Irrigated Pastures May Be Favorable to Livestock Parasites

M. A. Stewart

Certain internal parasites inhabit and develop in the bodies of sheep and cattle. The young, underdeveloped parasites are carried by the host to new sites where favorable conditions to develop parasites well suited to their development. Conditions Favoring Development

Irrigated pastures provide moist conditions and even temperatures at the base of plants where parasites thrive.

The plant growth protects the immature parasites from the drying effects of direct sunlight.

More animals per acre are carried on irrigated pastures than on non-irrigated lands; so the parasite population is much higher.

Irrigated pastures are commonly used for young animals, which are more susceptible to parasites than older ones, and consequently are greater carriers.

Control Measures

In spite of these advantages, irrigated pastures can be used to advantage if the operator will take certain routine measures to control and prevent infection.

Precautions

This disease is produced in sheep and cattle when the worm eggs, in the droppings, are ingested by small one-celled parasites belonging to the genus Eimeria.

Most common symptom is a "bloody scour." Certain other conditions produce similar symptoms but when such symptoms occur, precautions should be taken and a positive diagnosis should be made by a competent parasitologist.

Prevention is best assured by determining, as far as possible, that animals purchased come from "clean" ranches. When this is not known, the new animals, especially the young ones, should be quarantined for an appropriate length of time before they are placed with other stock.

Under feed-yard conditions, infections may be prevented by mixing ground crude sulfur with the feed.

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Seek Answers to Nitrogen Needs of Orchards in State

A high percentage of the peach orchards in California need nitrogen; a low percentage of the pears and prunes need it, and the other fruits and nuts fall in intermediate positions.

Properly used, a pound of actual nitrogen is much more effective than a ton of calcium nitrate compound or as an ammonium nitrate or calcium nitrate fertilizer. The addition of one or two pounds per acre may be made without danger of injury to the plants.

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Economic Outlook For The California Dairy Industry

James M. Telley

The immediate and long-time outlook is favorable for the California dairy industry, though fraught with some danger and difficulty, particularly during the summer months when the demand is heavy.

Population

It is probable that milk production will sustain itself for several years but at a slower rate than the population growth. California's deficit position regarding milk production will thus become more acute.

Utilization

A growing demand for milk fat sold by farmers will be realized in markets for butter, cheese, and ice cream. Although the volume of production and consumption of condensed milk and milk cream, and cheese will probably decline below the peak reached during the war years, these products will utilize a substantially greater proportion of California's output of milk fat than before the war.

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2,4-D Valuable as Weed Killer When Properly Used But Can Be Detrimental To Soil and Crops if Mishandled

W. A. Harvey

Available in dry powder form and as liquid preparations, the commonest commercial 2,4-D is readily dissolved or emulsified in water to form a spray solution to be applied in sufficient volume to get distribution of the chemical to all the weeds. Applications by airplane may require only 2.5 to 3.5 pounds per acre.

Ordinarily the manufacturer's recommendations as to the amounts to use can be followed.

For controlling mustard and radish in grain fields about three-quarters of a pound of acid is required per acre and the cost for the chemical will be two to three dollars per acre.

For morning-glory control, where one and a half pounds per acre is the usual rate, the cost will be four to six dollars per acre. For some of the more resistant weeds, such as horseweed, where three pounds per acre may be required, the cost will be eight to twelve dollars per acre.

The cost of application usually is in the neighborhood of two dollars per hour in airplane applications.

Mode of Action

2,4-D is a growth retardant which acts on the developing tissues of weeds. It is a specific and effective control of certain weeds such as browntop, red top, and broomcorn. It is particularly effective on these same species.

Plants that form rosettes are particularly susceptible to this stage. Other plants should be young and growing vigorously with a well-developed leaf surface. Old mature plants respond slowly, or not at all. All plants are more easily killed in the small seedling stage provided the treatment can be made at this time.

Effect on Grasses

Grasses, in general, are much more resistant to 2,4-D than are broad-leaved plants. The differences in degree makes it possible to use the chemical for the eradication of such broad-leaved weeds as dandelions and plantain. Bluegrass and rye are more resistant than the best grasses or red top. The spray will kill clover and black medick as well as the weeds.

Turf, grass pastures and grass lawn areas may be sprayed using one and one-quarter pounds of 2,4-D per acre in 100 to 200 gallons of water and not be sprayed when the grasses are blooming.

Grass lawns are also more resistant than many of the grain fields and prairie grasses of the West. They are very useful as a selective spray in grain fields.

The usual rate has been one-half to one-quarter of a pound of 2,4-D per acre. With a ground rig this amount of acid is applied in 300 to 150 gallons of water. Some injury to the grain has been noted when treatment was made on very young grain but applications to grain that is four to six inches high have been without damage.

Applicants may expect some injury to the grain even when they are rooted in the most resistant of these species infesting rice fields. Where the rice but fields sprayed when the grasses are blooming, were dry from the time of application from the use of 2,4-D.

Tests indicate that the 2,4-D is effective in controlling browntop, red top, and red top. The rate of one-half or one-quarter pounds per acre is applied with a ground rig.

Effect on Soil

Several instances of soil sterilization from the use of 2,4-D have been investigated in this state. Peaches, beets, tomatoes, beans and other crops have been damaged when the chemical has been amply and generously applied on seed fields previously sprayed with 2,4-D. In several cases excessive amounts of the chemical had been used and in most cases the field was sprayed when the weather was too warm.

On June 11, 1947, the California Board of Dairy Examiners closed the application of 2,4-D until immediately before planting the crop.

Tests indicate that the 2,4-D breaks down or leaches out of the soil. On July 2, 1947, it was noted that 2,4-D was still injurious to rice seedlings when applied 10 to 14 days earlier. Fungus and bacterial diseases and insects are less effective when applied to rice.

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Nutritional Value of Plants Not Lowered by Chemical Fertilization Research Reveals

Common foods grown with the aid of artificial chemical fertilizers have a nutritional quality comparable to those grown without them. A study conducted at the Experiment Station, Davis, and several other institutions has produced data indicating that plants grown in a medium are testing period, the guinea pigs in both groups showed good growth in length, excellent skeletal and muscular development and condition of fur, clear eyes and all the other indications of well-being observed in animals grown on a similar diet but without organic fertilizers, the growth rate recorded indicated no superiority in the nutritive value of the plants grown without fertilizers.

bent grass was grown by Prof. B. A. Arbuckle, University of California, Berkeley, and the clippings fed as the sole food to several groups of guinea pigs. The plants were grown on a medium of soil with a known history of organic matter and growing guinea pigs was fed grass, manure, alfalfa meal and barnyard manure, supplemented with corn for palatability. The animals were replenished as used.

The nutrient solution was made from 1 part of water and 1 part of warm water is also advantageous if a sprayer or other equipment has been used during the past season. Any sprayer or other equipment in which the chemical has been used should be thoroughly washed out before being used to spray other materials. Washing the container into the true bottom of weeds, it is important that no spray should be added to the beans with DDT that is used for feeding purposes. The beans may be processed, sacked and fed at any time of the day.

The growth date recorded indicated no superiority in the nutritive value of the plants grown without fertilizers.