

THE EFFECT OF SPACING AND DENSITY OF STAND ON  
HILL PRODUCTION OF SUGAR BEETS

F. G. Larmer, Division of Sugar Plant Investigations  
Bureau of Plant Industry, U. S. D. A.  
(Read by Title)

In the experiments to which I refer, sugar beets were grown in hills or clumps and results compared with the conventional single-plant method. In the first experiment four treatments were compared with very carefully spaced single beets 10 inches apart. Contrasting treatments were (a) hand blocking, 10-inches spacing, with no finger thinning, (b) doubles in hills spaced 10 inches apart, (c) doubles in hills spaced 20 inches apart.

The second experiment compared hand blocking (a, above), and hand blocking, the hills being 20 inches apart, with contract labor thinning and carefully supervised thinning.

In the third experiment hand blocking (a, above) and mechanical cross cultivation, the hills of beets being 20 inches apart, were compared with single-plant thinning on three rates of seeding: 5, 9, 13 pounds of seed per acre.

In summarizing the results of these experiments, significant differences in tonnage yields or sucrose percentage were not obtained except in the low seeding rates of experiment three where stands were not sufficient. Beets grown as doubles, regular 10-inch spacing, averaged approximately 50 percent as large as beets grown as singles, while those grown as doubles in hills 20 inches apart were comparable to beets grown singly 10 inches apart. In hills of three, spaced 20 inches apart, the beets were approximately two-thirds as large as those grown singly 10 inches apart. Although hand-blocking with 10 inch spacing did give approximately as good tonnage yields as the conventional single beet method, the beets were more numerous, much smaller individually and difficult to harvest. Increasing the spacing between hills to 20 inches alleviated these difficulties and gave tonnage yields comparable to single beet spacing.

These results, although not entirely conclusive, demonstrate that, experimentally at least, beets can be grown in hills approximately 20 inches apart, which suggests the possibility of cross cultivation, with a minimum of hand work on hills that contain in excess of 2 or 3 beets. The method, aside from affecting a vast saving in thinning costs, should have merit in reducing the cost of weed control during the growing season.

THE EFFECT OF BOLTING ON SUGAR BEET PRODUCTION

F. G. Larmer, Division of Sugar Plant Investigations, Bureau of Plant  
Industry, U.S.D.A.  
(Read by Title)

The characteristic of some sugar beets to produce aerial stems bearing flowers and seeds during growth the first season has been commonly termed "bolting." Bolting beets are common in winter-planted fields in Central California, especially in the domestically-produced, disease-resistant strains