

**MANUALS FOR THE SEED PRODUCTION OF
SOME VEGETABLES IN THAILAND**

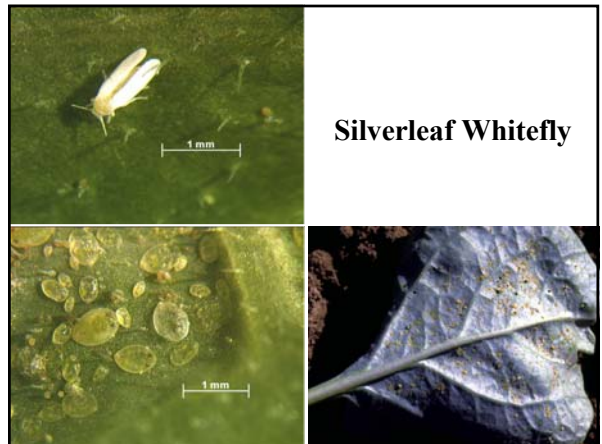
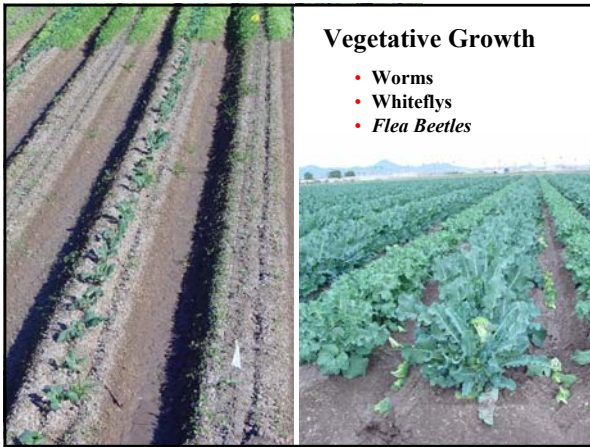
BROCCOLI SEED INSECT CONTROL

Aphids – pirimicarb (Pirimor)

Soil-insects - prevent attack in the nursery by soil treatment with an insecticide - aldicarb (Temik).

Ceuthorrhynchus spp. (Cabbage weevil) - permethrin (Ambush).

Do not spray during flowering time.



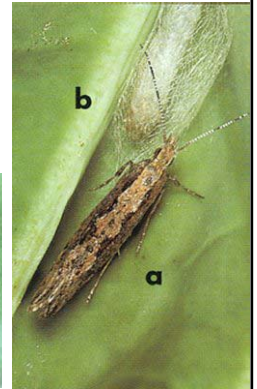




Beet Armyworm



Diamondback Moth



Dow AgroSciences

Success[®]

Naturalyte[®] Insect Control

RESTRICTED USE PESTICIDE
Proclaim[®]
INSECTICIDE

Dow AgroSciences

Intrepid[®]

2F
Insecticide

DuPont[™] **Avaunt**[®]
insecticide



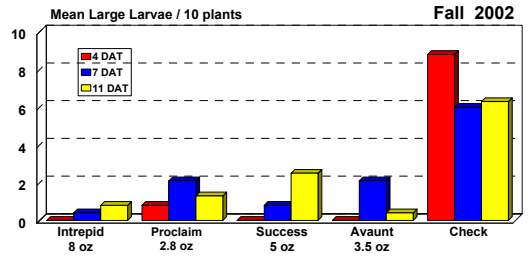
New Chemistries on Vegetables

Product	REI	PHI	Application
Success 2SC	4 hrs	1 day	Air, Ground
Proclaim SG	48 hrs	7 days	Ground only
Avaunt WG	12 hrs	3 days	Air, Ground
Confirm 2F	4 hrs	7 days	Air, Ground
Intrepid 2F	4 hrs	1 day	Air, Ground



- Reduced-risk compounds
- Environmentally friendly
- Selective Activity
- Unique modes of action
- **Highly efficacious**

Cabbage Looper on Broccoli- Fall 2002
1st Side dress



Lygus Bug



Cabbage Aphid







Don't waste
your
\$\$\$



Fulfill[®]

Insecticide

For control of certain aphids in cotton, hops, pecans, potatoes (and other tuberous and corm vegetables), tobacco, and vegetables

Active Ingredient:

Pymetrozine (CAS No. 123312-89-0) 50.0% ¹

ETTRA

Section 24(c) Special Local Need Label

SUPPLEMENTAL LABELING FOR SPECIAL LOCAL NEED IN ARIZONA

FOR DISTRIBUTION AND USE ONLY WITHIN THE STATE OF ARIZONA

FULFILL[®]

EPA Reg. No. 100-912
EPA SLN No. AZ-000004

For control of certain aphids on root vegetables, cole crops, and leafy vegetables grown for seed

Active ingredient:	
Pymetrozine 1,2,4-Triazin-3-(2H)-one 4,5-dihydro-6-methyl-4-[3-pyridinylmethyl]pyrimidin-5-ylmethyl	50.0%
Other ingredients:	50.0%
Total:	100.0%

Expires 12/31/2004

Both compounds
are Bee-safe

PIRIMOR[®] 50-DF
INSECTICIDE

N-Methyl Carbamate

For Use Only in Idaho, Montana*, Nevada, Oregon, Washington, and Wyoming on Alfalfa Grown for Seed

ASSAIL[™] brand 70WP Insecticide



For Ag or Commercial Use Only

Supplemental Label

ACTIVE INGREDIENT: Acetamidoprid, (E)-N ¹ -[[6-chloro-3-pyridyl(methyl)(N ² -cyano-N ¹ -methyl)acetamidine]	70% by wt.
INERT INGREDIENTS:	30% by wt.
EPA Reg. No. 264-609	EPA Est. No. 67545-AZ-01

Pirimor 50DF

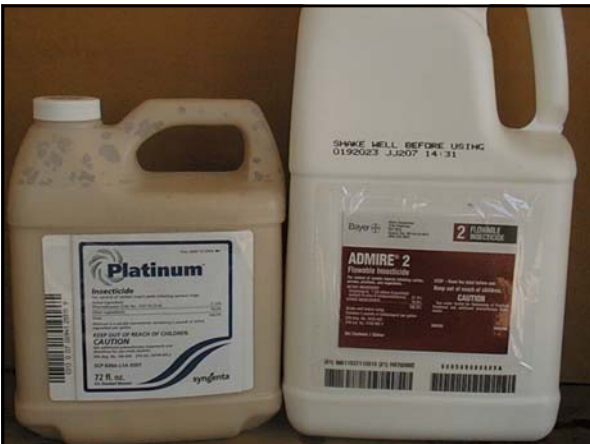
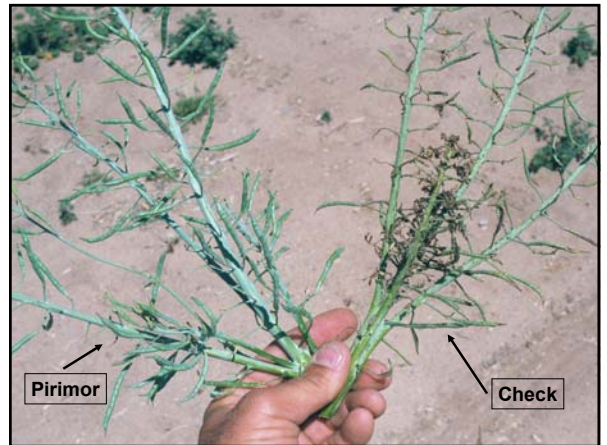
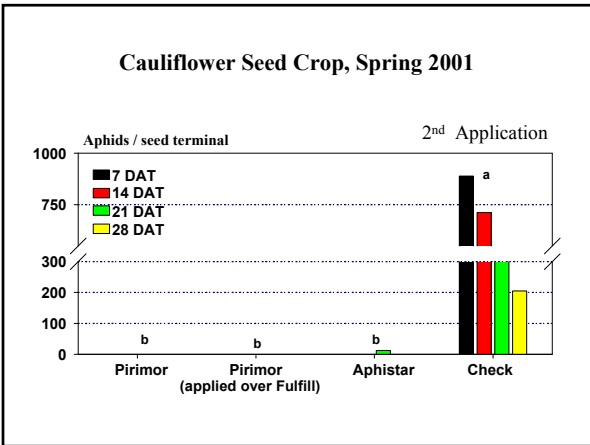
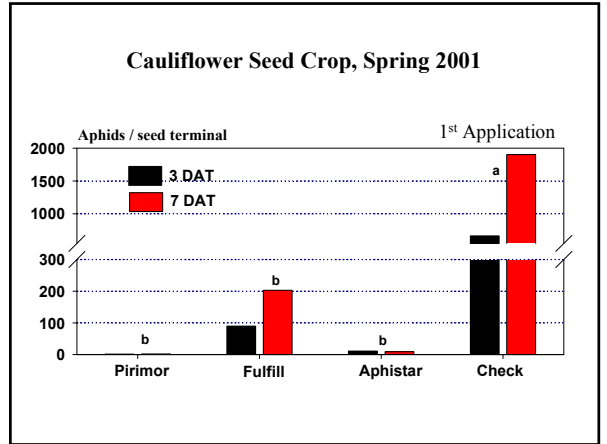
Assail 70WP



Actara WG

Fulfill WG





False Chinch Bug



W. Stebbins 1915, p. 122. © 2000 Regents, University of California

NYSSUS ERICAE, THE FALSE CHINCH BUG
 By F. H. WILSON.
Scientific American, Fruit and Plant Examination, Bureau of Entomology, United States Department of Agriculture.

INTRODUCTION

The false chinch bug, *Nysius ericae* Schilling (supertribe Chini), has been recognized for many years as a serious pest, especially in the semi-arid regions of the United States, where it causes great damage to sugar beets and cruciferous garden crops, wasting upon them suddenly in enormous numbers and causing so much loss from them that the plants will beyond recovery in one or two days.

When the writer was first stationed at Garden City, Kansas, in March, 1913, he could get no information regarding the life history and habits of the insect on which to base control measures. Work was therefore begun to determine these points, and the following account is prepared from data collected during that and the three following years.¹ The closest field study of the insect was made during 1913 and 1914, and the rearing work was done during 1914 and 1915.

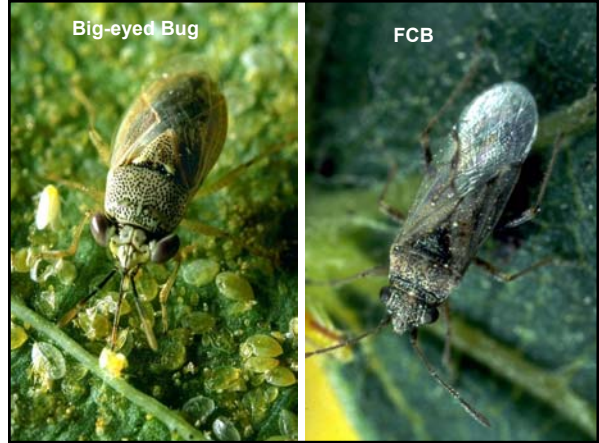
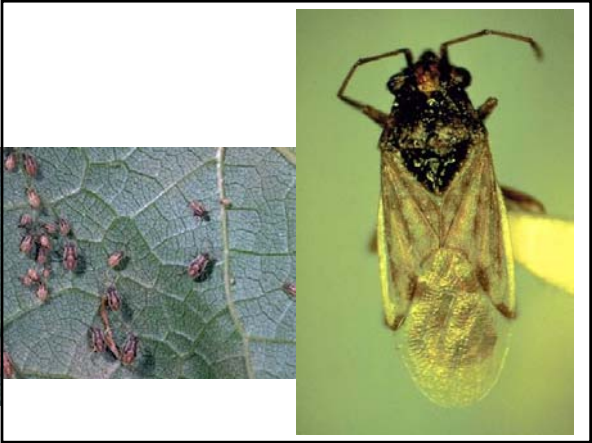
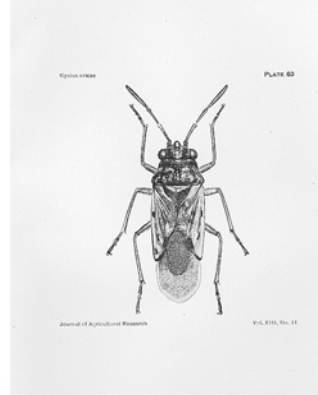
DESCRIPTION

THE ADULT

The female is about 4 mm. long by 2 mm. wide. The greatest width is through the posterior edge of the pronotum and base of the wings. From this point the body tapers equally toward each of the coxae. The eyes project prominently on the sides at the posterior margin of the head, and the antennae arise between the eyes and the base of the head. The abdomen is elongate, its sides almost parallel and its apex rounded. It is laterally compressed by close approximation of wings which project a little at the anal extremity. The ovipositor opens on the ventral surface of the tip of the abdomen, and is carried folded in a groove below the posterior abdominal segment, the basal portion extending forward and the distal backward and forward.

The males are proportionally smaller than the females, or about half the length and half the width of a grain of wheat. Their form is similar to that of the female, occupying the tip of the abdomen, which is more pointed and without the groove on the venter. The newly emerged adults are dark reddish, but in a short time they change to dirty gray with dark or black spots. Old adults (♂) are nearly black, except the venter portion of the posterior abdominal segment of the female, which are gray or light brown. The wings are almost transparent. The antennae are reddish brown, the legs and tarsi light brown with black spots, and the claws black.

¹ During the summer of 1914, 1915, and 1916 the writer was assisted by Mr. F. H. Wylie, having available assistance on the same grounds, to which he called attention the first of the spring. "Basis of nomenclature according to the "Key" and "General nomenclature on insects." "Basis of nomenclature" of Agricultural Research, Vol. 20, No. 10, p. 100, 1915. See also "Key to the Keys" of Agricultural Research, Vol. 20, No. 10, p. 100, 1915.



1 generation can be completed in 29 days

LENGTH OF LIFE CYCLE

At Garden City, during 1914, the average temperature being 79.78° F., the different stages from deposition of the egg to death of the resulting individual were determined as follows:

	Days.
Egg stage.....	4
Nymphal stage.....	20.35
Maturity to mating.....	3
Mating to oviposition.....	1
Beginning oviposition to death.....	12
Total.....	40.35



False chinch bugs breed on weeds.

Weeds that serve as host plants for these insects include:
wild mustards and radish
shepherds purse,
london rocket
spurge.



FCB: usually heaviest in areas of the field where there had been significant amounts of mustard.

False Chinch Bug Suspected of Damaging Citrus Fruit

The ability of false chinch bugs to damage young citrus, pistachio and other fruit trees is fairly well documented.

Their feeding can cause young trees to wilt and die.



Colorado Canola Seed Production - 2000

"This year's outbreak was favored by :

- 1) The growth of mustards and other weeds in spring combined with the cool wet weather = large numbers of false chinch bugs survived and thrived.
- 2) For much of the season they remained in rangeland and along roadsides.
- 3) The drying weather of midsummer has caused many of them to migrate.

Cultural Control:

Weed management is especially critical.

Chemical Control:

These insects are very difficult to manage.

"They are inherently quite resistant to most insecticides. "

Insecticides containing **diazinon, permethrin, or chlorpyrifos**, should be able to provide some control.



Capture® (5 oz) applied post-bloom,
pre-harvest provided good FCB control

