

Abstract

HUBBELL, LEE A.*, Research Manager, Monitor Sugar Company, 2600 S. Euclid Avenue, Bay City, MI 48706. - The impact of higher populations in 28" and 30" rows on recoverable white sugar per acre.

The study was implemented because growers were not achieving what was thought to be desired beet populations. Our previous eight years of hand dug pre-harvest samples averaged less than 109 beets per 100 feet and our average grower seed spacing at planting was 6.4 inches. The row width in Michigan is 28" and 30" with very few in 22" rows. In this study beets were thinned to stands of 60, 80, 100, 120, 140 and 160 per 100 feet of row or 10,455 to 29,870 beets per acre. Results have produced significantly better sucrose content, yield, and recoverable white sugar per acre with the higher populations.

Method

The six populations were randomized with six replications at each location. This test is planted by cooperating with a farmer as he plants his beet field. The farmer does the tillage and plants through the test area applying fertilizer and preemergence herbicide but does not plant seed. The research planter is then used to drop seed in the row at a 1.3 inch spacing and the beets are thinned to the different populations. At different locations row width was both 28 and 30 inches. The years 1988 and 1989 were very dry in contrast to 1990 which was above normal in rainfall.

Summary

The results are obvious in Table 1 that the thicker populations are beneficial. These results have been used to promote thicker planting to our growers. Grower response has been favorable as the 1990 average for seed spacing now stands at 5.45 inches.

TABLE 1

MONITOR SUGAR COMPANY
 TYPE: POPULATION TEST
 AVERAGE OF THREE YEARS: 1988-1990
 EIGHT LOCATIONS

STAND: BEETS PER 100 FT.	RWSA	% SUGAR	RWST	TON/A	% CJP	AMINO N	BEETS/ 100' AT HARVEST
160	6713	18.07	263.5	25.88	94.26	10.99	153
140	6369	18.13	265.3	24.48	94.38	11.25	135
120	6199	18.01	262.3	23.98	94.20	11.09	120
100	6114	17.89	259.2	24.05	93.99	11.91	102
80	5851	17.57	252.7	23.63	93.70	12.67	84
60	5324	16.72	237.7	22.65	93.39	13.56	66
GM	6095	17.73	256.8	24.11	93.99	11.91	92

Replications: 6 Rows: 4 Row Length: 30"