## Five Years' Mechanical Harvesting Experience with Completely Machine Thinned Beets

A. M. WATSON<sup>1</sup>

The mechanical harvesting of sugar beets which are thinned mechanically results in problems which we do not have with hand-thinned beets. This is due to the uneven spacing of beets in the row, and uneven growth above the ground. Finders on mechanical harvesters are not flexible enough to catch the small beets close to the large ones.

Our experience starts with a 35-acre field planted in 1949 for the purpose of developing the thinner. The final stand varied from exceptionally good machine-thinned beets to variations of the original stand. This was due to the trying out of various ideas and machines of all individuals interested in the development of the thinning machine. When we harvested these beets it was necessary to top a large percent of them after the harvester had delivered the beets into the truck

In 1950 we harvested 294 acres of mechanically thinned beets using four International harvesters. One of these harvesters was equipped with a Parma beater unit. We used four operators to operate the machines, eight men on the picking table, three truck drivers delivering beets to the factory, and two additional men trimming beets which had been delivered into the trucks. This gave us a total of seventeen men on the crew. The Parma beater unit, while a little difficult to use, showed considerable promise in cleaning up the beets which were poorly topped.

In 1951 we harvested 250 acres with these four International harvesters. We had two of them equipped with Parma beater units and one equipped with an experimental International harvester beater unit. We were able this year, to get by with one man trimming beets in the truck. We had only one harvester without a beater unit. Nineteen hundred and fifty-one being an exceptionally wet year in our district, we were unable to harvest the acreage in reasonable time so we secured the help of a neighbor who owned a Marbeet. This machine did an excellent job for us.

In 1952 we purchased a Marbeet harvester. We used two of our Internationals equipped with International beater units and another International equipped with a Parma beater unit. We harvested 241 acres without the use of the man trimming beets in the trucks. We found the beater units rather expensive to keep in operation; and it was decided that, for our conditions of exceptionally heavy soil, and all mechanically thinned beets, that the Marbeet was doing a much better job for us both in topping small beets and recovery of beets which would normally be lost by the International harvesters. We have found that the Marbeet is able to harvest considerably more acreage per unit of time than the International.

In 1953 we harvested 244 acres with two Marbeet harvesters and one International *in* 19 days, and reduced our manpower to 13 men as com-

<sup>&</sup>lt;sup>1</sup> Manager, The Great Western Sugar Company, Windsor, Colorado.

pared with 17 in 1950. We found that during the harvest we were delivering beets which were free of trash or tops and comparable to beets delivered by growers with hand-thinned beets. We find on the average year that our return dirt in the trucks from the Marbeet harvester will be from 300 to 500 pounds less than that delivered by the International. We also have better recovery of beet tops. In weighing dried tops we find that we will get one-third more by weight from the harvest with Marbeet. This is due to the tops being thrown free from the wheels which normally pack down the tops to where it is hard to recover them. We find that we are better able to control our topping, and have fewer large crowns left with the tops, which are quite dangerous when being fed to small cattle.