Pre-emergence Spray For Weed Control In Sugar Beets Seeded In Undisturbed Soil Successful

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There was no disturbance of the seed and the hole remained filled after the soil was drilled in through the weeds.

It is known that with most weed species, a shallow drill will start the emergence which are within the upper 0.6 inches of the soil. If, as in the usual practice, the drills are forced too deep and the seeds are partially covered then the success of the method will be poor.

In order to secure the emergence of everyone of the seeds, it is important that each seed be spaced at the depth of about 1 inch. The drill must not be too deep to avoid injury to the seedlings.

The rate of emergence was accelerated by the use of pre-emergence sprays. The best seedlings emerge in a period of 14 days after emergence.

Average Results of Pre-emergence Sprays (All depths of plantings)

<table>
<thead>
<tr>
<th>Spray Treatment</th>
<th>Days to 50% Germination</th>
<th>Days to 90% Germination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Diesel oil and Dow General</td>
<td>14.8</td>
<td>59.4</td>
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<td>3. Diesel oil and Dow General</td>
<td>14.8</td>
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<tr>
<td>4. Diesel oil, (1 part), water (4)</td>
<td>14.8</td>
<td>59.4</td>
</tr>
<tr>
<td>5. Diesel oil and Dow General (1 pt.)</td>
<td>10.4</td>
<td>32.8</td>
</tr>
<tr>
<td>6. Diesel oil, (1 part), water (4)</td>
<td>11.9</td>
<td>32.8</td>
</tr>
<tr>
<td>7. Diesel oil, (1 part), water (4)</td>
<td>46.1</td>
<td>62.5</td>
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<td>62.5</td>
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</tbody>
</table>

*Active ingredient, dinoseb, secondary butyl phenoxy.

Most of the above sprays produced a high percentage of germination and the number of plants per acre, while certain plots were covered over 40% of the seedlings.

The results may be summarized as follows:

1. Applications gave a satisfactory weed kill.
2. The rate of kill was more rapid in the case of these sprays which were "fortified" with either Dow General or petroleum products. It is apparent, and the rate of kill increased with an increase in the number of days prior to emergence.
3. All the herbicides were effective in controlling the young weeds completely and emulsifier and increased mortality of the seedlings.
4. The sugar beet seedlings in sprays containing dinoseb and nicosulfuron were much larger and the competitive weed seedlings that emerged were killed by both the weed sprays and the diuron.
5. The control of early to emerging weed seedlings resulted from any of the applications when used two to three days prior to emergence.
6. Injury to beet seedlings occurred in the case of Dow General and pen- tachlorophenol. In the case of these chemicals, the greater the number of days prior to emergence, the greater the injury to the seedlings.

There are indications that if pre-emergence sprays are to be practical, beet seedlings should be planted deeper than usualso and weed-free conditions will be necessary to grow a good stand of sugar beets in the middle of the field. These results are in agreement with the findings of Pre-emergence Sprays in the control of sugar beet weed seedlings.

If the seed is planted too shallow, the germination may be poor, and if the seed is planted too deep, the germination may be delayed. A proper depth is about 1 inch, which gives the best results.

Advantages of Pre-emergence Spraying:

1. It permits the preparation of the soil after the plants are well developed.
2. Seedling emergence is delayed, which reduces the risk of soil-borne diseases.
3. The seedlings are given a better start, which results in a higher yield of sugar beets.

The Agricultural Situation And The Outlook In Mid-'47

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Another cause for distrust is the presence of the sugar beet in the country. This boom is fully as great as that which followed World War I and II. Only three years have elapsed since the end of the war, and yet the sugar beet industry is growing rapidly.

There is no doubt of a mass movement toward the cultivation of sugar beets. The use of the sugar beet is to be encouraged, not only because of its high sugar content, but also because of its ability to grow in a wide variety of soils. The sugar beet is a hardy crop and can be grown in most parts of the country where wheat and other crops cannot be grown.

The rate of kill was more rapid at the rate of 10 to 15% per week. The clean-up of a tank truck and a tank truck route is to be done continuously and through washing and sterilizing of a large amount of waste water. Large facilities are required to deal with the waste water. Large facilities are required to deal with the waste water. The waste water from the cleaning of the tank truck is to be sent to the nearest sewage plant.

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