

New Alfalfa Varieties May Help Lick The **YELLOW CLOVER APHID**

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This photograph, taken July 29, 1955, shows the effect of the yellow clover aphid on the variety test planted at the University's Mesa experiment station in October, 1954. The stand of African is only about one-half as good as Lahontan. Plots of Hairy Peruvian and Ranger had similar stands as those of Chilean and Northrup King 919.



It would be hard to find an alfalfa grower in Arizona or the Southwest who is not acquainted with the yellow clover aphid. In just a few months last year, this small insect literally took over our alfalfa fields. Thousands of acres of land planted to alfalfa last fall had to be abandoned because of the yellow clover aphid. Well established alfalfa seedlings were killed by its feeding activities.

Gums Up the Works

The damage from this insect ranges from reducing alfalfa yields and gumming up balers to actually killing plants. Many farmers and ranchers who have not used recommended insecticidal control practices and who appreciate the value of alfalfa in a sound cropping program have felt it necessary to look around for a substitute for this, our best hay crop.

The yellow clover aphid can be temporarily controlled through the use of insecticides. (Your County Agricultural Agent will supply the latest control measures recommended by the Entomology Department at the University of Arizona.) The difficulty is that the few individuals that escape increase rapidly and full-scale reinfestation seems to occur almost overnight during those periods of the year favorable to the insect.

Natural Enemies Wanted

Another possibility in the control of the yellow clover aphid, according to the entomologists, is the encouragement of its natural enemies; and there is even the possibility of introducing natural enemies from the home of the yellow clover aphid in the Middle East. Still another prospect in the fight against this aphid is the development of resistant alfalfa varieties.

An alfalfa variety test at the Mesa experiment station last October showed that some varieties are not so well liked by the yellow clover aphid as others. The first test showed, for example, that Lahontan, a northern variety recently released by the U. S. Department of Agriculture and the California and Nevada experiment stations, was almost immune from damage by this pest.



We Test Varieties

Additional variety tests at the Mesa, Safford, Tucson and Yuma experiment stations have shown similar results on the resistance of Lahontan to the yellow clover aphid. These tests have also shown that some of our southwestern varieties and strains also vary in susceptibility. Of these southwestern varieties, African appears to show some tolerance to the aphid. Where stands of Chilean, Hairy Peruvian, Northrup King 919 and India were reduced to less than 20 percent, African frequently showed a survival of about 50 percent—this under no protection for the alfalfa seedlings or, at most, no more than one dusting before the first cutting.

For Specific Elevations

What is the best variety to plant? If the planting is to be made in northern Arizona or at elevations where African will winterkill, then Lahontan should be planted. Although Lahontan has not been

tested for hay yield in Arizona, there have been many tests at northern locations which show that the yield of Lahontan is at least as good as Ranger or Buffalo.

Dust Makes a Difference

In southern Arizona, Lahontan is not a good choice, if facilities are available for dusting. Lahontan goes into a dormant period in much the same manner as Ranger, which normally gives at least one less cutting than African. The extra half to two-and-one-half tons of hay produced from African plantings should more than pay for the dustings which may be necessary to grow this variety successfully.

A program is under way at the Arizona experiment station to develop an alfalfa variety adapted to southern Arizona which will be resistant to the yellow clover aphid. Until a new variety is produced, which will take several years, a good insecticide program coupled with the best cultural practices will be necessary for continued alfalfa production.