



EASTERN IDAHO

PEST ALERT

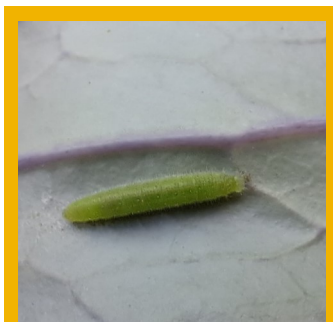
BANNOCK, BINGHAM, BONNEVILLE, CASSIA, FREMONT, JEFFERSON, MADISON, AND TETON COUNTIES

INSIDE THE ISSUE



GOOD

PG 4



BAD

PG 2



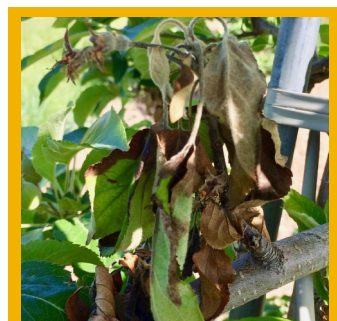
PHOTO OF THE WEEK

PG 6



CODLING MOTH

PG 5



FIREBLIGHT

PG 5

Aphid Wasps

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Some wasps feed on aphids. Others parasitized aphids. When it comes to aphid control, most wasps are good to have around. A Few years back I came across one that fascinated me. It is in the Pempredon genus of wasps, and this group is often called aphid wasps.

These small, black wasps are sometimes observed building a nest in the pith of pruned canes, such as raspberry, blackberry or rose canes. A series of chambers are created in the nest tube. The female hunts and paralyzed (12-24 aphids) to provision the chamber, then lays an egg and seals it off with chewed pith material. She then repeats the process with the next chamber until the nest tube is filled.

The young go through most of their life cycle in the chamber as egg, larva, prepupa, pupa then emerge as an adult. They emerge in reverse order so the last is first to emerge and the first is last to emerge.

Next time you see a hole in the end of a cane it may not be a bad thing.

Here is more information on these beneficial insects:

<http://www.wci.colostate.edu/Assets/pdf/CIIFactSheets/PempredonWasp.pdf>



UGA5210078

Adult aphid wasps. Photo credit Whitney Cranshaw, Colorado State University, Bugwood.org01



Prepupal stage in next chambers.

Cabbage Worms

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This is a reproduction of an article I just wrote for East Idaho News, but the information is so important I thought I would also include it in the Eastern Idaho Pest Alert Newsletter.

If your cole crops (cabbage, broccoli, Brussels sprouts, cauliflower, kohlrabi) are doing well, chances are the critters that chew holes into the leaves are also doing well. The most common and damaging cole crop caterpillars are imported cabbageworm, diamondback moth and cabbage looper. They are all from the Order Lepidoptera.

You are more likely to see the damage than you are to see the larvae. Since control options are the same for each of these I will discuss each one then cover control options.

Imported Cabbageworm



Imported cabbageworm egg. The more yellow they become the closer they are to hatching.

The imported cabbageworm is a medium-sized, white butterfly. They overwinter as pupae and emerge mid to late spring.

Imported cabbageworms fly during the day and lay eggs singly on both sides of the leaves. The torpedo-shaped eggs hatch in four to eight days and they begin feeding, causing roundish holes in the leaves.

The larvae are about 1 ¼ inch long at full size. Their response when disturbed is sluggish. After two to three weeks they pupate on the host plant and emerge in one to two weeks as adults to



Imported cabbageworm larvae. Lethargic movements when disturbed.

begin all over again.

One generation takes three to six weeks, depending on temperatures. There may be as many as four generations per year in the warmer areas of eastern Idaho—probably not this year.

Diamondback Moth

Diamondback moth adults are small and skinny. The wing tips scoop up at the end. Adult moths are active at night. The eggs are small and roundish.



Diamondback moth adult. Photo credit Alton N. Sparks, Jr., University of Georgia, Bugwood.org.

The larva grows to about 1/3 inch long and tapers at each end. They feed on the underside of the leaves and often leave the upper membrane, creating a windowpane effect.

Caterpillars mature in 10 – 14 days. The cocoon is loose and silky.



Diamondback moth cocoon. Windowpane from feeding at the top of the photo.



Cabbage looper larva. The small one could be either an imported cabbageworm or diamondback moth larva.

The leaf feeding is usually not economically significant, but the larvae may damage young buds or growing points that stunt the plant. The larvae may also burrow into broccoli or cauliflower flower buds. When disturbed they wriggle rapidly, or drop off, attached to a silken thread.

Diamondback moths are nocturnal flyers that are present all summer, but more common in spring and fall. There may be up to four generations a year.

Cabbage Looper

The cabbage looper larva moves like an inchworm. The mottled brown moths have a white “figure 8” or “Y” in the center of their wings. They are nocturnal flyers.

Cabbage loopers overwinter in southern areas and fly north for the summer.

Females lay round eggs about the size of a pinhead on the lower, outer leaves. Larvae feed on the upper surface between the large veins and midribs for four to five weeks producing large, irregular holes. They can bore into young cabbage heads, creating unmarketable produce. With two generations a year, the second generation is the

one that causes the most damage.

Integrated Pest Management (IPM)

There are several natural enemies of these pests so control should center on activities that do not harm the beneficial predators and parasitoids.

Cultural

Remove weeds that belong to the mustard family as they are alternate hosts for these pests.

Physical

Cover the crop with a light row cover or insect netting. This should be done from the time of transplanting. Since cole crops are not dependent on pollination they can remain covered throughout the growing season—unless you collect your own seed.

Biological

Encourage natural enemies such as paper wasps, ground beetles and parasitoids wasps.

Insecticides

Bacillus thuringiensis (Bt) (aizawai or kurstaki strains) are very host specific to lepidopteran pests. The dust formulation is reported to be more effective. Spinosad (some forms are approved for organic production) absorbs into the epidermis and is effective on leaf-feeding pests.

There are other products labeled for these pests. Be sure to follow the label.

Codling moth

One application of insecticide will not control codling moth. You must continue control according to the product label throughout the season and over successive generations. This will typically mean two applications for each generation 2 – 3 weeks apart, depending on the product you use.

Conventional production options

High fruit damage in past years:

- o Apply the first application for either Option A (insecticide) or Option B (oil) at the listed date.
- o For Option A, repeat the insecticide spray 14 days later, for a total of 2 applications in the first generation.
- o For Option B, apply the insecticide spray at the listed date once.
- o When the “start date” for the 2nd generation is provided, spray every 10-18 days until Sept. 15. Be sure to observe the pre-harvest interval.
- o Pick a different product to use for each generation.

Low fruit damage in past years:

- o Apply the first application for either Option A (insecticide) or Option B (oil) at the listed date.
- o For Option A, do not spray again.
- o For Option B, apply insecticide at the listed date.
- o Wait until the “start date” for the 2nd generation is provided, and spray on that date, and repeat 14 days later, for a total of 2 sprays.
- o Do the same for the 3rd generation.

Pick a different product to use for each generation.

Organic production options (other than bagging)

High fruit damage in past years:

- o Apply the first application for either Option A (insecticide) or Option B (oil).
- o For Option A, repeat twice, spaced 7-10 apart, for a total of 3 applications in the first generation.
- o For Option B, apply insecticide at the listed date and re-apply 7-10 days later.
- o When the “start date” for the 2nd generation is provided, spray every 7-10 days until Sept. 15.
- o Pick a different product to use for each generation.



Low fruit damage in past years:

- o Apply the first application for either Option A

Codling moth spray schedule

There have not been any moths trapped in the Burley and Pocatello area. This table will provide spray dates for codling moth at the given region. Select the region that has similar climatic conditions to determine when to begin spraying. We still have not caught anything in the Teton Basin traps.

Spray Timing Table					
Location	Option A Apply First Spray	Option B		Greatest Period of Egg Hatch 1 st Generation	End of 1 st Genera- tion
		Apply Oil	Apply First In- secticide		
Burley	--	--	--	--	--
Pocatello Airport/ Chubbuck	--	--	--	--	July 21
Pocatello East Side	--	--	--	--	--
Fort Hall	--	--	--	--	July 27
Blackfoot	--	--	--	--	July 28
Idaho Falls Airport	--	--	--	--	July 26
South Idaho Falls	--	--	--	--	July 22
Ucon	--	--	--	--	Aug 1
Rigby	--	--	--	July 5 – July 21	Aug 8
Ririe	--	--	--	--	Aug 5
Rexburg	--	--	--	--	July 29
Sugar City	--	--	--	July 5 – July 22	Aug 5
St Anthony	--	--	--	July 7 – July 23	Aug 8
Driggs	unknown	unknown	unknown	unknown	unknown

Spray Timing Table—Second Generation			
Location	Beginning of second genera- tion	Greatest Period of Egg Hatch 2 nd Generation	End of 2 nd Gen- eration
Burley	July 27	Aug 8 – unknown	unknown
Pocatello Airport/Chubbuck	July 30	Aug 12 – unknown	unknown
Pocatello East Side	July 20	July 30 – Aug 13	unknown
Fort Hall	Aug 6	Aug 21 – unknown	unknown
Blackfoot	Aug 6	Aug 19 – unknown	unknown
Idaho Falls Airport	Aug 5	Aug 19 – unknown	unknown
South Idaho Falls	Aug 1	Aug 15 – unknown	unknown
Ucon	Aug 10	unknown	unknown
Rigby	Aug 14	unknown	unknown
Ririe	Aug 13	unknown	unknown
Rexburg	Aug 9	unknown	unknown
Sugar City	Aug 16	unknown	unknown
St Anthony	Aug 17	unknown	unknown
Driggs	unknown	unknown	unknown

Ingredient	Efficacy	Residual length (days)	Comments
Conventional			
Carbaryl (old Sevin products)	Good	14	
Gamma-cyhalothrin (Spectracide Triazicide)	Good to Excellent	14 – 17	Last application at least 21 days prior to harvest
Malathion (Bonide Malathion, Hi Yield Malathion)	Good	5 – 7	Max 2 applications; some products are pears only
Zeta cypermethrin (Garden Tech Sevin)	Good to Excellent	14 – 17	Last application at least 14 days prior to harvest
Organic			
Azadirachtin (Safer BioNeem)	Fair to Good	7 – 10	
Codling moth virus (Cyd-X)	Good (if populations low)	7	Works best when used at beginning of generation
Kaolin clay (Surround)	Fair	7	Produces protective barrier
Oil (All Seasons Oil, EcoSmart, Neem)	Fair	3	Recommended for the first application of the generation only
Pyrethrin (Ortho Fruit Spray, Fertilome Fruit Tree Spray, Safer End All)	Good	3 – 5	
Spinosad Monterey/Fertilome Spinosad	Good	7 – 10	Max 6 applications



Fire Blight

New fire blight infections can be pruned out on a dry day as soon as they show up. Pruning tools need to be disinfected between each pruning cut. Rubbing alcohol, 10% bleach solution or disinfectant wipes work. If it appears only the fruit and leaves of the spur are infected prune off the spur. If the infection has moved into a branch the pruning cut should be twelve inches into healthy-looking wood to make sure the bacterium is not left in the branch. Discard or burn the prunings.



late blight, *Phytophthora infestans*
Sphoto by Edward Sikora bugwood.org

Late Blight and Early Blight Watch

With the high temperatures late blight and early blight are less likely to develop, however, if we have rain and temperatures cool down late blight can go from spore to producing spore in three or four days. Spores have been detected, so keep an eye on your potatoes and tomatoes and let us know if you suspect you have one or the other.

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UPCOMING EVENTS

JULY 25 IDAHO HOME GARDEN TIPS**PRESERVE THE HARVEST****KATHRYN HICOCK, EXTENSION EDUCATOR**

July 25 | 7:00pm MT

Come learn what to do with the excess from your garden! Learn different methods and best practices of home food preservation.

PLANT TALK**RON PATTERSON & REED FINDLAY**

July 25 | 7:30pm MT

Following our class, we will have our Plant Talk question and answer session. Feel free to join us on zoom to ask any of your gardening questions!

AUGUST 22 IDAHO HOME GARDEN TIPS**STORAGE OF FRESH VEGETABLES****TOM JACOBSEN, EXTENSION EDUCATOR**

August 22 | 7:00pm MT

There are so many different fruits and vegetables you could be growing in your yard and garden this time of year, but did you know that they each have different preferences for ideal storage? Join us to learn how to store your different kinds of vegetables from the garden!

PLANT TALK**RON PATTERSON & REED FINDLAY**

August 22 | 7:30pm MT

Following our class, we will have our Plant Talk question and answer session. Feel free to join us on zoom to ask any of your gardening questions!



PHOTO OF THE WEEK: Spiritze

PHOTO OF THE WEEK:

This is to all those garden helpers out there! Hopefully you have a puppy or kitty or chickens or grandkids or someone to help you in the garden and make you smile while you work!!

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