POLE BEANS VS. SOYBEANS AS A COMPANION CROP WITH CORN FOR SILAGE

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WITH the increased interest, particularly in the northeastern United States, in the combination of a legume with corn for silage purposes has come the question, many times repeated, "Why not grow pole beans with corn for silage?" This question was postulated on the assumption that production would be equally good and some of the difficulties of harvest would be eliminated due to the ability of the pole bean to use the corn plant as a support and to remain with the corn plant at harvest time without loss of a significant amount of the legume.

The purpose of this brief report is to present data obtained from experiments planned to give information on this problem.

METHOD

In 1933, a pole bean, Kentucky Wonder, was included in the regular experiment where soybean varieties were being tested with corn for silage. The test was twice repeated in 1934, one series only receiving inoculation.

In order to be able to compare the yield of the combinations with corn alone, a given variety of corn was grown at a uniform rate over a considerable area with soybeans or pole beans planted with the corn in three out of four rows. The fourth row served as a check and also gave a measure of the ability of the land to produce corn alone. The rate of corn planting was the optimum for corn silage under the conditions of the experiment, namely, 9 inches apart in rows 3 feet apart. Soybeans or pole beans when added were planted at the rate sufficient to give three legume plants to one of corn. Almost a perfect stand of corn was obtained by accurate spacing at planting time and dropping two or three kernels where one plant was desired, followed by subsequent thinning. The legumes were not thinned but a stand approaching closely to that desired was secured by planting an excess of 10% germinable seed over the amount necessary for the desired stand provided all germinable seed produced plants. The individual rows were 50 feet long and were repeated eight times. Two standard silage corn varieties for the region were used. In order to show the contrast between pole beans and soybeans, two varieties only of soybeans were taken from the several in the test.

The corns and the legumes were harvested separately and weighed immediately. Shrinkage samples were taken on three of the eight series (approximately 40 pounds of corn and the entire harvest of soybeans) and later kiln dried in order to determine the dry matter percentage in the green material and finally by taking the average of the three shrinkage samples to get the dry weight production of the corn and of the legume separately. The percentage dry shelled grain in the corn was also determined in the shrinkage samples.

RESULTS

The fact that a legume grown with corn for whatever purpose reduces the yield of corn, whether measured in total dry matter pro-