INVESTIGATIONS WITH THE CASTOR-BEAN PLANT:
II. RATE-OF-PLANTING AND DATE-OF-PLANTING TESTS1

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There was urgent need for information on cultural methods for castor beans in the early years of World War II when the increased demands for drying oils with special qualities focused attention on the desirability of domestic production of this crop. Two of the problems investigated cooperatively by the Bureau of Plant Industry, Soils, and Agricultural Engineering and many state agricultural experiment stations were the rate and date of planting for those varieties which were used in the program. Mimeographed reports3 of all phases of the cooperative work include yearly data on the rate and date tests and list the cooperating stations and individuals. The 1941 to 1943 results of the 35 rate-of-planting tests in 13 states and the 10 date-of-planting tests in 7 states are summarized herein.

METHODS AND RESULTS

RATE-OF-PLANTING TESTS

The early work on rate of planting has been approached on the basis of a known number of established plants rather than a known amount of seed planted, since the latter would introduce questions of seed viability, depth of planting, emergence, seedling disease, and seed treatment.

The 1941 tests were carried to completion at the following 19 locations: Mesa, Ariz.; Bard, Calif.; Quincy, Fla.; Carbondale, Equality, and Mascoutah, Ill.; Maple Hill and Parsons, Kans.; Beltsville, Md.; Poplarville, Miss.; Arapaho, Chickasha, and Stillwater, Okla.; and Chillicothe, Deport, Lubbock (2 tests), Robstown, and Scottsville, Texas. It is not feasible to present here the detailed data from these tests since, because of the late date at which the program was started, the tests could not be set up uniformly in regard to design, size, and varieties included. It is of interest, however, to note the range of spacings between and within rows that was included among the different tests (Table 1). The number of square feet allowed per plant varied from 1.25 (36 x 5 inches at Bard, Calif.) to 36 (72 x 72 inches at Robstown, Texas). Conclusions which may be drawn from these 19 tests are the generalizations that the castor bean varieties used responded reasonably well to a wide range of spacing and that the number of plants per acre seemed to be more important, within certain limits, than the arrangement or spacing of the plants.

1Contribution from the Division of Drug and Related Plants, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, U. S. Dept. of Agriculture, Beltsville, Md. This is the second of a series of papers covering cooperative studies on adaptation, variety comparisons, and cultural methods. Number 1 of the series appeared in this JOURNAL, Vol. 37, pages 750 to 762. Received for publication April 10, 1945.
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3D.R.P. 34, 35, and 40 for 1941, 1942, and 1943, respectively.