NOTES

Annual Election.—The eighteenth annual election of the American Society of Plant Physiologists was held during May and June, 1941. The secretary-treasurer, Dr. W. E. Loomis, Department of Botany, The Iowa State College, has announced the results of the election as follows:

President, Dr. Edwin C. Miller, Kansas State College.
Vice-president, Dr. W. E. Loomis, Iowa State College.
Secretary-treasurer, Dr. P. J. Kramer, Duke University.
Executive committee, Dr. W. F. Loehwing, University of Iowa.
Editorial committee, Dr. Otis F. Curtis, Cornell University.

The new officers become active on July 1, 1941. The Dallas meeting will be the most important immediate concern of these officials. They desire, and will need, hearty cooperation in planning and executing the necessary work incident to the eighteenth annual meeting and program. Early replies with titles, and aid wherever it is requested are always appreciated during this busiest season of the year.

Reports of other matters voted upon in the 1941 election will be made in the October number of PLANT PHYSIOLOGY.

Purdue Section.—The Purdue Section of the American Society of Plant Physiologists reports a very successful season during the year 1940–1941 under the chairmanship of Dr. R. E. Girton, of the School of Science, Purdue University. Fifteen regular meetings were held during the year, with an average attendance of 25. Two of these were dinner meetings. Dr. F. G. Gustafson, Botany Department, The University of Michigan, addressed the Section at its first dinner meeting in October, on the subject: Hormones in Relation to Plant Growth. At the last dinner meeting of the year in May, Mr. Glenn M. Smith of the Purdue University Agricultural Experiment Station presented his important work on Sweet Corn Breeding.

The new officers elected by the Purdue Section for the year 1941–1942 are: Chairman, Dr. F. P. Zscheile, of the Department of Agricultural Chemistry, School of Agriculture; and secretary-treasurer, Dr. W. R. Mullison, of the Department of Biology, School of Science.

Vacation.—The editor-in-chief will be out of residence from Chicago during the entire summer, until about September 15. Correspondents will please note that, because of rapid movement from place to place, the editor will find it difficult to answer communications promptly. Papers offered for publication should be sent to the office of the secretary of the editorial committee, Dr. W. F. Loehwing, Iowa City, Iowa, as usual, and other matters allowed to wait until September.
Winthrop John Vanleuven Osterhout.—It is with a great deal of pleasure that we are able to present in this number two fine portraits of Dr. OSTERHOUT, to whom this number of Plant Physiology is dedicated in honor of his approaching 70th birthday anniversary, which occurs on August 2, 1941. A brief biography was published in Plant Physiology for January, 1940, at the time he was elected to a CHARLES REID BARNES life membership in the American Society of Plant Physiologists. On behalf of all members of the Society, we extend our best wishes and congratulations to him for the happy occasion of his anniversary, and for a long period of pleasurable activity following his retirement from formal service. He has earned it by nearly fifty years of pioneering work which has advanced our understanding of many physiological processes.

Minor Elements.—The second annual supplement to the third edition of the Bibliography of References to the Literature on the Minor Elements and their Relation to Plant and Animal Nutrition has been issued by the Chilean Nitrate Educational Bureau, HERBERT C. BREWER, Director, 120 Broadway, New York. It contains 67 pages, in two-column format, with three indexes, one by elements, one by botanical common names, and one by authors. About 50 elements are included, and 150 crop plants. Slightly less than 400 authors are listed. The annotated bibliography is extremely valuable, and all students of plant nutrition will be grateful for the continuation of this service to research. Members of the Society should obtain a copy of the supplement by writing to Mr. BREWER.

Hunger Signs in Crops.—Interest in the problems of plant nutrition, intimately bound up with animal nutrition, has grown rapidly in recent years. The American Society of Agronomy, in cooperation with the National Fertilizer Association, has published a symposium on Hunger Signs in Crops. It is a very attractive monograph, with about 80 plates in colors, and a few less than 100 text figures. The chapters deal with crops, or groups of crop plants, with titles and authors as follows: Why do plants starve? by GEORGE D. SCARSETH and ROBERT M. SALTER; plant-nutrient deficiency in tobacco, by J. E. McMURTRAY, Jr.; deficiency symptoms of corn and small grains, by GEORGE N. HOFFER; plant-nutrient deficiency symptoms in the potato, by H. A. JONES and B. E. BROWN; plant-nutrient deficiency symptoms in cotton, by H. P. COOPER; plant-nutrient deficiencies in vegetable or truck-crop plants, by J. J. SKINNER; nutrient-deficiency symptoms in deciduous fruits, by O. W. DAVIDSON; plant-nutrient deficiency symptoms in legumes, by E. E. DE TURK; and symptoms of citrus malnutrition, by A. F. CAMP, H. D. CHAPMAN, GEORGE M. BAHRT, and E. R. PARKER.

It is a very valuable survey because it brings a large section of our
knowledge of mineral deficiencies into a single work. Agricultural agents, teachers, and extension men will find it particularly helpful. And many research men will find it handy to use in comparing their own observations. It is written in popular style, but does not sacrifice accuracy in bringing the information to a popular level.

It is printed by Judd and Detweiler, Washington, D. C., at the modest price of $2.50 per copy. The press work is admirable. We recommend this book as one which should be in the hands of all plant physiologists.

Enzyme Research.—The great work by Bamann and Myrbäck, *Die Methoden der Fermentforschung*, continues to come from the press of Georg Thieme, Leipzig. Lieferung 6 contains 336 pages, and Lieferung 7, 416 pages, ending on page 2588. Lieferung 6 continues with the hydrolases, specifically, with the carbohydrases, some of which were presented in Lieferung 5. The phyto- and zoo-amylases, fructanase, glucanases, cytases, and polyuronidases complete the list of carbohydrases. Then follow the nucleases, amidases, proteases, thrombase and blood coagulation enzymes, and oxynitrilese finish out the great group of hydrolases.

The last part of Lieferung 6 begins consideration of the desmolases and enzymes of biological oxidation and reduction. The first part of this section takes up alcoholic fermentation, normal fermentation by living yeasts and zymase preparations.

Lieferung 7 continues with the enzymes of oxydoreduction, glycolytic enzymes, dehydrases, cytochromes, and the oxytropic dehydrases. Section II of the desmolases is a short chapter on the oxyhydrases, such as glucose-oxoxygenase, ascorbic acid oxydase, dioxymaleie acid oxydase, oxalooxy- dase, amino acid oxydases, and aminoxyhydrases (tyraminoxydase, adrena- lin oxydase, aminoxydase, histaminase, and dianinoxidase).

Following this section, the enzymes of aerobic respiration are taken up, the true oxydases. The fourth section takes up the enzymes that make the first attack upon the sugar molecule (hexosephosphorylase); section V, the true desmolases (aldolase, carboxylase, amino acid decarboxylases, etc.); section VI, enolase; and section VII, the hydratases and related enzymes.

Each section is written by some expert in the special field of which he writes, or thoroughly familiar with the progress in methods of attack. It is impossible in a short review to do justice to this outstanding compilation. It deserves a place in the libraries of all institutions where enzyme research is in progress.

The prices stated for these two Lieferungen are: Lieferung 6, RM 25.20; Lieferung 7, RM 31.20. These are the Auslands price quoted by the publisher. It should be remembered that, for obvious reasons, the work is sold only in complete sets.
Modern Fruit Production.—An excellent work by two outstanding horticulturists, Dr. J. H. Gourley, and Dr. Freeman S. Howlett, both of the Ohio Agricultural Experiment Station, and The Ohio State University. The publishers are the Macmillan Co., New York, and the price quoted is $4.50 per copy. It is a book of 579 pages.

There are 17 chapters, several of which are introductory. The story of the fruit industry is told in the first chapter, and the fruit plant and its parts are described in the second. The subsequent chapters are given the following titles: Factors affecting flower formation; site and soil for the fruit plantation; laying out and planting the orchard; cultural practices; fertilizers and manures for the orchard; water relations of fruit plants; pruning of fruit plants; fruit setting; fruit thinning and alternate bearing; the handling and storage of fruit; winter injury; nutrient deficiencies and disorders; propagation and stocks; the origin and improvement of fruits; and orchard, vineyard, and small fruit costs.

The volume represents a complete rewriting and expansion of the previously published Textbook of Pomology. It is intended as a practical guide to fruit production, but has included enough of the modern results of botanical and physiological research to make it an up-to-date guide. It is a very clear presentation, and will be a welcome addition to the literature of horticulture.

Annual Review of Physiology.—The third Annual Review of Physiology has been issued by Annual Reviews, Inc., Stanford University, California. It contains 26 reviews, as follows: The relation of bioelectric potentials to cell functioning, by G. H. Bishop; the physiological effects of radiant energy, by H. Laurens; physiological aspects of genetics, by A. H. Sturtevant; developmental physiology, by E. Witschi; growth, by C. E. Palmer and A. Ciocco; temperature regulation, by J. C. Scott and H. C. Bazett; energy metabolism, by T. M. Carpenter; respiration, by F. C. Schmidt and J. H. Comroe, Jr.; physical properties of protoplasm, by E. F. Adolph; muscle, by W. O. Fenn; the digestive system, by J. E. Thomas; liver and bile, by W. B. Hawkins; formed elements of the blood, by G. M. Higgins; heart, by C. J. Wiggers and H. D. Green; peripheral circulation, by V. E. Hall; electrical activity of the brain, by H. H. Jasper; the autonomic nervous system, by D. Sheehan; the special senses, hearing, visual receptors, and vibratory sensations and pain, by E. Barany, R. Granit, and Y. Zotterman, respectively; physiological psychology, by H. S. Liddell; kidney, by L. Leiter; metabolic functions of the endocrine glands, by S. Soskin; endocrine aspects of the physiology of reproduction, by O. Riddle; reproduction in mammals, by M. H. Friedman; bacterial chemotherapy, by E. K. Marshall, Jr.; histamine and anaphylaxis, by W. Feldberg; and exercise, by A. H. Steinhaus.
These reviews have been prepared with great care. They portray the recent advances in physiology with clarity and accuracy, and are of the utmost importance to intelligent research in the field of physiology. The price of this volume is $5.00, as usual, and there is no better bargain, anywhere, in the field of physiological literature. The war in Europe has interfered with the receipt of foreign journals, and with the preparation of reviews by foreign experts. Nevertheless, many of the reviews are critical summaries, guiding the reader in appraisal of the progress, others a synoptic review of what has been accomplished. Naturally one prefers the reviews which offer appraisal and criticisms of the investigations, since this is the essence of progress, but all will be found valuable to the working physiologists.

The American Physiological Society, Annual Reviews, Inc., the capable editors, Dr. James Murray Luck and Dr. Victor E. Hall, and the collaborators who performed the valuable services in preparing the reviews deserve, and will receive, the thanks and enduring gratitude of all workers who benefit from their efforts. Those who desire to own a copy, should address Annual Reviews, Inc., Stanford University, California.