PLANT RESEARCH: 1. THE METHODS OF WATER CULTURE OF HIGHER PLANTS (246 pages) with an appendix on SYMPTOMS OF NUTRIENT DEFICIENCIES IN CROP PLANTS (48 pages)

(In German.) By Wilhelm Schropp. (South German Dairy Research Institute and Experiment Station.) Published as Volume VIII of the Handbook of Agricultural Research and Experimental Methods, Rudolf Herrmann, ed. Radebeul and Berlin, Germany: Neumann Verlag. (Illus.). 1951.

This volume is one of a series covering research methods in many branches of agriculture. The editor reports that seven previous volumes on research methods with soils, seeds, milk, and pesticides have appeared in two editions since 1941. Volumes not yet published are to deal with plant research through pot culture and field experimentation, and with research on feedstuffs, herbs and spices, and livestock.

The major subjects of Volume VIII include the kinds of water culture (i.e., circulating, aerated, with sand or cinder substrates, etc.), the care of the plants, the influence of environmental conditions, the techniques of determining yields or results, the chemistry and management of nutrient solutions and the significance of water culture in scientific investigations.

Drawings and photographs are effectively used to detail equipment and procedure, some of which are common and ingenious. In the chapter on various crop plants are given brief individual attention. A valuable feature of this book is the tables comparing the growth of several crops of about 20 different nutrient solutions devised by various investigators. The data in these tables was obtained by Dr. Schropp in extensive experimentation and the minor elements.

Dr. Schropp uses only a few pages to dispose of the economic potentialities of hydroponics and particularly of the allegedly higher yields per unit area from hydroponics as compared with those from fertile soils receiving comparable management. The appendix describes nutrient deficiencies of many crop plants, including deficiencies of the minor elements.

As might be expected, research conducted outside Germany during the recent war and post war years is not treated with the same thoroughness that characterizes the review of the literature for the preceding years. Nevertheless, this