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

W. W. Robbins and Roy Bainer

Preliminary field tests on the University Farm, Davis, indicate that pre-emergence spraying offers promise as one method of controlling weeds in sugar beets. The method may be applicable to other row crops.

The field tests were as follows: In December the field was disked and flooded; a portion of the area was left flat, the remainder ridged and formed into beds; the field was left in this condition throughout the mostly in the seedling stage. Decorated sugar beet seed was drilled in at three different depths: 1 inch, 1 1/2 inches, and 2 inches. A

Citis Orchard Cost Study And Analysis Made In Orange County Over 21-Year Period Is Reported

Harold E. Wahlberg

Over one hundred citrus growers in Orange County have cooperated with the Agricultural Extension Service for the past 21 years in a cost study and analysis of orchard maintenance costs.

The groves furnished detailed cost and yield data on ten orchard operations. The reports were summarized and divided into two groups—those of the higher return orchards and the lower return orchards. An orchard was selected for the entire study. A wide range of costs was reported in most items.

Fertilization

Fertilization is an example of the wide range of operational costs. In 1944, one grower reported a fertilizing cost of $137.18 per acre. Another grower spent only $7.16 per acre. The best 20 orchards averaged $41.03 per acre and the average of all orchards was $73.95 per acre. In most years the orchards with the highest fertilizing costs were not the top orchards. The extra dollars spent, often for the more expensive mixes, did not justify the added expense.

It appears from these studies that about three pounds of nitrogen per mature tree in normal, high return, is optimum. Very large doses may use four to five pounds.

Last year, three pounds of nitrogen per tree at 80 trees per acre, cost $30,000. (Continued on page 3)

Water Infiltration Rates Into Yolo Loam Studied To Determine Irrigation Efficiency Factors

Arthur F. Pillsbury

Water infiltration rates into Yolo loam during irrigation were measured in 36 basins in a series of experiments conducted in Los Angeles County over a period of five years.

Several different treatments were carried on, permitting the isolating of a number of factors which influence the rate of water entry into the soil.

Organic Matter

Organic matter is known to improve soil structure and infiltration rates, but the belief often prevails that to do it must be incorporated into the soil.

Applications of straw or other crop residue as a mulch were found to be at least as valuable on the surface as when incorporated in the soil—provided they were kept relatively moist. When this was done, losses in weight due to evaporation were much reduced and the water infiltration rate increased.

After a mulch had been in place for six months, it could be seen that the total load of soil material which had been moved into the soil was greater at one-inch depth than at two inches. This change was due to the greater weight of soil in the seedling stage. The extra dollars spent for the top orchards. The extra dollars spent, often for the more expensive mixes, did not justify the added expense.

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Cultivation
Every year, during the 21 year period, December was the highest profit month and October the lowest. December production was 20.6,012.00, and October production was 92,012.00. The cost of production in December was $6.00 per case, and in October was $1.00 per case.

Cotton
The cotton crop in the United States was harvested during the 21 year period. The cotton yield during the first four years was 25,000,000 bales. During the next four years, the yield increased to 30,000,000 bales. In the following five years, the yield decreased to 25,000,000 bales. From 1940 to 1946, the yield increased again to 35,000,000 bales.

Effects of Inflation
The effects of inflation on the citrus industry were significant. The costs of production increased significantly, leading to lower profits for growers. The price of labor doubled from 1940 to 1946. The cost of land also increased, with prices rising from $100 per acre in 1940 to $300 per acre in 1946. The cost of fertilizer increased from $20 per ton in 1940 to $50 per ton in 1946. The cost of irrigation increased from $2 per acre per application in 1940 to $4 per acre per application in 1946.

Inflation in the Citrus Industry and Analyses Made In Orange County Over 21 Year Period Is Reported

(Continued from page 1)

The average cost per acre for the 21 year period was $2.00 per acre. The average cost per acre for the first four years was $1.00 per acre. The average cost per acre for the next four years was $1.50 per acre. The average cost per acre for the following five years was $2.00 per acre. The average cost per acre for the last four years was $2.50 per acre.

The average yield per acre for the 21 year period was 100 bags per acre. The average yield per acre for the first four years was 80 bags per acre. The average yield per acre for the next four years was 120 bags per acre. The average yield per acre for the following five years was 160 bags per acre. The average yield per acre for the last four years was 200 bags per acre.

Is there evidence that rainfall is a factor in the increase in prices?
Yes, there is evidence that rainfall is a factor in the increase in prices. During years with higher rainfall, the cost of irrigation increased. During years with lower rainfall, the cost of irrigation decreased.

Is there evidence that labor costs are a factor in the increase in prices?
Yes, there is evidence that labor costs are a factor in the increase in prices. During years with higher labor costs, the cost of production increased. During years with lower labor costs, the cost of production decreased.

Is there evidence that the cost of fertilizer is a factor in the increase in prices?
Yes, there is evidence that the cost of fertilizer is a factor in the increase in prices. During years with higher fertilizer costs, the cost of production increased. During years with lower fertilizer costs, the cost of production decreased.

Is there evidence that the cost of irrigation is a factor in the increase in prices?
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Is there evidence that the cost of labor is a factor in the increase in prices?
Yes, there is evidence that the cost of labor is a factor in the increase in prices. During years with higher labor costs, the cost of production increased. During years with lower labor costs, the cost of production decreased.

Yield
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Spraying Liquid Insecticides, Fungicides and Herbicides By Plane Blows Drift Problem

O. C. French

Spraying liquid insecticides, fungicides and herbicides by plane is a common practice in the citrus industry. The use of liquid formulations allows for a more precise application of chemicals, reducing drift and improving efficacy. However, large droplets may inadvertently drift onto adjacent plants, fields, and other surfaces.

Large droplets may settle on obstacles, conform to topography, and be dispersed by wind and water. Small droplets are affected only by wind.