

AGRICULTURAL EXTENSION SERVICE
UNIVERSITY OF CALIFORNIA

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December 18, 1969

BS

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FROM:

Vern L. Marble
Vern L. Marble
Extension Agronomist

SUBJECT: Report on biotypes of the SAA in California. FOR INFORMATION ONLY - NOT FOR PUBLICATION.

Many of you attended a special meeting held March 24, 1969 in Fresno with our Extension Entomologist, U.C. research staff and M. W. Nielson, Investigations Leader of the Clover and Alfalfa Seed Investigations Laboratory of the USDA in Tucson, Arizona. Our discussion centered around the possible presence of biotypes of the spotted alfalfa aphid in California. We concluded at this meeting that several things should be done in 1969:

- SAA
- 1) An evaluation should be made using available biotypes of all of the commercially available alfalfa varieties and brands sold in California.
 - 2) Populations of aphids would be collected from fields planted to known resistant varieties of alfalfa. This would be to try and identify the extent of the infestation of possible new biotypes.
 - 3) A statement would be prepared for a publicity release concerning the possible presence of new biotypes in California.

Only objectives 1 and 3 have been achieved during the year. The attached report is the complete report of all tests conducted by the Entomology Research Division Laboratory on varieties, brands, and experimental selections against aphid biotypes. Objective 2 was not realized since up until this date there have been no reported populations of any SAA on resistant varieties. 1969 did not present the proper environmental conditions for buildup of SAA on resistant varieties. In certain areas even susceptible varieties did not show appreciable populations. This program will be continued into 1970.

The material in the accompanying report is marked "Not For Publication". This has been done to avoid undue publicity concerning the relative resistance or susceptibility of varieties to possible biotypes for the following reasons:

1) To date, we have had essentially no problem in the San Joaquin or Imperial Valleys with buildup of the SAA as we had last year. This raises a question on the propriety of releasing information to the public when we don't know the extent of the situation.

2) Any wide scale public release of information on possible new biotypes of the SAA at this time may have the effect of scaring some alfalfa producers into alternate forage crops which may not be equal in yield or profitability.

3) Publicity about new biotypes of the SAA to the public and the relative resistance levels among commercial varieties and public varieties would be confusing at the present time since, with the exception of possibly the Imperial Valley, there is no wide spread distribution of resistant biotypes in the other alfalfa producing areas of the state.

4) The seedling survival tests were a very severe test to differentiate among varieties as to their relative resistance to the biotypes. We don't know exactly the relationship between this type of a screening test and the reaction of the mature varieties to the SAA. Mervin Nielson has reported that "The correlation of damage on seedlings to mature plants has been established as follows: an average of .5 - 1 aphid per seedling is equal to 5 aphids per trifoliate leaf on established plants. These are the economic thresholds at which damage will occur and at which spraying should be required for populations of ENT-B." It is difficult to visualize the relationship between the above statement and the conditions under which this test was conducted.

5) Last, and most importantly, we should view this report as a progress report only since it is difficult to make complete conclusions without having more infestations show up in the alfalfa areas.

This report will go to other public and private research workers so that they may also benefit from the material contained therein. It will be distributed to these other interested parties on the same basis as you are receiving it.

VLM:js

Enclosure

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