

SEED CROP NOTES

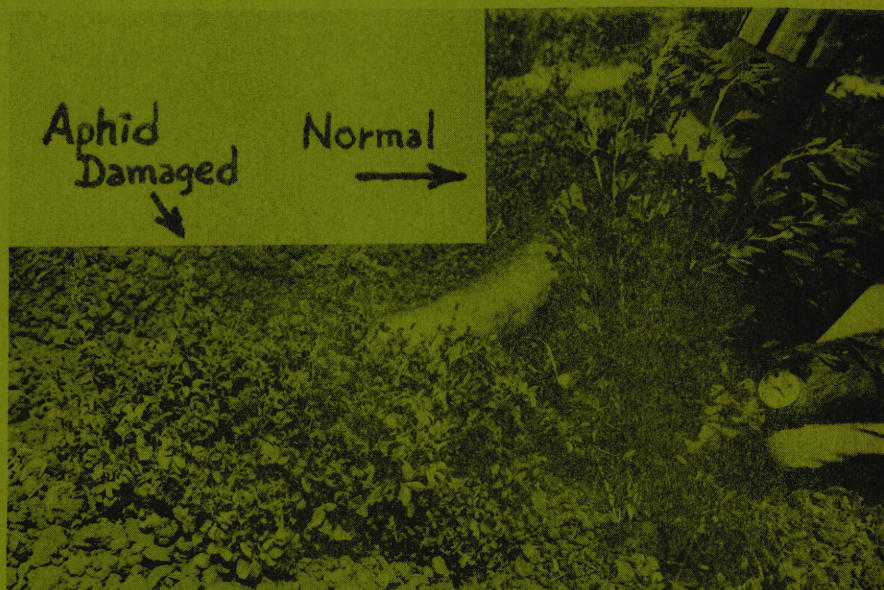
May 23, 1975

THE INFORMATION CONTAINED IN THIS NEWSLETTER WAS COMPILED FROM THE FOLLOWING SOURCES AND FROM MY OWN OBSERVATIONS: DR. OSCAR BACON, DR. CHARLES SUMMERS AND VERNON BURTON, ENTOMOLOGISTS WITH THE UNIVERSITY OF CALIFORNIA; R.K. SHARMA, FARM ADVISOR IN IMPERIAL COUNTY; AND T. KONO, ENTOMOLOGIST, DEPT. OF FOOD & AGRICULTURE, SACRAMENTO

New Alfalfa Aphid Problem is Apparent on West Side of Fresno County

Alfalfa seed fields on the west side of Fresno County are being subjected to an aphid which is suppressing shoot growth, stunting leaf development, and resulting in a yellowish discoloration of affected leaves. The aphid has been identified as genus: Acyrtosiphon species: loti group. This is the same genus as pea aphid, but a different species.

The picture at right shows the contrasting symptoms of shoot growth from affected and normal alfalfa plants. These plants were from a five year old Ranger seed field in the San Joaquin area.



Host Range

Known host plants of the loti group aphid species are alfalfa, pea, birdsfoot trefoil, vetch, sweet clover and lupine. All of these plants are legumes. Other legume plants may also be hosts of this aphid species, but this has not been adequately determined.

Field Identification

The loti group aphid look similar to pea aphid to the unaided eye. There are several taxonomic features used by entomologists to separate these species with the help of a microscope. Field identification is more difficult, however, differing antenna characteristics can be determined in the field with the help of a 20X hand lense. The antennae of pea aphid have dark bands between segments, and these bands are not prominent with aphid of the loti group species.

Mature pea aphid are about 1/3 larger than loti group species aphid. The light shiny green color of pea aphid is somewhat different from the dull blue-green, but waxy, color appearance of loti group aphid. Of these three characteristics the dark bands between antenna segments of pea aphid is the best for field identification in separating these two aphid species.

The University of California's Agricultural Extension programs are available to all, without regard to race, color, or national origin.

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Co-operative Extension Work in Agriculture and Home Economics, U.S. Department of Agriculture, University of California, and Fresno County Co-operating

Control

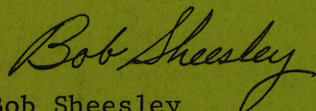
Economic population levels have not yet been determined for the loti group aphid on alfalfa. The determination of if or when chemical treatment is advisable will probably vary with the stages of plant growth in alfalfa seed and hay fields. Relative populations of predators, such as ladybird beetles, to aphid numbers is also an important factor to consider. Several chemicals which are registered on both hay and seed alfalfa have been effective in killing field populations of loti group aphid in the Imperial Valley and in Fresno County alfalfa seed fields near Firebaugh and San Joaquin. Research data concerning the relative control effectiveness of different chemicals is being developed by U.C. entomologists, but is not yet available. Therefore, there are no University of California recommendations for chemical control of loti group aphid in alfalfa at this time.

Several questions concerning the cause of plant distortion, the duration of the aphid feeding effects on plants, economic treatment levels of the loti group aphid and potential biological control predators and parasites are not yet answered and will require additional research.

Supracide and Phosdrin at 8 ounces active ingredient per acre have both effectively killed loti group aphid populations in alfalfa seed fields recently in Fresno County. Both of these chemicals are injurious to honey bees if they are in the field area. Although the time period for residual bee kill is shorter with Phosdrin than with Supracide, mite populations may possibly be stimulated after use of Phosdrin.

Pest control advisors who are responsible for insect control in alfalfa hay and alfalfa seed fields should learn to identify the loti group aphid and the plant symptoms resulting from the aphid feeding.

Sincerely,



Bob Sheesley
Farm Advisor

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