



EASTERN IDAHO

PEST ALERT

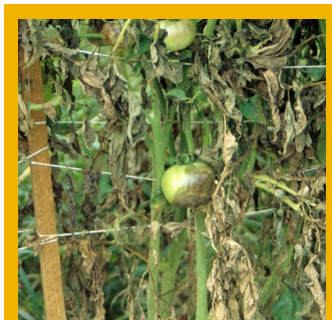
BANNOCK, BINGHAM, BONNEVILLE, CASSIA, FREMONT, JEFFERSON, AND MADISON COUNTIES

INSIDE THE ISSUE



GOOD

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BAD

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PHOTO OF THE WEEK

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CODLING MOTH

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FIREBLIGHT

PG 5

Early and Late Blight of Potatoes & Tomatoes

By Ron Patterson, Extension Educator

The “Irish potato” is a New World plant that was imported to the Old World in the 16th century. The same is true of the tomato.

The Irish potato famine of the mid-1800s was caused by a fungus-like disease that destroyed the potato crop in Ireland resulted in the death of roughly one million people and another one million who fled the country to survive the starvation. This disease is referred to as late blight (LB) and it affects solanaceous crops. Another fungal disease that may cause problems in tomatoes, potatoes, peppers, and eggplant is called early blight (EB). Solanaceous weeds (nightshade family) may also serve as hosts for these diseases. This is one reason why weed control is so important in potato and tomato production.

University of Idaho researchers have set up stations to watch for spores and weather conditions that favor LB and EB. The previous two years had very low spore count and growing conditions were not favorable for the disease development. This year is different.

Cooler, fall weather with higher humidity produces conditions that favor the development of LB and EB. LB and EB can infect leaves, stems, fruits, and tubers.

Late Blight



LB can overwinter on crop residue, cull potato piles, volunteer plants, or solanaceous weeds. It can also be brought in by infected seed potatoes or blown in on the wind, and then spread by rainfall or overhead irrigation. Environmental conditions that favor disease development are high humidity (>80%) with cool temperatures over a period of 10 hours or more, several days in a row. While there have been significant spore counts, there have been very few consecutive days with favorable environmental conditions in Eastern Idaho so far in 2022. That can quickly change.

The symptoms of LB begin on the younger leaves. Large, sunken, dark green or brown lesions develop on leaves, and can eventually kill entire leaves. The margins of the lesions may be green-yellow or have a water-soaked appearance. The lesions on the stems will be brown to black.

Photo: Late blight on leaves and fruit. Edward Sikora, Auburn University, Bugwood.org

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Late blight on stems. Howard F. Schwartz, Colorado State University, Bugwood.org



Late blight on leaves. Sandra Jensen, Cornell University, Bugwood.org

Early Blight

EB is caused by a fungus that overwinters as spores and mycelium in infected crop residue or on solanaceous weeds, such as hairy nightshade and cutleaf nightshade. It can also be carried on potatoes used for seed. Reduced fertility, along with wet leaves (or high humidity, $\geq 90\%$) at temperatures of 75°F to 84°F favor the development of this disease. EB shows up on older leaves that are touching the ground first, then spread to the rest of the plant.

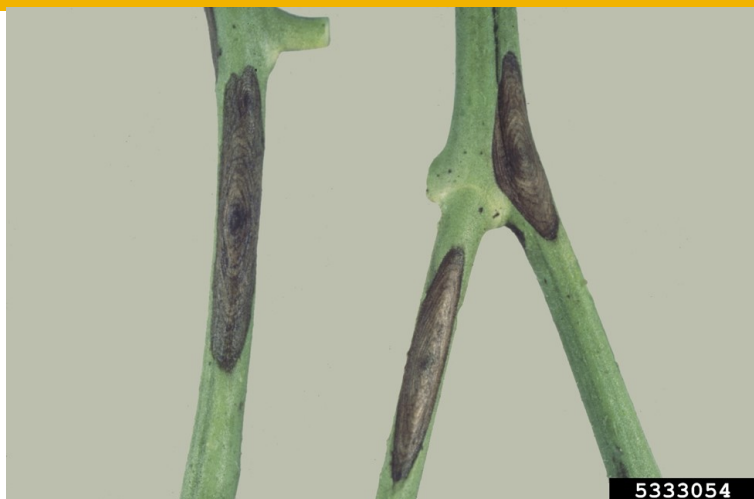
The symptoms of EB start out as small, dark spots. As the spots get larger, they have definite concentric rings, looking like a target. The tissue around the spots is usually yellow. The spots will grow and eventually fuse together, forming irregular dead patches on the leaves. The stems develop brown, dry, sunken lesions.



Early blight on leaves. Paul Bachi, University of Kentucky Research and Education Center, Bugwood.org



Early blight on leaves. Howard F. Schwartz, Colorado State University, Bugwood.org



Early blight on stems. Robert Wick, University of Massachusetts, Bugwood.org



Early blight on stems. Paul Bachi, University of Kentucky Research and Education Center, Bugwood.org

Integrated Pest Management (IPM) Control Options for Both

Preventative:

Plant resistant cultivars.

Sanitation—clean up crop residues, especially if they have diseases. Compost crop residues to temperatures above 140°F for at least a week, then turn the pile and compost again.

Use clean seed, or don't save seed from infected plants.

Inspect transplants for symptoms of disease before planting.

Cultural:

Rotate ground out of solanaceous crops for at least two years.

Remove volunteer potato or tomato plants and solanaceous weeds.

Use drip irrigation or run sprinklers in early morning so leaves can dry quickly.

Chemical:

Apply fungicide listed for LB or EB as soon as the disease shows up to protect uninfected plants. Be sure to follow any harvest restrictions.

Late blight and early blight may appear at the same time and there are other blights that will infect potato and tomato plants. If you are unsure, bring a fresh sample to the University of Idaho Extension office in Idaho Falls and we will get it to the lab if necessary.

Fall Yard Clean-up

Fall is an exciting time as you are reaping your harvest and looking forward to winter. There are a few things every homeowner and gardener should do to prepare your yard and gardens for winter and a successful season next year. See last week's article for fall lawn care practices. Also be sure you are giving your vegetable garden, perennial beds, and especially trees the attention they need.

For more information: https://extension.usu.edu/news_sections/gardening/fall-tasks

Codling moth

All apple and pear fruits in all areas should be protected until September 15. Codling moths become inactive after September 15 due to day length. Be sure to follow the timing for the pre-harvest interval.

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

At this point, prune out any new fire blight strikes as they happen. Don't wait until fall or wintertime. Remember to disinfect your tools between each cut.

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UPCOMING EVENTS

SEPTEMBER 13 IDAHO HOME GARDEN TIPS

TENDER SUMMER BULBS

SEPTEMBER 27 IDAHO HOME GARDEN TIPS

FALL LAWN CARE

RON PATTERSON, EXTENSION EDUCATOR

7:30 PM PLANT TALK**OCTOBER 11** IDAHO HOME GARDEN TIPS

DIVIDING PERENNIALS

OCTOBER 25 IDAHO HOME GARDEN TIPSWINTER PROTECTIONS OF ROSES,
GRAPES, CANE BERRIES ETC.BRACKEN HENDERSON, EXTENSION
EDUCATOR**7:30 PM** PLANT TALK

PHOTO OF THE WEEK: Photo credit: J Plenio

PHOTO OF THE WEEK:

Are you getting excited for fall? Can you feel the chill in the mornings and almost smell that fall rain coming? Are you sick of these super hot temperatures?? I sure am!!

Thanks J for this awesome fall photo. It certainly makes it seem like pumpkin spice is just around the corner! But enjoy these last few weeks of gardening in the meantime!

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