UNIVERSITY of CALIFORNIA COOPERATIVE EXTENSION FRESNO COUNTY

SEED CROP NOTES

April 3, 1980

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* .SUMMARY OF INSECT STUDIES IN ALFALFA
* SEED DURING 1979
* .RELATIVE SUSCEPTIBILITY TO SAA BY
* ALFALFAS GROWN FOR SEED IN FRESNO COUNTY
* .AG. ISSUES & OUTLOOK SYMPOSIUM PROGRAM
* WEDNESDAY, APRIL 9 - VISALIA
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The first two enclosures with this newsletter were presented and discussed at last week's meeting in Fresno with seed growers, beekeepers and pest control advisors. A review of both of these items will assist you in planning pest control programs this summer in alfalfa seed crops. I will review Larry Atkins information concerning honey bee - pesticide relationships in the next copy of Seed Crop Notes.

Another fine symposium program is planned for next Wednesday, April 9, 1:00 p.m. at the Visalia Convention Center (Program is enclosed). "The Consumers' View of the 1980's" should be of interest to many of you. Mayor Tom Bradley of Los Angeles will be the dinner speaker. I hope to see you there.

Sincerely,

Bob Sheesley

Bob Sheesley
Farm Advisor

Encs. (3)

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Summary of Insect Studies on Seed Alfalfa 1979

Dr. Oscar G. Bacon, Entomologist, U.C. Davis

Insect populations were generally low in alfalfa seed fields in 1979. An exception was the spotted alfalfa aphid. Heavy infestations of this insect occurred on certain varieties that were supposedly resistant to the aphid. Control of the spotted alfalfa aphid was reported to be difficult to achieve in some of these fields with the widely used aphicide Lorsban. Heavy spotted alfalfa populations in the field used for experimental purposes in 1979 complicated the insecticide trials and made it very difficult to evaluate materials applied for lygus bug control and for spider mite control. It was necessary to combine Lorsban with most of the other insecticides and acaricides to prevent severe damage by the spotted alfalfa aphid.

Of the 11 insecticides evaluated for control of insects affecting seed alfalfa those that controlled lygus bugs were Carzol, Monitor, Orthene, Pydrin, Ambush, Vydate and Amaze. Carzol, Monitor and Vydate are presently registered for lygus bug control on seed alfalfa in California but all must be used with caution. Vydate is known to induce severe spider mite infestations and this was clearly demonstrated in the 1979 trials. None of the three registered compounds control the spotted alfalfa aphid and populations of this insect are increased as a result of Carzol and Monitor applications. Orthene also induced severe SAA populations that were extremely difficult to control with currently used aphicides. Pydrin and Ambush resulted in good control of lygus bugs and aphids but induced spider mite populations. Control of lygus bugs in mid season with these pyrethroids lasted for only approximately 14 days. Amaze resulted in good control of lygus bugs but did not control the spotted alfalfa aphid.

The problem of controlling the spotted alfalfa aphid is especially critical. As stated previously some of the proprietary alfalfa varieties thought to be resistant to this aphid were severely infested and damaged in 1979. The problem was especially critical because applications of Lorsban did not provide consistent control of spotted alfalfa aphid in these fields.

Of the insecticides evaluated for control of the spotted alfalfa aphid in 1979 trials those most effective were Lorsban, Pydrin, Ambush and a combination of Phosdrin and Thiodan. Pydrin and Ambush are not commercially available for use in seed alfalfa and the performance of Lorsban was erratic. The Phosdrin-Thiodan combination, although initially effective, was not evaluated beyond 12 days after application, so the long term effects of this combination are not known. There are some concerns with respect to hazards of the combination to honey bees.

Weekly surveys from March 14 through May 22 in untreated alfalfa seed fields showed the blue alfalfa aphid present in all fields but in very low numbers. In contrast to previous years where the blue alfalfa aphid populations exceeded those of the pea aphid in early season samples, the populations of the two species were nearly equal in 1979. In the Firebaugh area populations of the blue alfalfa aphid peaked on March 20 and at San Joaquin and Five Points on April 3. The heaviest

populations of the blue alfalfa aphid occurred in the San Joaquin area but populations in all areas sampled were far below those of previous years and were of no economic significance. Populations declined after the peaks but the blue alfalfa persisted in the fields in small numbers through May 22 when the survey was terminated.

Of the specific acaricides tested in 1979 none proved highly effective in controlling spider mites. Comite, presently registered for mite control on seed alfalfa, resulted in the best spider mite control. Plant growth was extremely dense in the experimental field and the poor results with many of the acaricides may have been due to poor penetration and lack of contact with the mites. Vendex, UC55248 and Plictran should probably receive further study.

A survey was conducted in 18 alfalfa seed fields in the Firebaugh, San Joaquin and Five Points areas to evaluate damage caused by the alfalfa seed chalcid. In addition, data were obtained on percentages of seeds showing feeding injury attributed to lygus bugs and stink bugs. The percent of chalcid damaged seed in individual fields ranged from 0 to 1.3 and averaged 0.2. Seeds showing lygus bug injury ranged from 2.5 to 13.4 and averaged 4.6 for the 18 fields. The percentages of seeds showing damage attributed to stink bug feeding ranged from 0 to 0.2 and averaged 0.1

Stink bug populations were measured in 11 alfalfa seed fields in the Firebaugh, San Joaquin and Five Points areas on July 27. Populations were low, A total of 18 consperse stink bugs and 146 Say stink bugs were collected in samples from all 11 fields.

Seasonal population trends of the omnivorous leafroller were monitored by capturing male moths in sex attractant traps in 11 alfalfa seed fields on the west side of Fresno County. The trapping period extended from March 20 through August 28. The omnivorous leafroller was present in all fields where traps were operated but populations were much lower than in 1978. Peak numbers of moths per trap per night in 1979 ranged from 3 to 42, while in the same areas in 1978 the maximum number of moths per trap per night ranged from 63 to 126. Although plants were examined in each field throughout the trapping period no omnivorous leafroller larvae were found nor was leafrolling or tip webbing observed. There was little evidence from the results obtained in 1979, that the omnivorous leafroller will likely become a serious pest in alfalfa seed production.

UNIVERSITY of CALIFORNIA COOPERATIVE EXTENSION FRESNO COUNTY

SEED CROP NOTES

Relative Susceptibility to Spotted Alfalfa Aphid Exhibited by Alfalfa Varieties Grown in Fresno County for Seed Production

prepared by
Bob Sheesley, Farm Advisor, Fresno
March, 1980

Chemical control of spotted alfalfa aphid in alfalfa seed fields is complicated by differences in degrees of varietal resistance to this insect. Alfalfa varieties grown for seed production in Fresno County range in their SAA susceptibility from "Resistant" to "Susceptible." Honeydew residues from heavy SAA populations will gum up seed harvesting equipment. Chemical control of SAA will be needed on SAA susceptible varieties and usually on tolerant varieties in the latter part of the growing season in Fresno County. With repeated applications of some pesticides, it is possible to develop a significant SAA population on some varieties which are classified as resistant or moderately resistant.

In most cases the severity of SAA infestation can be limited on susceptible varieties with timely applications of effective aphicides. SAA population buildup is a function of several variables: Percent of genetic resistance to SAA in the variety, time since clip back and/or chemical control of SAA, the insecticides used and frequency of their use, and level of biological control, if any.

The SAA ratings for varieties listed in this report were compiled from reports furnished by the seed companies who own or contract for growing the varieties and/or by experience with public varieties. The author assumes no responsibility for accuracy of the data supplied by the different contributors. The following ratings used in this report refer to reactions of plants to SAA.

R = Resistant.
Ability of plants to restrict the activities of SAA.

MR = Moderately Resistant.

T = Tolerant.
Ability of plants to endure SAA. Chemical control of SAA is usually needed in latter portion of seed production period in Fresno County.

S = Susceptible.
Inability of plants to restrict the activities of SAA. Chemical control of SAA is needed during seed production season in Fresno County.

Information concerning proprietary varieties or numbered materials which are not included in this list can be obtained from representatives of the company owning the variety. There has been no intent on my part to omit any variety, although this list will need revision as additional varieties are developed. The information listed in this report is intended to assist you in planning insect control programs for the alfalfa varieties you help produce.

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PUBLIC VARIETIES

VARIETY	DEVELOPER	SAA RATING
Arc	Maryland, No. Carolina, Penn, Virginia & USDA	S
Buffalo	Kansas Experiment Station	S
Baker	USDA & Nebraska Experiment Station	MR
Cody	Kansas Experiment Station	R
CUF 101	California Experiment Station	R
Dawson	Nebraska Experiment Station	R
Delta	Mississippi Experiment Station	S
El Unico	University of Arizona	R
Hayden	Arizona Experiment Station	R
Kanza	Kansas Experiment Station & USDA	R
Lahontan	USDA at Nevada	T
Lew	Arizona Experiment Station	R
Mesa Sirsa	Arizona Experiment Station	R
Mesilla	New Mexico State Experiment Station	R
Moapa	USDA at Nevada	T
Moapa 69	USDA at Nevada	T
Rambler	Dominion Experiment Farms	S
Ranger	Nebraska Experiment Station & USDA	S
Riley	Kansas Experiment Station & USDA	R
Saranac	New York Experiment Station	S
Sonora	Arizona, California, Nevada & USDA	T
Sonora 70	Arizona Experiment Station	T
Team	USDA	S
UC Cargo	California Experiment Station	R
UC Salton	California Experiment Station	R
Washoe	Nevada Experiment Station	R
Williamsburg	Eastern Virginia Research Station	S

PROPRIETARY VARIETIES AND O.E.C.D. VARIETIES

OWNER AND/OR CONTRACTING COMPANY	VARIETY	SAA RATING
Cal-West Seed Co.	Bonus	S
	C 731	R
	CW 2	S
	CW 5	S
	CW 7	S
	CW 8	R
	CW 9	T
	CW 27	S
	CW 67	R
	CW 76	R
	CW 378	R
	CW 678	T
	CW 789	T
	CW 6306	S
	DK 120	S
	DK 122	S
	DK 123	S
	DK 131	R
	DK 167	R
	Franken Neu	S
	La Rocca	S
	Luna	S
	Natsuwakaba	S
	Peak (Research Seeds, Inc.)	S
	Sexauer 605 (F.S.R.C.)	T
	Vertus	S
	2D-106-1	S
	666-B	S
Dairyland Research	74-6	S
	AD 102X	S
	AD 115	S
	Chimo	S
Embryo Seed Co.	A-57	S
	A-59	S
Farmers Forage Research	Classic	S
	Hi Phi	T
	Weevlchek	S
Ferry-Morse Seed Co.	FM 102	T
	FM 110	R
	FM 110-A	R
	FM 129	R
	FM 130	R
	FM 135	S
	FM 400	S
Germain's Seed Co.	CG 95	R
	CG 97	R
	CG 99	R
	CG 100	R

OWNER AND/OR CONTRACTING COMPANY	VARIETY	SAA RATING
North American Plant Breeders	Answer	T
	Apollo	T
	Expo	T
	Trident	T
	Vangard	T
Northrup, King & Co.	KO-2	S
	KO-612	R
	K3-15	S
	K3-650	R
	K3-651	R
	K5-87	S
	K6-11	S
	K7-700	R
	K7-704	R
	K7-706	R
	N5-150	S
	PCc-77-122	R
	PCc-78-521	R
Pioneer Seed Co.	120	S
	520	S
	521	R
	524	R
	530	R
	531	R
	532	R
	545	R
	555	R
	572	R
	581	R
	Victoria	R
Security Seed Co.	Joaquin 11	R
	SC 400	S
Waterman-Loomis Seed Co.	71-72-T14-T15	MR
	WL 219	MR
	WL 220	MR
	WL 306	R
	WL 309	R
	WL 310	R
	WL 311	R
	WL 312	R
	WL 318	R
	WL 512	R
	WL 514	R
	WL 600	R

300 copies
March, 1980

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PROGRAM

AGRICULTURAL ISSUES & OUTLOOK SYMPOSIUM
Visalia Convention Center, Visalia, CA
Wednesday, April 9, 1980

"THE CONSUMERS VIEW OF THE 1980's"

Registration: 11:00 - 1:00 p.m.

SESSION I 1:15 - 3:15 p.m.

"SOCIAL ISSUES: THE CONSUMER QUESTIONS AGRICULTURE"

Moderator: *Mr. William W. Wood, Unit Director and Economist, University of California, Riverside, CA*

"AG LABOR - A QUESTION OF EQUITY?"

Assemblyman Art Torres, 56th Assembly District, Los Angeles, CA

"MARKET ORDERS & PRICE SUPPORTS - WHY?"

Mr. Harry Snyder, Director Consumers Union, San Francisco, CA

"HUMAN NUTRITION - A NATIONAL POLICY?"

Ms. Audrey Cross, Coordinator for Human Nutrition Policy, USDA, Washington D.C.

"FOOD - A FOREIGN POLICY BARGAINING TOOL"

Mr. Tom Saylor, Associate Administrator, F.A.S., USDA, Washington D.C.

Break 3:15 - 3:45 p.m.

SESSION II 3:45 - 5:15 p.m.

"THE PESTICIDE ISSUE - INITIAL CONFLICT/EVENTUAL COMPROMISE"

Moderator: *Mr. Hans Van Ness, Deputy Director, California Department of Food and Agriculture, Sacramento, CA*

"AGRICULTURAL NEEDS"

Mr. Bill Thomas, Executive Vice President, California Food Producers, Inc., Sacramento, CA

"THE CONSUMERS CONCERN"

Mr. David Rowe, Attorney, Environmental Defense Fund, Berkeley, CA

Social Hour: 5:30 - 6:30 p.m.

SESSION III 6:45 - 9:00 p.m.
Dinner *Superb BBQ Committee*

KEYNOTE ADDRESS

Honorable Tom Bradley, Mayor, Los Angeles, CA

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