Insecticides May Cause Unseen Internal Injuries To Plants Resulting In Losses To Growers

E. T. Bartholomow

An insecticide may be efficient and not cause visible injury to a plant—but that is not a guarantee it does not, or will not, cause internal plant injury.

Water escapes in the form of vapor from green, leafy plants almost entirely through the leaves.

Plant leaf surfaces are covered with a waxy layer that is almost impermeable to water. This layer, on one side or on both sides of the leaf, them and thus, excessively reduce the loss of water.

Oil sprays also reduce the loss of water by making the waxy layer itself more impermeable to water vapor, or the oil may enter the pores and form a covering over the walls of some of the cells below each pore. This may be especially noticeable in the portions of the plant that are shaded, because the oil remains on or in the tissues coloring matter in the leaf.

Equally important, an adequate supply of oxygen is just as necessary for the life of the green plant as it is for the life of human beings or other animals. If the plant does not have access to adequate supplies of any one of more of these necessities, it can not form the sugars, starches, proteins, and the other substances which are indispensable for its growth and for food storage in seeds, roots, and tubers.

Some insecticides, or their products, may penetrate into the tissues of the plant and have a direct injurious chemical effect. An excessive decrease, as well as an excessive increase, in water loss from the plant appears to be another one of the factors ultimately responsible for leaf and fruit drop.

Rotten leaflets may become wedged between the guard cells and keep them from closing the pores. If the spray or dust contains an alkali such as lime, it may combine with the waxy layer and make it more permeable to water.

Whether these conditions may permit excessive loss of water.

Excessive loss of water may cause internal injuries which later may produce visible injuries, such as leaf and fruit shriveling and drop. Such internal injuries are the reason for the existence of the disease in his

The fungus kills the tissues as it spreads. It starts as a very small, localized lesion, but it may grow into a larger one. Subsequently there may be a sudden drop. Food and water supplies are difficult, the cells can not normally increase in size, even though they do divide.

Each condition causes a dwarfing or stunting of the plant. It is possible that dwarfing effects may go entirely unnoticed where fields are

Dryness Protects Farm Stored Grain From Insect Attack

A. E. Michelbacher

Many species of grain in farm storage are small. Some are smaller than a grain of wheat. In fact, with some species, a single kernel of grain furnishes sufficient food for the development of from one to several individuals.

Among the more important pests are the granary weevil, rice weevil, lesser grain borer, Anagasta; granu moth, codling fruit beetle and the saw-toothed grain beetle. The first four mentioned are capable of attacking and destroying sound grain. The others generally feed upon broken, kernel grains, particularly the finer polished ones.

Where the environment is favorable, these insects cause serious damage and the grain may be completely destroyed. Metabolic rates of some of the pests are wide-spread throughout California. If grain is properly protected it is subject to heavy infestation.

Development of Stored Grain Pests

The development of stored grain pests is largely regulated by temperature and the moisture content of the food on which they feed.

The rhinoceros resemble small, dark insects, except that they are smooth and shiny when fresh and are differently colored. The plant consists of an outer brittle shell, and a light-colored, waxylike center composed of carbohydrate substances used by green plants in manufacturing foods.

If an insecticide prevents the plant from receiving an adequate supply of carbon dioxide-by effecting the leaf pores—the amount of food that can manufactured will be reduced.

Food manufacture begins in the plant when the little bodies containing the green coloring matter bring about, with the aid of sunlight, the combination of carbon dioxide and water to form sugars. The more complex foods are formed later, with sugars as the starting point.

Some insecticides tend to destroy or retard the formation of the green

A 19-year-old orange tree injured by spraying with benomyl. Emulsions of the lighter foothills of kerosene sometimes prove disastrous because they are apt to run down the trunks of the trees and fill the bark, thus below the surface of the soil.

A tree; or there may be a sudden death eventually follows.

There may be a gradual deterioration, with the trees losing their foliage and dropping over part or all of the tree; or there may be sudden wilting and collapse. In either case, death eventually follows.

A white, felt, fibrous growth of fungus mycelium under the root bark constitutes the most reliable symptom of armillaria root rot.

Control Measures For Armillaria Root Rot In Citrus

Donald E. Ellis

In citrus, armillaria rot becomes well established in the roots when any visible effect appears in the top.

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Different Areas Of Watermelon Studied To Determine Varying Amounts Of Sugar Content

A. John H. MacGillivray

The soluble solids content of watermelons varies considerably from one area to another. Non-irrigated melons from certain areas contain 8 to 11 per cent sugar, whereas irrigated melons from other areas may contain as much as 12.5 per cent. This variation is probably due to differences in the variety of watermelon grown in each area, as well as to differences in growing conditions. The soluble solids content of watermelons is a factor of great importance in determining the quality of the fruit. Melons with a high soluble solids content have a better flavor and are more popular with consumers.

In addition to being an important factor in the watermelon industry, the soluble solids content of the fruit is also a factor in the production of watermelon nectar. Watermelon nectar is produced by the expression of the pulp of the watermelon fruit, and the soluble solids content of the fruit is a factor in determining the yield of watermelon nectar. The soluble solids content of the fruit also affects the quality of the watermelon nectar.

Brucellosis Effect On Reproduction In the Swine Herd

R. C. Cameron

Brucellosis is a bacterial infection that affects livestock, including swine. The disease is caused by Brucella suis, a species of bacteria that is found in the soil and in the digestive tracts of infected animals. The disease can be transmitted to swine through contact with infected tissues, and it can also be transmitted through the milk of infected sows.

The disease can have a significant impact on swine production. In addition to causing abortion and stillbirths, the disease can also lead to reduced fertility and decreased milk production. In some cases, the disease can also lead to the death of infected sows.

The disease can be controlled through the use of vaccines and through the implementation of good husbandry practices. Vaccines can be used to prevent the disease in young swine, and good husbandry practices can help to reduce the spread of the disease within a herd.

In addition to being an important factor in the control of swine production, the disease is also an important factor in the control of bovine production. Bovine brucellosis is caused by the same species of bacteria, and it can have a similar impact on bovine production.

The disease can be controlled through the use of vaccines and through the implementation of good husbandry practices. Vaccines can be used to prevent the disease in young cattle, and good husbandry practices can help to reduce the spread of the disease within a herd.