

HILGARDIA

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California Agricultural Experiment Station

VOLUME I

MAY, 1925 TO JUNE, 1926

With 11 Plates and 143 Text Figures

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HILGARDIA

EXPLANATORY NOTE

With the completion of number twenty of the *Technical Papers* of this institution, the publication of which was commenced in January, 1923, this title has been abandoned and in the future the general type of articles formerly issued in the *Technical Papers* will be published under the title HILGARDIA. The numbers will be paged consecutively and as a volume of reasonable length is completed, a title page, table of contents, and general index will be prepared for each volume.

The chief reason for this change is the cumbersome title of the technical series, it being necessary to quote in full or by abbreviation of the major words the full title, which originally was: "University of California Publications. The Agricultural Experiment Station of the College of Agriculture, Technical Paper No. —." Due to policies adopted by the University Press it became necessary to change this title and the last few numbers were issued under the equally cumbersome title: "University of California, College of Agriculture, Agricultural Experiment Station, Berkeley, California, Technical Paper No. —." The advantages of a title consisting of a single word are manifest.

The title HILGARDIA has been selected to commemorate the services of Doctor Eugene Woldemar Hilgard (1833–1916), who organized the Agricultural Department of the University of California, and who founded the Agricultural Experiment Station in 1875.

President Benjamin Ide Wheeler at the Memorial Services held in honor of Doctor Hilgard, January 30, 1916, stated regarding his services.*

"Eugene Woldemar Hilgard has kept the faith. He has lived among his fellow men in active respect for the principles of order and authority. He has built his life into one of the most institutional forms of human society. He has been a

* Addresses at memorial services in honor of Dr. E. W. Hilgard, University of California, January 30, 1916. Univ. Calif. Chronicle 18:159–190. 1916. Reprinted by the University of California, Agricultural Experiment Station, under the title: *In Memoriam, Eugene Woldemar Hilgard*, 1–50. 1916.

gentleman. He has been true to the best methods and standards of the science in whose fields he has toiled. He has been loyal to the best traditions and standards of academic life."

Doctor E. W. Allen,* Chief of the Office of Experiment Stations, United States Department of Agriculture, in speaking of Doctor Hilgard's work states:

"The death of Dr. E. W. Hilgard, of California, closes a notable career of service to agriculture, both in length and in accomplishment. It marks the passing of the last of the earlier group of pioneers in agricultural education and research. The work he did dealt with the very fundamentals of agricultural advancement, at a period when men saw the needs less clearly and few were qualified to carry the work forward. Gauged by the time and opportunity, it will remain a great work. Who shall attempt to measure the result of it, or the influence of the high standards he set?"

It seems fitting and appropriate that the name HILGARDIA should be selected as a title of a serial publication of the California Agricultural Experiment Station in which is to be presented the results obtained by members of the staff from painstaking fundamental research on problems related to agriculture. This was the type of agricultural research for which Doctor Hilgard stood. Prominent biologists and patrons of science have had scientific periodicals named in their honor in such title as Addisonia, Bonplandia, Broteria, Candollea, Cassinia, Grevillea, Linnaea, Hedwigia, Malpighia, Muhlenbergia, Teysmannia, Torreya, Treubia, and Webbia. No valid reason exists why such an honor should not be extended to an agriculturist noted for his fundamental work, although the selection of such a title is an innovation in Agricultural Experiment Station literature. It is hoped that the articles that will appear in HILGARDIA, which will be of the same general type as those formerly issued in the series known as *Technical Papers*, will measure up to the high standards Doctor Hilgard set.

E. D. MERRILL,

Dean, College of Agriculture, and

Director of the Agricultural Experiment Station,
Berkeley, California.

April 1, 1925.

* Editorial in Experiment Station Record 34:301. 1916. In Memoriam, Eugene Woldemar Hilgard, 35. 1916.

The titles of the Technical Papers of the California Agricultural Experiment Station, Nos. 1 to 20, which HILGARDIA replaces, and copies of which may be had on application to the Publication Secretary, Agricultural Experiment Station, Berkeley, are as follows:

1. The Removal of Sodium Carbonate from Soils, by Walter P. Kelley and Edward E. Thomas. January, 1923.
3. The Formation of Sodium Carbonate in Soils, by Arthur B. Cummins and Walter P. Kelley. March, 1923.
4. Effect of Sodium Chlorid and Calcium Chlorid upon the Growth and Composition of Young Orange Trees, by H. S. Reed and A. R. C. Haas. April, 1923.
5. Citrus Blast and Black Pit, by H. S. Fawcett, W. T. Horne, and A. F. Camp. May, 1923.
6. A Study of Deciduous Fruit Tree Rootstocks with Special Reference to Their Identification, by Myer J. Heppner. June, 1923.
7. A Study of the Darkening of Apple Tissue, by E. L. Overholser and W. V. Cruess. June, 1923.
8. Effect of Salts on the Intake of Inorganic Elements and on the Buffer System of the Plant, by D. R. Hoagland and J. C. Martin. July, 1923.
9. Experiments on the Reclamation of Alkali Soils by Leaching with Water and Gypsum, by P. L. Hibbard. August, 1923.
10. The Seasonal Variation of the Soil Moisture in a Walnut Grove in Relation to Hygroscopic Coefficient, by L. D. Batchelor and H. S. Reed. September, 1923.
11. Studies on the Effects of Sodium, Potassium, and Calcium on Young Orange Trees, by H. S. Reed and A. R. C. Haas. October, 1923.
12. The Effect of the Plant on the Reaction of the Culture Solution, by D. R. Hoagland. November, 1923.
13. Some Mutual Effects on Soil and Plant Induced by Added Solutes, by John S. Burd and J. C. Martin. December, 1923.
14. The Respiration of Potato Tubers in Relation to the Occurrence of Black-heart, by J. P. Bennett and E. T. Bartholomew. January, 1924.
15. Replaceable Bases in Soils, by Walter P. Kelley and S. Melvin Brown. February, 1924.
16. The Moisture Equivalent as Influenced by the Amount of Soil Used in its Determination, by F. J. Veihmeyer, O. W. Israelson and J. P. Conrad. September, 1924.
17. Nutrient and Toxic Effects of Certain Ions on Citrus and Walnut Trees with Especial Reference to the Concentration and Ph of the Medium, by H. S. Reed and A. R. C. Haas. October, 1924.
18. Factors Influencing the Rate of Germination of Seed of *Asparagus officinalis*, by H. A. Borthwick. March, 1925.
19. The Relation of the Subcutaneous Administration of Living Bacterium abortum to the Immunity and Carrier Problem of Bovine Infectious Abortion, by George H. Hart and Jacob Traum. April, 1925.
20. A Study of the Conductive Tissues in Shoots of the Bartlett Pear and the Relationship of Food Movement to Dominance of the Apical Buds, by Frank E. Gardner. April, 1925.