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

W. W. Robbins and Roy Baine

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 low crops.

Field tests were as follows: In December the field was disked and floated; a portion of the area was left flat, the remainder ridged and formed into beds; the field was left in this condition throughout the winter. Seedings to sugar beets were made on February 24 and March 13. At the time of seeding there was a good growth of various winter weeds, precision drill was used, the seeding rates ranging from four to five pounds per acre.

Control of weeds is to be found in the demand prices. Thus far in 1946, farm income in California has increased more rapidly than in the country as a whole. Over the past two years production prices of California farmers have risen about as much as cash receipts from farm marketings.

During the first four months of this year cash receipts from farm marketings in California were 125% above the 1945 average, 21% above the 1946 average, and 50% above the 1945 level. In March of this year the index of prices received by farmers in the United States reached a new high record, 20% above the 1946 average and 125% above the 1945 average.

Situation And The Outlook

The Agricultural Situation And Thel Outlook In Mid-'47

H. R. Wellman

Citrus 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 of orchard management. The growers furnished detailed cost including, as in ten year operation. The reports were summarized and divided into two groups—those of the higher return orchards and the lower return orchards. Analysis of the results was made for the entire study. A wide range of costs was reported in most instances.

Fertilization

Fertilization is an example of the wide range of operational costs. In 1946, one grower reported a fertilizer bill of $127.18 per acre. Another grower spent only $11.09 per acre. The average cost of all orchards was $33.95 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 thrift, 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 197.82. (Continued on page 3)

Control Measures In Trichomoniasis Abortion By Cows

H. S. Cameron

Abortion and sterility constitute major sources of loss to the dairy cattle producer.

Infection is probably responsible for the greater portion of these losses, and brucellosis is, by far, the leading offender in the classification.

Brucellosis should be considered as next in importance. Its chief value is the cause serious losses can result when the infection gets into a herd and is allowed to persist.

Unlike an abortion storm from brucellosis the onset is very gradual, the first thing noticed being an unusual number of cows, assumed with ease, returning to heat. 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 and not exposed to excessive moisture. In general, there was insufficient oxygen through the summer to cause appreciable decomposition of the organic matter. In late fall and early winter, the rates in water infiltration were greater, increases in the rates of water infiltration which are in seven times greater than the rates in those plots without mulch. Benefits from organic matter are largely from the products of the mulch which are carried into the soil by the water. Since organic material mulches shades (Continued on page 2)

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

Arthur F. Pfullman

Water infiltration rates into Yolo loam during irrigation were measured in 96 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 to it must be incorporated into the soil.

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Infiltration Or Water Into Soils During Irrigation

(Continued from page 1)

...the soil surface there was the ques- tion that dry fields may greatly reduce the drumming problem en- countered with spreading powdered dust by place. Purposely aiming spray will drift down and out. Irrigation can be aimed, rather than readily than exposuè to the wind. There is also the factor that rainin-

Spraying by Plane

There are several factors affecting the efficiency of liquid spraying by a plane. First, the wind can carry the spray away from the target. Weather and weather period may be more. Spraying time can take the result of more on the ground than on the air. Anything other than short air is ad-

Spraying Liquid Insecticides, Fungicides And Herbicides By Plane: Lessens Drift Problem

O. C. French

Liquid insecticides, fungicides, and herbicides are drifting away from the target area when sprayed by planes. The drift is due to the wind and the moisture in the spray solution. The width of the spray-swath is less than a dust-swath but the actual spraying area may be wider. The moisture in the solution is more. The drift is more by the spray. The moisture in the solution is more.

Spray head is a rotating liquid dispersing device. Liquid is forced out from the hub through the nozzle arrangement of boom. Nozzles are attached to the boom tubing. In most cases the booms are be-

Leaf close-up view of the nozzle arrangement of boom. Nozzles are attached to the boom tubing. In most cases the booms are be-

Sprayed liquid insecticides, fungicides, and herbicides by plane...