

the rapidity of growth - generally speaking, as the mean temperature declined, the amount of growth became less. The fluctuation of air temperature seemed to have a delayed effect upon growth, apparently because of the slowness of soil to "take in" or "give off" heat.

From these preliminary results, indications are that sugar beets make most growth during the warmer part of the season. That it is possible to establish a "factor" in a district to determine the growth in fields, to aid in estimating yields, to approximate the growth in test plots and similar work where factors affecting growth are being studied, and to record the growth of beets affected with varying degrees of curly top or other diseases.

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\*INFLUENCE OF PLANTING DATE AND CULTURAL PRACTICES ON  
SUGAR BEET SEED PRODUCTION

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Data from experimental plots in the St. George area indicate that the percentage of plants developing seedstalks, the rate of development of the seedstalks, the yield of seed per acre, and seed quality (including size of seed balls, percentage germination and weight per bushel) are influenced by planting date, fertility level, and cultural practices (including previous crop and time and method of seed-bed preparation).

These three factors (planting date, fertility level, and cultural practices) may act separately or in combination. The combined effect of any two factors may be additive or one may alter the effect of the other. For example, lack of phosphate and nitrogen may be accentuated by improper seed-bed preparation or the benefit of early planting may be lost as a result of poor cultural care or failure to supply needed fertilizer.

There is a definite relationship between planting date and proper fall growth, and the physiological processes of photo-thermal induction that takes place during the overwintering period. It appears to be desirable to make the fall growth as rapid as possible. No amount of care in the spring can compensate for the incomplete photo-thermal induction which may follow insufficient fall growth.

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\* Read by "title."

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