PLOT TECHNIC STUDIES WITH NAVY BEANS

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The studies reported herewith deal with the width of plot necessary for navy beans to overcome the competitive effect of contrasting rates of seeding or varieties planted in contiguous plots.

MATERIALS AND METHODS

All plantings were made in a north-south direction, rows 28 inches apart, planted 32 feet long and trimmed to 30 feet in length shortly before harvest. Ordinary nursery equipment was used for planting and harvesting. At harvest the rows were pulled and immediately stacked in small stacks using a small amount of straw between the rows in the stack to prevent mixing.

Two treatments, both planted each year 1937-41, were used:

- Treatment A.—Rate of seeding. Plots planted alternately to heavy (75 pounds) and light (20 pounds) rates of seeding of the Michelite variety of navy beans.
- Treatment B.—Variety competition. Plots planted alternately to the Robust and Michelite varieties of navy beans. Both varieties were sown at the rate of 45 pounds of beans per acre.

The alternate system of planting was used throughout each treatment so that all plots would always have the same contrasting plots on both sides. Care was taken to add border plots of the proper treatment wherever they were necessary to fulfill the requirements of the experimental layout.

Plot widths of one, three, and five rows were included in both treatments. As 10 replications were used, the total number of plots per treatment was 60, i.e., 2 (rates of seeding or varieties) X 10 (replications) X 3 (plot widths). The total number of rows harvested per treatment was 180, i.e., 2 (rate of seeding or varieties) X 10 (replications) X 9 (1 + 3 + 5 rows per plot).

NOMENCLATURE

Certain designations are used to simplify the discussion. If two or more rows are involved, it is understood that their mean yield was used.

One row plot: 1, single row
Three row plot: 3, center row
   3 (o) two outside border rows
   3, all three rows
Five row plot: 5, center row
   5 (s) two second border rows
   5, three center rows
   5 (o) two outside border rows
   5, all five rows

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3Unfavorable weather destroyed the bean plots in 1940.