The book is well written and the author's views are clearly stated. These views should excite the interest of plant breeders in general and cotton breeders specifically.---B. A. WADDLE, Department of Agronomy, University of Arkansas.

EFFICIENT USE OF FERTILIZERS. By V. Ignatieff and H. J. Page. FAO, Viale delle Terme di Caracalla, Rome, Italy, and FAO sales agents. 352 pp. 1958. $4.50 or 22s. 6d.

This revised and enlarged second edition offers a valuable reference for the student interested in readily gaining a broad perspective of world agriculture. The book is well written and organized and has much to offer for the entire spectrum of agricultural workers. The three chapters on disposal and utilization of organic wastes, cropping systems and fertilizers, and soil and nutrient needs of crops throughout the world are particularly outstanding, representing the works of several authorities drawn from over the world. The three chapters on plant nutrient relationships in respect to soil regions, on plant nutrition, and on commercial fertilizers provide needed background for the broader treatments given to fertilizer use, crop and soil management, and economics of fertilizer use.—GEORGE STANFORD, Tennessee Valley Authority, Wilson Dam, Ala.


This book is a good reference for courses and research work on soil physics, soil chemistry, soil physiology, and plant physiology. Training in those subjects and in mathematics and physical chemistry is required to understand and apply the theoretical discussions in all the chapters.

The book consists of the following 11 chapters comprising 370 pages:

1. Properties of water and its cycle in nature.
2. The soil as a porous system, hydrophilic.
3. Chemically combined water.
4. Physically combined water, adsorbed water.
5. Water in the gaseous state, vapor.
6. Free water, fixed.
7. Free water, mobile under capillary forces.
8. Free water, mobile by gravity.
9. Water of the soil and plants.
10. Water conservation and irrigation requirement.
11. Classification of soil water.

It has also six tables and an appendix with a glossary for some of the terms used.

The equation in page 48 should be written:

$$P = \frac{4\pi \rho I \frac{1}{2}}{\frac{1}{2} + \frac{1}{2}}$$

The book has references to publications from 788 European, American, and Latin authors. Twenty-six books were consulted including the following ones in Spanish:

Iljin, W. S., El agua y los procesos vitales de la planta (1953).
Tschapek, M., Quimica coloidal del suelo I (1949), Buenos Aires.

More technical and practical books written in Spanish are needed in the field of Soil Science, as well as an approved glossary for proper terms and definitions. I congratulate Dr. Tschapek for his recent contribution.

(Doctor Tschapek, born and trained in Russia in Agronomy and Colloidal Chemistry, went to work in 1942 for the Institute of Colloidal Chemistry in Dresden, Germany, and since 1947 has been in Argentina.)---JUAN A. BONNET, Head, Soil Department, Agricultural Experiment Station, U.P.R., Rio Piedras, Puerto Rico.