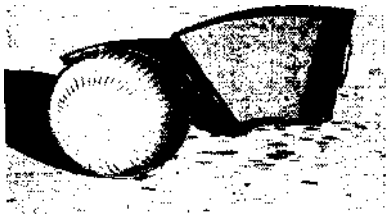# Improved Beet Sample Taking With New-Design Pan

ART JOHNSON[1]

Because of the importance of obtaining as accurate a beet sample from growers' loads as possible, a new-type sample pan has been developed during the past two years by the agricultural staff of Holly Sugar Corporation.
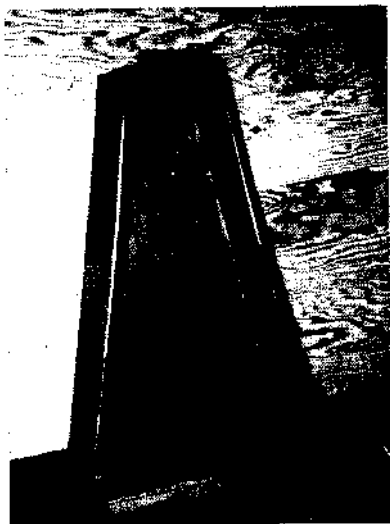

Figure

Figure 2

[1] District Agriculturist, Holly Sugar Corporation, Stockton, California.

Although the sample pan which had been in use at the California receiving stations for many years had been generally satisfactory, there appeared to be opportunity for improvement. Until two years ago we used the common, round, half-bushel, galvanized pan (Figure 1 at the left). By careful handling, the man taking the sample could get 20 pounds of beets or slightly more into the pan. For many years 20 pounds seemed a rather practical weight to use for the determination of tare and sugar content, although in some parts of Europe much larger samples are being taken—up to a hundred pounds or more.

Figure 3

The round pan has two unsatisfactory features:

1. It does not take a complete segment of the stream of beets as they come off the conveyor belt. As the round pan enters the stream of beets, it takes the first part of the sample out of a very narrow portion of the stream (Figure 3). This is followed by a true segment about the width of the belt. The last part of the sample is again taken out of a narrow portion of the stream as the pan completes its circuit by passing under the conveyor belt. If the round pan is simply brought in against the end of the conveyor belt so that pan and belt are tangent to one another and then brought back out again, the sample is even less satisfactory.

2. The size of the average truckload has *in* recent years increased nearly 50 percent. As a consequence of these two factors, a smaller fraction of the load and a less representative portion of the load came to be taken as a sample.

In order to correct this, a pan was needed which would take a more nearly complete segment of the stream of beets and a somewhat larger sample. The initial development of the pan is shown in Figure 1 on the right. Further improvement of the pan is shown in Figure 2. The length of the pan

Figure 4

Figure 5

should be as nearly as possible equal to the width of the stream of beets. A pan such as this will easily catch a 30-pound sample of beets and up to 40 pounds if desired.

The advantage of a pan of this shape is that it has a straight leading edge which is parallel to and coincides with the end of the conveyor belt as the pan enters the stream of beets (Figure 4). Also, as the pan passes

under the conveyor and out of the stream of beets, the trailing edge coincides with the end of the conveyor belt (Figure 5) . Thus it catches a complete segment of the stream as it passes through.

Figure 6 shows the pan in position to be picked up and emptied.

Figure 6