

SOME OBSERVATIONS ON VARIETY TRIALS
CONDUCTED IN CERTAIN HUMID AND IRRIGATED AREAS IN 1937

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Variety tests conducted in 1937 in 17 different localities in the 7 states in which the American Crystal Sugar Company operates, revealed some interesting relationships. Results of tests in the humid areas, namely in North Dakota and Minnesota indicate that varieties intermediate in tonnage yield are productive of greater sugar per acre yields than either the strictly tonnage or sugar varieties. In Iowa, Eastern Nebraska, and in Southeastern Colorado the sugar varieties and especially those resistant to leafspot (*Cercospora beticola* S) were the better performers. In California the tonnage varieties (especially those resistant to the curly top disease) and in Montana some of the intermediate types produced the highest sugar per acre yields.

From the results of this large number of tests (which are a part of a variety testing program extending over a period of years) it becomes apparent that no single variety of sugar beets can be recommended as the best one to use over a wide geographic area. It is further apparent, that breeding for adaptation of a variety or varieties for certain regions or even sub-regions is imperative from standpoint of maximum sugar per acre yields. To paraphrase F. D. Richey, Chief of the Bureau of Plant Industry "It seems clear that green pastures for the breeders of sugar beets will continue and must be pastured for some time to come."

BET VARIETY TRIALS IN ONTARIO

H. D. Brown, Canada and Dominion Sugar Company

The Ontario commercial crop of sugar beets has been grown, chiefly from European beet seed, with a small but increasing amount of locally produced seed during the past several years. The European seed has been mostly of the "Normal" or "Intermediate" type, and in Ontario has averaged 9.2 tons per acre with 15.3% sugar, over a 35 year period. The past five years has been a little above the long time average with 10.0 tons per acre and 15.6% sugar in the beets.

Each year variety tests have been conducted on the commercial strains--

- (a) to see that all come up to a general average standard.
- (b) to locate the superior type of seed or firm supplying a better adapted strain.
- (c) to compare Home Grown varieties and selections with the European strains.

The following table is the result of the 1937 tests. The 20 seed types were sown in 3 row blocks, 50 feet long, and repeated 5 times in randomized order. Seeding was done May 14th, and harvesting, block by block, on October 31st--November 2nd.

Commercial strains are listed only as to the country of origin, while