which magnesium fulfills in the living processes of plants.

It has been definitely shown that magnesium is a constituent of the chlorophyll molecule. We have recognized and described distinctive magnesium deficiency effects on plants, characterized usually by chlorosis of the older leaves. It seems to be clear from the evidence presented that magnesium should be included among the major plant nutrients, emphasizing the importance of more intensive studies on this essential plant nutrient. It would seem to be clear, also, that investigation of plant nutrients supplied to the growing plant from the soil should not be limited to only one element, but should include all elements essential for plant growth.

This book should serve to emphasize the importance of magnesium, a major plant nutrient which has been neglected by plant and soil scientists. It has often been classified with the minor plant nutrients (trace elements or micro-plant nutrients by other workers). The book is a valuable contribution to the literature on magnesium.

LITERATURE AVAILABLE

Acids and Anhydrides. Physical properties of various aliphatic acids and anhydrides described in detail with particular emphasis on solubilities in other organic solvents, on vapor pressures, and on azeotrope formation with water and various organic solvents. Specifications, limits, and test methods presented; shipping data in tabular form; physical properties spelled out. Brochure may be obtained from Dept. A&F, UNION CARBIDE CHEMICALS CO., 30 E. 42nd St., New York 17, N. Y.

Chemical Analyzer. Eight-page brochure presents details on automated system for continuous chemical analysis that can analyze trace materials down to parts per billion, continuously record results accurate to within 1%. Industrial applications are listed as well as specific analyses for a wide variety of trace materials. Special section devoted to water analysis. Ask for brochure describing Auto-Analyzer, Dept. A&F, TECHNICAL CONTROLS, INC., Chauncey, N. Y.

Controlled Volume Pumps. Minipumps for industry, research, pilot plants, and chromatography meter chemicals in minute volumes against pressures; will meter as little as 3 ml./hr. with an accuracy of ±2%. Request Bull. 1257-1, Dept. A&F, MILTON ROY CO., 1300 E. Mermaid Lane, Philadelphia 18, Pa.

Corn Sirups and Sugars. Revised edition of 45-page illustrated booklet, "Corn Syrups and Sugars," now available from Dept. A&F, CORN INDUSTRIES RESEARCH FOUNDATION, INC., 3 E. 45th St., New York 17, N. Y., or 1001 Connecticut Ave. N.W., Washington 6, D.C.

Hammer Mill Feed Control. Bulletin gives complete details on design and operating features: feed control plate which regulates flow and eliminates separate crusher-feeder; electric remote control (at mill or floor above); large opening for fast grinding of hay; instant screen changing while mill is running. Write Dept. A&F, SCHUTTE PULVERIZER CO., INC., 878 Bailey Ave., Buffalo 6, N. Y.

Laboratory Glassware. More than 900 items listed in supplement to Pyrex brand laboratory glassware catalog. Fully illustrated and color-coded for ready reference. Supplement No. 3 to LG-1 catalog available from Dept. A&F, CORNING GLASS WORKS, LABORATORY GLASSWARE SALES DEPT., Corning, N. Y.

Mobile Blender. Machine is engine driven, 3-element fertilizer spreader It can blend and spread three different fertilizers while in the field, to give exact soil analysis at lower bulk prices. Request information on New Leader Model L-42S Mobile Blender, Dept. A&F, A25-3, HIGHWAY EQUIPMENT CO., 616 D Ave. N.W., Cedar Rapids, Iowa.

Radioactive Sample Changer. All-purpose manual sample changer provides lead shielding for detectors to eliminate spurious background radiations so that accurate measurements can be made of radioactivity in selected samples. Literature describing Model 3056 may be had from Dept. A&F, NUCLEAR-CHICAGO CORP., 229 W. Erie St., Chicago 10, Ill.

Row Crop Sprayers. Sprayer covers over 90-ft. swath; sprays over 200 acres daily. Illustrated brochure outlines features designed to provide maximum performance and service. gives specifications. For more details, ask for Cat. No. L1451-59, Dept. A&F, JOHN BEAN DIVISION, FOOD MACHINERY AND CHEMICAL CORP., Lansing 4, Mich., or San Jose 1, Calif.

Steel Fertilizer Tanks. Carbon-steel tanks, completely lined with $^3/_{16}$-in. thickness of natural gum rubber, for the storing and handling of corrosive, liquid-chemical fertilizers. Folder lists three basic tank types, and 18 stock sizes from which to choose, and prices. Write Dept. A&F, ABRASION & CORROSION ENGINEERING CO., P. O. Box 3085, Amarillo, Tex.

Weed Killer. Containing 4(2, 4-DB) and named "Butoxone," it is recommended for control of many broadleaf weeds in alfalfa, red clover, birdsfoot trefoil, alsike clover, ladino clover, and peas. For the present, its use is limited to application in crops grown for seed. Technical service bulletin available from Dept. A&F, CHIPMAN CHEMICAL CO., INC., Bound Brook, N. J.