

## SPRING LABOR ELIMINATION PANEL

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Members: Fred B. Russell  
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Since good weed control is the basis for successful labor reduction, the members of our panel have been asked to come prepared to discuss the kinds of weed control chemicals being used in their areas, and the amount of acreage being commercially treated. With good weed control, labor requirements can be reduced by:

- A) Planting to a stand.
- B) Planting at a heavier seeding rate, followed by use of random stand reduction machines, or by use of an electronic thinner. Our panel members will report on the methods being used in their areas.

### Members Comments:

Fred B. Russell, Research Agronomist -

In the Buckeye area the major problem in the elimination or reduction of spring labor is complete weed control. Pyramin and TCA combinations are used on 75% of our acreage with an estimated average of 85% weed control. Smartweed usually is the weed that will escape this application. Herbicide 273 (Endothal) is being used on a small acreage as post-emergence for the control of smartweed. This material, however, is not a standard follow-up spray, but is used as emergency field salvage material.

Approximately one per cent of our acreage was planted to a stand and no follow-up hand labor used. Because of our heavy clay soils and, thus, poor emergence, this method has not been too successful. Some growers, however, are trying "hill drop" type of planting. They are soldering shut some of the holes in the plates and, thus, gapping the row. In practice two or three seeds are dropped at a 1.5 to 3 inch seed spacing on 8 to 12 inch centers. There are two reasons why this method may be acceptable to growers. There is an unmeasurable yield loss due to doubles in a field and with the beets spaced apart usually there is not a great harvest problem.

By "hill dropping" the seeds there is less chance of having wide gaps in the row. The gaps in the row are prominent to a grower and the losses to him, regardless of how small, are very undesirable.

Approximately 10% of Buckeye acreage was mechanically thinned in 1968. Ninety per cent of this acreage still required hand labor mainly to remove the weeds. The best success with mechanical thinning is growers that use their own family labor to hoe weeds. These growers have reduced the amount of hand labor necessary but because of family labor no cost factors are available. Because of our clay soil most growers use four to eight seeds per foot with the average at six for mechanical thinning.

Ralph Dush, General Field Manager -

Since we have had single germ seed and herbicides to control weeds we have heard much talk about growing beets without field labor. Just two years ago at this Technologists Meeting the question was asked by Dave Sunderland (our present Chairman) during a panel discussion - How many growers would attempt to grow beets if no field labor was available?

My Company has warned growers every year that labor is difficult to secure and that it is increasingly difficult to comply with housing regulations. This becomes an old story to the grower. The government labor regulations on a per hour or an acre basis fails to compensate the good grower on those fields that are comparatively free from weeds. Those who follow recommended practices are sometime penalized as the rate of work is higher making it possible that over \$3.00 per hour is often paid for field labor.

In spite of these conditions our growers and our fieldmen have made some progress. Prior to 1968, mechanical thinning and planting to a stand with no labor was almost unheard of. The thinner, the chemicals used to prevent weed growth, the planting to a stand all helped the labor greatly but were only insurance to the grower to end up with a satisfactory beet crop.

In 1968, out of roughly 60,000 growing acres of beets our growers sprayed 68.9%, this varied between fieldmen's areas from 16%, where land is highly organic, to 99%. Space planting three inches or over averaged 62.6%. This, too, varied between fieldmen from 13% to 100%. Our Texas workers averaged 17.9 acres per worker. Fieldmen areas ranged from a low of 13.3 acres per worker to a high of 28.3. Acres per local worker averaged 8.7 and a wide variation of 6 acres to 32.5.

Acres with machine thinned with hoe trim labor only we had 2157.3 acres.

When we come to acres with no labor it is hard to find but we did have 578.2 acres planted to a stand, 382 of these in one territory. There were about 700 acres machine thinned on which no labor was used, making a total of 1278.2 acres with no labor.

In 1967, our Company purchased five 4-row Blackwelders and placed them under the supervision of those fieldmen who expressed interest in leasing them to growers for the purpose of thinning all or a part of their crop.

This system was partially successful in that a few acres were thinned and by the end of the second year all of them were sold to growers. We find this method of Company owned equipment is not sound, as the method will normally not induce growers to use the machine as much as when the ownership is with the grower.

One fieldman, Cleon Kester, in the Caro area, had excellent success with thinning with the Speedie thinner. This was especially true with three growers near Otisville who had experienced difficulty the past several years in getting labor and when labor did arrive to work their beets it was often unsatisfactory. These growers decided at contracting time that in spite of all hardships they might experience they would get along without the use of hand labor. They did experience difficulties but they did get along without labor and they are confident they will continue to get along with no labor in growing their crop. In all, there was a total of nine growers who used the Speedie thinner without hand labor of any kind. One grower in the Sebewaing area near Pigeon successfully grew 266 acres without thinning labor.

More growers are interested and we expect to double the acreage with no labor for 1969.

Another field, John Shier in the Crosswell area, reports that half of his acreage for 1969 will not require field labor. And in this case most of these acres will be planted to a stand with the use of chemicals and no mechanical thinning. This, of course, will depend to no small degree on weather conditions but the point is if the fieldman and half of his growers think they can get the job done they probably will accomplish the task.

The herbicide used was primarily - pre-emergence with Pyramin 4 lbs. plus 6 lbs. to 8 lbs. TCA. With band spray for 28" rows one-quarter this rate.

Several hundred acres were sprayed post-emergence with Dalpon as a rescue operation. Dalpon was sprayed at the rate of 3 and 4 lbs. per acre plus 1 gal. crop oil.

We can accomplish this job in a comparatively short time with a no labor contract or one with some financial help built into it.

Many of our growers say they will grow beets without labor when the time arrives when field labor is not available. This is likely to meet with difficulties. Growers must learn by experience the techniques to this method of growing without labor.

I feel it is important that more growers try this method on a part of their acreage and learn how the job can be done.

#### SUMMARY - Grant Nichol

Chemical weed control is now an accepted and successful practice in commercial sugarbeet production. This provides the conditions which permit the successful use of various methods of mechanization.

You have heard the reports of the panel members. Some limited success has been achieved in mechanization in some areas. However, by and large, labor has been available in adequate supply and at costs which growers have been willing to pay. We have continued to use hand labor because it has been the most convenient solution to the immediate problem.

Considering the labor prospect for the near future, it appears that we will have to learn quickly how to reduce labor requirements. Either high cost of labor or unavailability of labor will force the issue sooner or later. Every fieldman should make a special effort to have some growers gain first hand experience on this important problem in 1969.