THE present critical situation with respect to labor has resulted in greater demand for mechanization of sugar beet production, so that many procedures which were in process of evolution have suddenly been pushed forward. Great strides in mechanization of the industry have opened many new fields for agronomic investigation and have necessitated the evaluation of older agronomic information with respect to the new methods of production. The sugar-beet agronomists are not altogether unprepared to meet the challenge of complete mechanization, due to previous research that forms a workable basis for appraising the value of the new methods and furnishes a starting point for such new research as is needed.

During the war emergency, the sugar beet, like any other crop, must stand strictly upon its merits. It must produce human food by direct and indirect methods, in a manner economical with respect to labor and land used in its production. The present promise of almost complete mechanization offers hope of greatly increased efficiency in sugar beet production. It seems probable that, for some time after the war, there will be great demands upon all agriculturally productive areas to produce maximum food. Sugar, as an easily handled, highly concentrated food, may be important during this period of readjustment.

Each phase of mechanization presents problems that must be answered before the sugar beet crop can be produced at greatest efficiency. The important relationship existing between stand and yield will be discussed before considering the problems of mechanization.

STAND VS. YIELD

A major problem in sugar beet growing is the determination of the optimum stand of plants so that most economical use is made of the soil resources available. There has always been a certain amount of conflicting opinion as to what constitutes a satisfactory stand. Agronomists have shown that in many areas, at least, the more dense the stand, within reasonable limits, the greater the yield per acre, and the higher the sucrose percentage and purity of the beet. Growers, on the other hand, have not always been convinced that increased

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