Sulfaguanidine As Control Against Cecal Coccidiosis
R. A. Baskowki
Sulfaguanidine is a preventive rather than a curative drug in the control of cecal coccidiosis in chickens.

Sulfaguanidine acts by destroying coccidial forms which are found in the feces. It does not aid in repairing damage to the tissues caused by the parasites.

Because it acts on coccidia already in the intestines of the chicken sulfaguanidine may be looked upon as an adjunct but not a substitute for sanitation in coccidiosis control.

The most effective means of controlling coccidia is to have the chickens resistant or immune to the disease.

A certain number of coccidia must be present in the intestine in order to produce such a resistant. Experimentally, it has been shown that the effectiveness of sulfaguanidine upon the coccidial forms in the intestine is proportional to the amount of the drug present in the crop.

When the drug is given to hens the amount of the coccidia present is so great that nearly all of the parasites may be destroyed. This leaves no opportunity for the chick.

(Continued on page 2)

Insecticides May Cause Unseen Internal Injuries To Plants Resulting In Losses To Growers
E. T. Bartholomew

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, changes 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. The oil 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. Equaly important, an adequate supply of oxygen is just as necessary for the life of the green plants 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 or more of these necessities, it can not form the sugars, starches, proteins, and the other substances which are indispensable for its growth and for its market value.

(Continued on page 4)

Spinach Harvest Increased By The Use Of Nitrogen
O. A. Lorenz

Yield and marketability of the California spinach crop can be improved by nitrogen fertilization.

A series of eight fertilizer experiments, centered around nitrogen, were conducted in the important spinach areas of California during the spring of 1946.

Treatments Tested

The experiments involved studies on both the rate and source of nitrogen fertilization and particularly, their effects on yield, quality, and nutrient absorption.

Each test included the following treatment: 1) No nitrogen. 2) 60 pounds of nitrogen per acre from sulphate of ammonia. 3) 80 pounds of nitrate of soda. 4) 120 pounds from sulphate of ammonia.

Results

In every test, the quality of the spinach was greatly improved by nitrogen fertilization. The plants were darker green and the color was more intense, sweater, and less astringent in flavor.

In some of the experiments, spinach grown without nitrogen was unmarketable and the crop was a total failure.

Examples

With but one possible exception, the yield was increased by applying nitrogen as two, three, or four tons and in some cases, by five tons per acre.

In a test located at Davis, the unfertilized plots yielded 9.5 tons per acre while those fertilized with 200 pounds of per acre of sulphate of ammonia yielded 25 tons.

In another test located in southern California, the increase in nitrogen application ranged from 4.4 tons to 8.5 tons per acre.

In most cases, 360 pounds of sulphate of ammonia per acre produced ten yields last but one of the poorer.

(Continued on page 4)

Dryness Protects Farm Stored Grain From Insect Attack
A. E. Michelbacher

Many kinds 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.

The most important pests are the granary weevil, rice weevil, lesser grain borer, Angoumois grain moth, Chinese flour 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 grains, particularly the finer particles.

Where the environment is favorable, these insects cause serious damage and the grain may be completely destroyed. Mortality in the field that produces large tonnages is wide-spread throughout California.

The grain is protected if it is properly protected it is subject to heavy infestations.

Development of Stored Grain Pests

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

(Continued on page 3)

Control Measures For Armillaria Root Rot In Citrus
Donald E. Bliss

In citrus, armillaria root rot becomes well established in the roots to a very visible effect appears in the top.

There may be a gradual deterioration in the tree, which shows in the following or dropping off part or all of the tree, and in the fruit-producer wilting and collapse. In either case, death eventually follows.

A white, feely, face-shaped growth of fungus mycelium under the root bark constitutes the most reliable sign of armillaria root rot.

Often helpful in diagnosing, are cords, purple-pinkish rhizomorphs, the surface of diseased roots and light-brown toadstools appearing occasionally above ground in the face fingers.

The rhizomorphs resemble small, dark, fibers, except that they are smooth and shiny when fresh and are differently colored. The rhizomorphs consist of an outer brittle shell, and a light-colored, towlike center composed of bacterial material.

Insecticides or Spreads Armillaria Root Rot in Citrus

Armillaria root rot is most accentuated by direct penetration of a rhizomorph into the bark of a nearby root.

The fungus kills the tissues as it spreads from the point of infection. It also invade the underlying wood.

Lacking injury caused by an armillaria fungus is a very small, localized lesion, but it may become extremely important in an extensive columnar plant to other roots, and finally kill and the trunk at the root collar.

Armillaria root rot spreads from tree to tree, destroying up to 50% of the trees in some orchards.

A growing concern for the existence of the disease in his orchard by looking at each tree for symptoms.

(Continued on page 3)
Hand Pollination Of Cherimoya Practical Method For Improving Fruit Set For Better Yields

C. A. Schroeder

The cherimoya, said to be among the world's finest fruits is well adapted to many sections of southern California. However, the limiting factors of commercial production of the cherimoya is the inexperience of the grower in hand pollination of the small flower which opens in the central pistil mass which eventually gives rise to the fruit is receptive, slightly and is cream colored. The pollen of the cherimoya is shed at such a time that it is very difficult to transfer. After a period of eight to twenty-four hours depending on the weather conditions, the petals open wide, while the pistillate mass becomes receptive; hence bees, and even the hand of man, can transfer the flower from the male to the female plant. If the pollen is taken by means of a soft brush from a flower which is receptive, the receptive pistillate mass is placed on the pistillate mass of a flower which has just opened and is receptive, pollination will result.

The Cherimoya Tree

The cherimoya is a tender semi-dormant which is grown in areas which are free from frosts and where strong winds and very dry atmosphere are not prevalent.

The tree attains considerable size — up to fifteen feet high and grows in good soil. The leaves, dark green, elliptical and pointed leaves make the plant very desirable, not only as a fruiting specimen but as an ornamental as well. The leaves are shed and the tree is bare for a short period in early spring, before the flowers and new leaves appear.

The Fruit

The delicious and interesting fruits — sometimes erroneously referred to as custard-apples, as they are but few other fruits — mature from November to June, depending upon the locality and the variety grown.

The fruit is short to spherical in shape and attains a weight of tree four to one and one half pounds. The size of the fruit is determined by the skillful handling of the cherimoya. The size of the cherimoya is determined by the care given to the cherimoya during the growing season.

Sulfaguanidine As Control Against Cecal Coccidiosis

(Continued from page 1)

The toadstools of armillaria are most severely affected by the deposit of the first form of sulfaguanidine, a second outbreak of the disease may then be expected if the infected trees are not thinned after the first treatment. When the amount of the drug used was increased one or two hundred fold, the disease was completely controlled and is very likely that the disease will be eliminated if the proper concentration of the drug is used. When the dosage is increased, the disease will be controlled but will not be cured. When the dosage is increased one or two hundred fold, the disease will be completely controlled and is very likely that the disease will be eliminated if the proper concentration of the drug is used. When the dosage is increased, the disease will be controlled but will not be cured.

Chemical Trench Barrier And Soil Fumigation For Control Of Armillaria Root Rot In Citrus

(Continued from page 1)

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