



## EASTERN IDAHO

# PEST ALERT

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

### INSIDE THE ISSUE



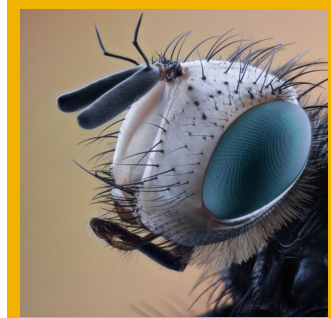
**GOOD**

PG 3



**BAD**

PG 2



**PHOTO OF THE WEEK**

PG 13



**CODLING MOTH**

PG 6



**FIREBLIGHT**

PG 9

# Western Cherry Fruit Fly

By Ron Patterson

Have you ever eaten half a cherry and found a little worm in it? It makes you want to puke. That's why when you eat cherries it is better to just pop the entire thing into your mouth, spit out the pit, and not think about it.



Photo: Allison Morris, Bugwood.org

This legless maggot is the larval stage of the native western cherry fruit fly. It will feed on all varieties of cultivated and wild cherries but are most common in sweet and tart cherries.

They are weak flyers and will usually travel less than 40 yards in a season. So, while they can spread in an orchard quite rapidly, they don't travel from one neighborhood tree to another very well.

Because of strict quarantine laws in several states and international markets, even one infested cherry may result in an entire shipment being rejected. Homeowners that are in an area where commercial cherries are produced need to be especially diligent that their cherry trees are not a point of infestation.

## Life Cycle

The fly lays its egg under the fruit skin. After hatching, the larva burrows toward the pit, feeds, then burrows back out and drops to the ground to pupate. Because the egg is laid under the fruit skin, control efforts should focus on adults.

There is only one generation per year, but the adults emerge over an eight-week period, so egg

laying can occur over a long period of time.

## CONTROL OPTIONS

While strict integrated pest management practices are not effective enough for commercial cherry production, the following practices will help reduce western cherry fruit fly populations around residential cherry trees.

### Sanitation

All cherries should be removed from the trees and from the ground—every year. Remove any nearby abandoned cherry trees to keep them from becoming a source of infestation.

### Biological Control

While there are a few biological organisms that feed on or parasitize fruit flies they are not considered very effective. Chickens under the trees may help clean up larvae or pupae that are on the ground and help reduce the population.

### Insecticides

Insecticides are the most common and effective method of control.

There are several methods to determine the timing of insecticide application, but the most practical for homeowners with cherry trees is to watch the color of the fruit.

Because the fly lays its egg below the fruit skin, the skin needs to be soft, they cannot penetrate the skin of a green cherry with their ovipositor. Insecticide regimens should begin when the first fruits on the tree ripen to a salmon blush color and continue application until harvest. Be sure to follow the pre-harvest guidelines on the product being used.



Photo: Whitney Cranshaw,  
Colorado State University,  
Bugwood.org

This table contains some products approved for homeowner use. The presence of lack of mentioning any products does not indicate endorsement of one product over another. Always read and follow the label.

Mode of action	Ingredient	Brand name	Efficacy	Notes
Conventional Options				
1	Malathion	Hi-Yield Malathion, Spectracide Malathion	4	Repeated use will encourage a flare in spider mite populations
3	Esfenvalerate	Monterey Bug Buster II	3	
3	Gamma-cyhalothrin	Spectracide Triazicide Insect Killer	3-4	
3	Lambda-cyhalothrin	Bonide Fruit Tree & Plant Guard	2-3	
3	Zeta-cypermethrin	GardenTech Sevin; Gordon's Bug-No-More	3-4	
5	Spinosad	Bonide Captain Jack's Deadbug Brew	2-3	
Organic Options				
4	Pyrethrin	Fertilome Triple Action	2	Re-apply after 5 days
5	Spinosad	Monterey Garden Insect Spray	2-3	



Photo: Whitney Cranshaw,  
Colorado State University,  
Bugwood.org

Cherry Fruit Fly Larva

Pixabay.com



# Irrigation

By Ron Patterson

What a difference a year, or two, makes. We are in a prolonged drought. But even if we were not in a drought, I would encourage people to be conservative in their water use. Water is our most limiting resource in the Intermountain West. Eastern Idaho is considered a high plains desert, unless you live in the mountains. However, even our mountain regions have received less than normal precipitation.

There are some guidelines that will help every year, regardless of the water situation. For proper irrigation you need to know three things: soil type, root depth, and irrigation system precipitation rate.

## Soil type

The soil type will determine how much water your soil will hold. Sandy soils will hold about 0.75 – 1.0 inches of water in one foot of soil. Beyond that the water will be pulled past the roots by gravity. A heavy clayey soil will hold about 1.75 – 2.0 inches of water per foot of soil. The middle of the road soil actually has more water available to plants and is called a loamy soil. It has sand, silt, and clay in it. A loamy soil will hold about 2.25 – 2.5 inches of water. We have a free booklet here in the office on how to determine your soil texture by feel.

Your soil is what it is. It is impractical to try adding sand to make a clayey soil better. A better option is to add composted organic matter. Not only will



Photo: Pixabay.com

organic matter improve the soil structure—making sand and clay more loam-like, it will also increase your water holding capacity by 30 – 50% for every 1% increase in soil organic matter.

## Root depth

Root depth varies by plant. Since lawns are our biggest water user let's talk lawns. A healthy Kentucky bluegrass lawn in good soils will have roots about 12 inches deep (tomatoes 24 – 36 inches, potatoes 18 – 30 inches, onions 12 inches—you get the picture). We don't want the soil to get entirely dry before the next irrigation, so we work on the top half of the gas tank—use half of the water mentioned in the previous section, then irrigate.

There are several factors that will affect the root depth of your lawn, but the most important one is how you water. Roots will grow where the water is until they reach their maximum depth. So, if you water frequently and shallow the roots will be shallow. The mantra is “Water deep and infrequently”.

What does this mean? Depending on your soil type you should put down 0.5 – 1.25 inches of water with every irrigation, depending on soil type, for every foot of root depth. The days between irrigation are determined by how fast the lawn is using the water. In the early spring you can have as much as 10 days between irrigations, longer if we have significant rains. During the hot part of the summer sandy soils will need to be watered every other day. Loamy soils can go 4 – 7 days between irrigations.

summer, and you will save water, especially in the spring and fall.



Photo: Pixabay.com

# Irrigation cont.

By Ron Patterson



Photo: Pixabay.com

## Precipitation rate

When I ask people how much water they are applying, they will say something like, “I water 20 minutes every other day.” While I know what it means, in reality, it means nothing. Solid spray, rotors, mp rotors all have different precipitation rates—don’t mix head types in the same zone. Many of the rotors have nozzle inserts that will change the precipitation rate. To get an idea on how much water is being applied, gather several straight-sided soup cans and place them around the sprinkler zone. Run it for the appointed time and see how much the cans have collected. You may be surprised to find that one can will collect  $\frac{1}{4}$  inch while another can will collect 2 inches. That’s a design issue I can’t address in this article. Average your cans and adjust the time to deliver the amount your soil will hold.

## Tie it all together

Many people set their sprinkler timer in the spring and turn it off in the fall. The whole point here is to take control of your sprinkler timer.

The best approach is to have your zones set for however long they need to be for the proper amount of water, and then run your system when the plants in that zone need to be irrigated. For lawns you can watch the color. When it just starts to turn blue you need to get water on it right away. I prefer to use a probe (a long screwdriver works) and test the soil moisture. If it goes in easily, then

there is plenty of soil moisture. When it gets harder to push in, see how the lawn looks. Soon you will be able to judge irrigation needs just by looking at the lawn.

Another concept to consider: most of our turfgrass species are cool-season grasses. The natural growth cycle is to grow rapidly in the spring, go dormant in the summer, then break out of dormancy for a little while in the fall. A lush lawn in the summer is not a necessity, unless you are searching for bragging rights. Certain areas of my lawn go semi-dormant during the heat of the summer and I’m okay with that. I irrigate my lawn no more frequently than every 5 days but try to stretch it to once a week. It looks great in the spring and great in the fall and takes a siesta in the summer.

What about dry spots? It’s not a sin to drag a hose around. It is kind of silly to water the entire lawn just because your system design leaves a spot or two a little short.

With proper irrigation your roots will go deeper, the lawn will be more drought tolerant during the hot summer, and you will save water, especially in the spring and fall.



Photo: Pixabay.com

# Codling Moth:

## Conventional production options

*High fruit damage in past years:*

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

*Low fruit damage in past years:*

- Apply the first application for either Option A (insecticide) or Option B (oil) at the listed date.
- For Option A, do not spray again.
- For Option B, apply insecticide at the listed date.
- 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.
- 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:*

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

*Low fruit damage in past years:*

- Apply the first application for either Option A (insecticide) or Option B (oil).
- When the “start date” for the 2nd generation is provided, spray every 10-14 days until Sept. 15.
- Pick a different product to use for each generation.



Scott Bauer, USDA Agricultural Research Service, Bugwood.org

## Codling moth spray schedule

There is an odd absence of moths in Blackfoot, Ucon and Rigby. If we don't show any trapped moths by next week I will have the program calculate spray dates strictly based on temperatures. 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. **Remember that actual dates will change as we get closer because of actual temperatures rather than forecasted temperatures.**



Images from iStock images

Spray Timing Table				
Location	Option A Apply First Spray	Option B		Greatest Period of Egg Hatch
		Apply Oil	Apply First Insecticide	
Burley	June 16	June 14	June 26	June 25
Pocatello Airport	June 17	June 15	June 27	June 26
Pocatello East Side	June 14	June 13	June 22	June 21
Fort Hall	June 17	June 16	June 28	June 27
Blackfoot	unknown	unknown	unknown	unknown
Idaho Falls Airport	June 20	June 19	June 30	June 29
South East Idaho Falls	unknown	unknown	unknown	unknown
Ucon	unknown	unknown	unknown	unknown
Rigby	unknown	unknown	unknown	unknown
Ririe	unknown	unknown	unknown	unknown
Rexburg	unknown	unknown	unknown	unknown
Sugar City	unknown	unknown	unknown	unknown
St Anthony	unknown	unknown	unknown	unknown
Driggs	unknown	unknown	unknown	unknown

Ingredient	Efficacy	Residual length (days)	Comments
<b>Conventional</b>			
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
<b>Organic</b>			
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



Whitney Cranshaw, Colorado State University, Bugwood.org





Photo: Wikimedia Commons



Photo: Pixabay



Photo: Flickr



R. Grimm, Bugwood.org

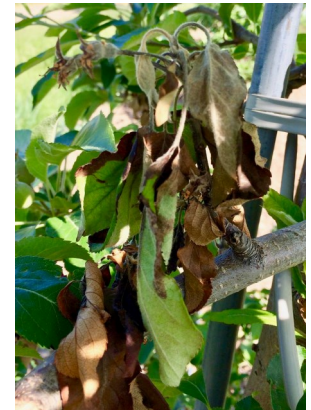


Photo: Flickr

## Fireblight Watch

Normally we stop announcing fire blight spray dates around June 15, but this year is on the fringe of weird.

If your apple tree(s) has dropped its petals, you can disregard the spray information and just keep an eye out for any fire blight strikes. The sooner you can prune them out the less damage they will do. If the infection has spread into a branch you will need to cut twelve inches into healthy wood. If it is still in just the fruiting spur, you can remove just the spur, then watch to see if it spreads farther down the branch. Be sure to disinfect your pruner between every cut.

For those of you who are in late bloom areas I will continue to post spray information until the end of June.

**Exceptional**—Outbreak may occur if blossoms are wetted, no matter the blight history of your orchard. Apply antibiotic within 24 hours before or after the wetting event. Biological products should already be present on flowers and may not work as well if only applied at this risk period.

**Extreme**— Outbreak may occur if blossoms are wetted, no matter the blight history of your orchard. Apply antibiotic within 24 hours before or after the wetting event. Biological products should already be present on flowers and may not work as well if only applied at this risk period.

**High**—If unprotected flowers are wetted, infection is possible. If flowers are numerous, you may choose to protect every 2 - 3 days with biological product during the high-risk period. Or, apply antibiotic within 24 hours before or **after the infection (wetting) event.**

**Caution**—Wetting at this point is not likely to lead to infection, except within a few yards of an actively oozing canker. Continue to closely monitor the fire blight forecast, and consider applying biological sprays to reduce the potential build-up of blight bacteria if High risk is forecast in three or four days.

Burley	June 9 – 15 June 16 – 17 June 18 – 23	<b>Exceptional</b> <b>Extreme</b> <b>Exceptional</b>
Pocatello Airport	June 9 – 15 June 16 June 17 June 18 – 23	<b>Exceptional</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
Pocatello Eastside	June 9 - 23	<b>Exceptional – but trees are probably all out of bloom</b>
Fort Hall	June 9 June 10 – 15 June 16 June 17 June 18 – 23	<b>Extreme</b> <b>Exceptional</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
Blackfoot	June 9 – 15 June 16 June 17 June 18 – 23	<b>Exceptional</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
Idaho Falls/Ammon/ Shelley	June 9 June 10 – 15 June 16 June 17 June 18 – 23	<b>Extreme</b> <b>Exceptional</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>

Idaho Falls Airport	June 9 June 10 – 15 June 16 June 17 June 18 – 23	<b>Extreme</b> <b>Exceptional</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
Ucon	June 9 June 10 – 14 June 15 June 16 June 17 June 18 – 23	<b>High</b> <b>Exceptional</b> <b>Extreme</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
Rigby	June 9 June 10 – 14 June 15 June 16 June 17 June 18 – 23	<b>High</b> <b>Exceptional</b> <b>Extreme</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
Rexburg	June 9 June 10 – 14 June 15 June 16 – 17 June 18 – 21	<b>Extreme</b> <b>Exceptional</b> <b>Extreme</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
Sugar City	June 9 June 10 – 14 June 15 – 17 June 18 – 22 June 23	<b>High</b> <b>Exceptional</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
St Anthony	June 9 June 10 – 14 June 15 – 17 June 18 – 22 June 23	<b>Caution</b> <b>Exceptional</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>
Driggs	June 9 June 10 June 11 – 13 June 14 June 15 – 17 June 18 – 21 June 22 – 23	<b>Caution</b> <b>Extreme</b> <b>Exceptional</b> <b>Extreme</b> <b>High</b> <b>Extreme</b> <b>Exceptional</b>

<b>Chemical Controls For Fire Blight</b>	Brand Name	Chemical Name	Application Timing
	<a href="#">Bonide</a>	Fixed-copper	Pre-bloom
	<a href="#">Drexel</a>	Copper Sulfate	When wet weather coincides with flowering
	<a href="#">Kocide</a>	Copper Hydroxide	Note: copper can damage foliage and fruit
	<a href="#">Miller</a>	Lime Sulfur oil	Early bloom, Dormant
	<a href="#">FireLine</a>	Oxytetracycline	Early bloom to petal fall
		Kasugamycin	Early bloom to petal fall
	<a href="#">Actigard</a>	Acibenzolar-S-methyl	Early bloom to petal fall

Table and information from Cornell University Extension

### Read and follow pesticide labels with any product

To manage fire blight, it is important to remove diseased wood during the dormant time (before buds form in spring). A general antimicrobial can be put on green tips to lessen chance of disease. Defense inducers can be applied before bloom. Protectants can also be applied during blooming. Protectants should be applied with the onset of wetting events (heavy rain or moisture). Sometimes post-bloom applications to blossoms give continued protection to shoots.

### Biological products for Fire Blight: Cornell University Extension

For more information: <https://blogs.cornell.edu/biocontrolbytes/2019/04/26/battling-fire-blight-with-biologicals/>

Product	Active Ingredient	Mode of Action
Firewall	Streptomycin	antibiotic – kills pathogen
Blossom Protect	<i>Aureobasidium pullulans</i> strains DSM14940 & 14941	competitive with pathogen
Bloomtime Biological	<i>Pantoea agglomerans</i> strain E325	competitive with pathogen
BlightBan	<i>Pseudomonas fluorescens</i> strain A506	competitive with pathogen
Serenade Optimum	<i>Bacillus amyloliquefaciens</i> strain QST713	antibiotic metabolites
Double Nickel	<i>Bacillus amyloliquefaciens</i> strain D747	antibiotic metabolites
Serifel	<i>Bacillus amyloliquefaciens</i> strain MBI600	antibiotic metabolites
Regalia	extract of <i>Reynoutria</i> (giant knotweed)	resistance inducer
LifeGard	<i>Bacillus mycoides</i> isolate J	resistance inducer

## EASTERN IDAHO

## PEST ALERT

## UPCOMING EVENTS

**JUNE 14 NO GARDEN TIPS CLASS!!!****JUNE 28 IDAHO HOME GARDEN TIPS  
IRRIGATION**

RON PATTERSON, EXTENSION EDUCATOR

June 28 | 7:00pm MT

Join us for a class all about irrigation/watering techniques for the summer! This is becoming increasingly important as our water supplies continue to wane.

**PLANT TALK Q&A**

June 28 | 7:30pm MT

Be ready to ask plant experts Ron and Reed any of your gardening questions!!

**JULY 12 IDAHO HOME GARDEN TIPS  
INTEGRATED PEST MANAGEMENT****JULY 26 IDAHO HOME GARDEN TIPS  
HARVESTING VEGETABLES  
PLANT TALK****AUGUST 9 NO GARDEN TIPS CLASS!!****AUGUST 8-12 BONNEVILLE COUNTY FAIR****AUGUST 23 IDAHO HOME GARDEN TIPS  
CONSERVING WATER IN THE LANDSCAPE**

PHOTO OF THE WEEK: Photo credit: Virvoreanu Laurentiu

**PHOTO OF THE WEEK:**

Super awesome macro photo of a fly!! Don't forget to check out the tiny things around you when you're out in the garden, and snap a photo to share with the rest of us!!

Submit photos to: [lallen@uidaho.edu](mailto:lallen@uidaho.edu)

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