VIGOR IN SOYBEANS IN RELATION TO INHIBITION OF PUBESCENCE

COLLINS VEATCH

It has been reported by Nagai and Saito (1) and by Owen (2) that the dominant factor \( P_1 \) which inhibits the development of pubescence also reduces the vigor and delays the development of the soybean plant \((Soja max Piper)\). Wentz and Stewart (4) found that the recessive glabrous factor \( p_2 \) had little, if any, effect on plant development when in the heterozygous condition, although the plants homozygous for \( p_2 \) were greatly reduced in size and vigor below the pubescent type. Data on plant development secured from three crosses involving the factor \( P_1 \) are presented here.

MATERIAL AND METHODS

The four lines of soybeans used in these crosses were furnished by Doctor C. M. Woodworth and have been carried on as pedigree strains from single plants. The line designated as 435B was secured several years ago as a segregate from a cross between Medium Green and a dominant glabrous soybean. This line carries the factor \( P_1 \) which inhibits the expression of pubescence. The three other strains are pubescent. The Wea strain is a selection from the Wea variety. The "Chimera" strain came from a Chimera soybean plant. One side of this plant was purple-stemmed and bore purple flowers, while the other side was green-stemmed and bore white flowers. The Chimera strain came from the green-stemmed, white-flowered part of the plant. The strain designated as 339 is a U. S. Dept. of Agriculture introduction, the 339 being an abbreviation of the U. S. P. I. No. 65339.

In 1927, the \( F_1 \) seeds and seeds from the parental plants were planted in small paper pots in the greenhouse May 17 and transplanted to the field June 1. These plants were spaced 1 foot apart in rows 2 feet apart. Two plants of one parental line were planted on one side of the hybrid and two plants of the other parental line on the other side. The following year the \( F_2 \) seeds were planted 6

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\(^2\)Formerly Graduate Student in Plant Breeding, University of Illinois; now with the Compañía Agrícola, S. P. de Macoris, Dominican Republic. The author wishes to express his appreciation of the suggestions given by Dr. C. M. Woodworth during the progress of this study and also for the encouragement and assistance in the preparation of the manuscript.

\(^3\)Reference by number is to "Literature Cited," p. 452.