WASHINGTON STATE UNIVERSITY EXTENSION

Identifying and Managing Insect Pests of Canola

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WHY SAMPLE?



Insect Pests of Canola



Cabbage seedpod weevil



Cabbage aphid



Lygus bug



Flea beetle damage



Thrips







Flea Beetle

Flea beetles belong to the Family: Chrysomelidae and jump like "fleas" when disturbed hence the name. They are bluish-black, 2 - 3 mm and have enlarged hind legs.



Flea Beetles - *Phyllotreta Cruciferae* (Goeze)

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Flea Beetle Life Cycle









Rescue foliar applications

Scout during wet springs even with seed trts. Scout every 2 to 3 days in warm weather Spray at 20-25% defoliation YouTube: "Flea beetle management"



Flea Beetle

Seed Treatments Helix Xtra/Cruise

Helix Xtra/Cruiser 5FS Prosper 400 Helix Vibrance Prosper Evergol







Cabbage Seedpod Weevil



Adult weevils are ash-grey in color, approximately 3 to 4 mm long and have a prominent curved snout with "elbowed" antennae.



Cabbage Seedpod Weevil



Cabbage Seedpod Weevil Lifecycle





Cabbage Seedpod Weevil





Cabbage Seedpod Weevil Damage/Symptoms





Cabbage Seedpod Weevil Damage/Symptoms





Cabbage Seed Pod Weevil Monitoring

When: Look for CSPW when the crop first enters the bud stage and continue through the flowering period. (10) sweeps, perimeter and interior parts of the field.



Cabbage Seedpod Weevil Thresholds/Management

Insecticide application is warranted when an average of 3 to 4 adult weevils are collected per sweep.



Cabbage Seedpod Weevil Management Options:

Cultural control:

- At present, trap cropping is the most promising cultural strategy for controlling the cabbage seedpod weevil.

- By planting a trap border of early flowering Canola, Cabbage seedpod weevils may be controlled with an insecticide applied to the perimeter before they spread throughout the field.

- Alternatively, a strip of the same variety planted seven to 10 days before the rest of the field, can serve as a trap for adult weevils.

Cabbage Seedpod Weevil Management Options:



Chemical: Foliar Treatments

There are several registered insecticides like: Bifen 2 AG Gold, Besiege, Delta Gold, Declare, Warrior II, and Mustang Maxx sprays that can be used once populations have reached action or treatment threshold levels.

Chemical: Seed Treatments Gaucho 600

Remember: Spray late in the day to minimize harmful effects to beneficial insects in the crop, especially bees.

Be Sure and Manage Any Volunteer Canola in Following Wheat Crops



http://css.wsu.edu/oilseeds







CABBAGE SEEDPOD WEEVIL MANAGEMENT IN CANOLA

Washington Oilseed Cropping Systems Series

By

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Cabbage Seed Pod Weevil Insecticide Trial:

Field Research Insecticide Trial with David Crowder & Aaron Esser:

- (1) Control (Red)
- (2) Bifenthrin (Tailgunner) Active against both aphids and CSPW (Blue)
- (3) Chlorantraniliprole (Altriset, Besiege, Voliam Express)- Active against both aphids and CSPW (yellow)
- (4) Imidacloprid (Gaucho 600) Active against both aphids and CSPW (No Color)
- (5) Lambda-Cyhalothrin (Warrior II) Active against both aphids and CSPW (Black)
- (6) Zeta-cypermethrin (Mustang Max) Active against both aphids and CSPW (Tan)



Cabbage Seed Pod Weevil Insecticide Trial:

The Mixed Procedure Differences of Least Squares Means							
trt	2Bifenthrin	5Lambda-Cyhalothrin	11.4800	22.9524	20	0.50	0.6224
trt	2Bifenthrin	6Zeta-Cypermethrin	26.1200	22.9524	20	1.14	0.2686
trt	3Chlorantraniliprole	4Imidacloprid	-16.7200	22.9524	20	-0.73	0.4748
trt	3Chlorantraniliprole	5Lambda-Cyhalothrin	-5.5200	22.9524	20	-0.24	0.8124
trt	3Chlorantraniliprole	6Zeta-Cypermethrin	9.1200	22.9524	20	0.40	0.6953
trt	4Imidacloprid	5Lambda-Cyhalothrin	11.2000	22.9524	20	0.49	0.6309
trt	4Imidacloprid	6Zeta-Cypermethrin	25.8400	22.9524	20	1.13	0.2736
trt	5Lambda-Cyhalothrin	6Zeta-Cypermethrin	14.6400	22.9524	20	0.64	0.5308



We analyzed the data to determine if there was any statistical difference between the chemical treatments; which there was not do to error in the data set...

However, there was a clear difference compared to the control, where each treatment yielded higher (23 lbs/A), therefore suggesting that CSPW should be controlled...

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Diamondback moth





Diamondback Moth

Spring canola Larvae are the problem 10-15 per sq ft, or 10 per plant





Cabbage Aphid



Aphids are small pear-shaped insects that may be green, yellow, brown, red, or black depending on the species and the plants they feed on. The presence of *cornicles* (a pair of tube-like structures attached to the abdomen) distinguishes aphids from all other insects.



Figure 2. General life cycle of aphids. Asexual reproduction occurs during most of the year (summer cycle). Some aphid species produce a generation of sexual individuals that produce overwintering eggs as shown in the winter cycle.



Cabbage Aphid Damage/Symptoms:



- Canola damaged in the seedling stage appears stunted and is more susceptible to winterkill.
- Damaged seedlings will have curled leaves with shortened nodes. The canola may exhibit a purplish tint associated with plant stress.



Cabbage Aphid Damage/Symptoms:



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Aphid populations that develop during early bloom and pod-fill can cause deformed, stunted or completely sterile pods. Black sooty mold is also associated with aphid colonies. Aphids have also been reported to transmit several viruses to canola.



Cabbage Aphid Damage/Symptoms:







Cabbage Aphid Monitoring:

When: Look for Aphids from the seedling stage all the way through bloom.

- Crops should be scouted bi-weekly

Signs and Symptoms: Look for individual or masses of aphids, deformed, stunted or completely sterile pods

Remember: Aphids are small, so a hand lens or loop may help with identification

Cabbage Aphid Thresholds/Management:

Treat for aphids when populations exceed:

- 2 per plant in the seedling stage
- 5 per leaf in the rosette stage
- or when 20 percent of the heads are infested during bloom.



Cabbage Aphid Management Options:



Biological:

Several natural enemies help to regulate aphid populations. The most important are a parasitic wasp and predatory ladybird beetle larvae and adults.





Cabbage Aphid Management Options:



When you see aphid mummies....think twice about spraying!



Cabbage Aphid Management Options:



Chemical: Foliar Treatments

Bifen 2 AG Gold, Besiege, Whirlwind, Beleaf, Declare, Warrior II, Transform and Mustang Maxx sprays that can be used once populations have reached action or treatment threshold levels.

Chemical: Seed Treatments Helix, Helix Vibrance, Prosper, Prosper EverGol, Goucho

Remember: Do not treat canola after late pod-fill stage. Aphid populations can continue to increase until pod stage and can cause early flower termination.

Lygus bug (Tarnished Plant Bug)

- Adult are approximately 3 mm wide and 6 mm long, oval, colored pale green to reddish brown or black. They can be solid shaded or mottled, and have a distinctive triangle or V-shape on their backs.
- Larger nymphs have black dots on thorax and back abdomen.





Lygus bug Damage/Symptoms:

 Adult bugs feed on developing buds, flowers, and seedpods resulting in distortion and abortion of seed pods (blasting). Yield losses of up to 20% have been observed. Greatest damage occurs between June and August.



Adult feeding on developing bud



Puncture Points from Lygus Bug Feeding on Canola Stem



Immature lygus bug vs. aphid





No tailpipes, black dots, sprinter

Tailpipes, no dots, jogger



Cutworms

Potentially devastating to seedlings.







Cutworms are nocturnal.

Scout regularly at crop emergence.

Foliar insecticides available. Spray late evening, at night, or early morning before sunrise.





Thrips



Blister Beetle

Horned Lark





Beneficial Insects in Canola





Beneficial Insects in Canola

Be Selective
 Spray With Intent
 Think About the Cost
 Economic Thresholds





Canola diseases

- *Rhizoctonia* stem and root rot
- Sclerotinia (white mold) irrigated
- Blackleg



Blackleg

- Caused by fungus Leptosphaeria maculans
 Seedborne
 - Most important disease in Canadian Prairies and Midwest
 - > 2011 discovered near Bonners Ferry, ID
 - > 2014 outbreak in Willamette Valley
 - Spring 2015 found in multiple Camas Prairie fields
 - NONE found in WA state







D. Fernando



Blackleg management

Scout your fields

- Crop rotation (3 years between canola crops (same goes for cover crops)
- Control volunteers and mustards
- Purchase ONLY blackleg-free certified and treated seed
- Foliar fungicide treatment IF there is sign of blackleg (email Tim Paulitz for registered chemicals) Timothy.Paulitz@ARS.USDA.GOV



Use foliar fungicides to reduce in crop spread and yield loss when present.

- Tilt
- Quadris
- Quilt
- Headline
- Priaxor Xemium
- Approach
- Proline 480



Not Sure What You Have???

WSU Plant Pest Diagnostic Clinic

Contact:

rachel.bomberger@wsu.edu (509)335-0619

plant.clinic@wsu.edu

(509)335-3292

plantpath.wsu.edu/diagnostics/



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