DURING the past 15 years a variety of sweet corn, USDA-34, has been developed at the Puerto Rico Experiment Station of the U. S. Dept. of Agriculture, Mayaguez, Puerto Rico, and in a number of field trials has shown itself to be well adapted to the environmental conditions of the tropics.

Trial shipments of this variety of sweet corn have shown that good prices may be obtained when it is marketed in New York in the winter months. It was apparent, however, that there was a dearth of knowledge of the most efficient agronomic methods to use in the production of this sweet corn for market. Yields of nonmarketable ears and of forage also may be an important consideration for the grower operating a small enterprise typical of the Puerto Rican farm where a large return per acre per month is required to support the heavy population.

Accordingly, an experiment was designed to determine the relationship between soil area per plant and yield with USDA-34 sweet corn.

METHODS AND EXPERIMENTAL DESIGN

There were six spacing treatments in the experimental design. These varied by \( \frac{1}{2} \)-square-foot intervals from 2.0 to 4.5 square feet per plant. The rows were spaced 2, 3, or 4 feet apart and the distance between hills was selected to give the required number of square feet per plant.

The field selected for the experiment was comparatively level and contained approximately 4 acres. The soil type has been classified as Catalina clay by the U. S. Bureau of Chemistry and Soils. Drainage was provided by parallel surface ditches across the field and they were necessary because of the high-intensity rainfall experienced during the months of the summer rainy season in which the corn was grown. To facilitate drainage, the land was plowed in such a way as to mound up the earth in the centers between the surface ditches. Plantings were made on ridges thrown up by the plow at right angles to the ditches and to a height of about 4 inches above the furrow.

In order to provide for statistical analysis of the data collected, a randomized block system of laying out the field was used. Each block contained one plat of each of the six spacing treatments. Twenty-five replications were used making a total of 150 plats or 3.84 acres in the experimental area. Plats measured 36 \( \times \) 31 feet, each having an area of 1,116 square feet, or approximately 39 plats to the acre. The layout of the experiment as completed is shown in Fig. 1.