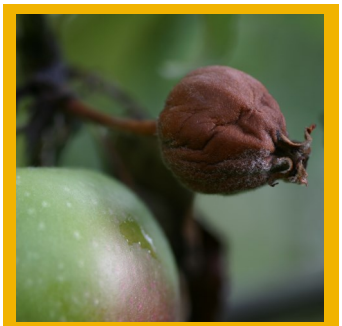
JUNE 30, 2023 | VOL. 4 ISS. 9

EASTERN IDAHO

PEST ALERT

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

INSIDE THE ISSUE



University of Idaho Extension

Tiger Beetles

By Ron Patterson, Extension Educator
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Six-spotted tiger beetle eating a caterpillar. Courtesy of David Cappaert, Bugwood.org

I found a BYU document (1984) that listed 16 tiger beetles native to Idaho. These various species tend to be adapted to specific environments. They prey on ants, beetles, caterpillars, flies, spiders and grasshoppers.

Tiger beetle adults are fast, ground-level hunters. They have long, thin legs, sickle-shaped jaws and the head is wider than the thorax. They range in color from gray-brown to iridescent greens and blues. The larvae have a large head and powerful jaws.

They overwinter as adults in protected burrows. In early to mid-spring the females lay eggs singly in the soil. The larvae form a burrow and catch passing prey. Larvae may take up to three years to mature, depending on species and food availability. Then they pull back into the burrow, seal it off and pupate. Adults emerge in early summer and begin reproducing. In some species the adults can live as long as four years.

To encourage tiger beetles, along with other ground beetles, provide an area that is not tilled. Open, flat areas near water are great hunting grounds for adults. Allow some prey insects to be available for their food and avoid broad-spectrum insecticides.

If you come across a tiger beetle, count yourself lucky and leave it alone. They have been known to deliver a powerful, painful bite—does not require treatment.

Tiger beetle larva with large head and powerful jaws. Courtesy of Whitney Cranshaw, Colorado State University, Bugwood.org

Here is some more information about tiger beetles:

https://extension.sdstate.edu/tiger-beetles-beneficial-predators-and-ecosystem-health-indicators

http://www.wci.colostate.edu/Assets/pdf/CIIFactSheets/SidewalkTigerBeetle.pdf

Mustard Weeds

By Ron Patterson, Extension Educator

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Many of the early spring weeds are in the mustard family. A few already have mature seeds, and some are flowering and maturing right now. I will cover some of the more common mustards and then give some control options.

Tansymustard and Flixweed

Note the feathery leaves of the flixweed and tansymustard. Photo by Joseph M. DiTomaso, University of California - Davis, Bugwood.org

Tansymustard (Descurainia pinnata) and flixweed (Descurainia sophia) are winter annual mustards that are very similar in appearance. Flixweed is slightly taller (3.5 feet) than tansymustard (2.5 feet). The seed pod of the flixweed is longer (1 – 1.5”) than the tansymustard (0.5”). Tansymustard is native and flixweed is from Eurasia. Both plants are poisonous to cattle when eaten in large quantities. Otherwise, the seedlings and rosettes are difficult to distinguish.

The seeds germinate late-summer through early-spring. Rosette leaves are bi- or tri-pinnately lobed, and the plants bolt and flower May through August. The yellow, four-petaled flowers give rise to a silique seed pod that is held mostly upright. A silique is a long pod that is divided in two by an internal membrane.

Both reproduce only by seed. Seeds may remain viable for up to ten years in field conditions. Control efforts must focus on eliminating seed production and spread.

Tumble Mustard

Tumble mustard in full flower.

Tumble mustard (Sisymbrium altissimum) is an annual invasive plant from Europe that grows 2-5 feet tall. It is typically a winter annual but will also behave like a summer annual or even a biennial. The mature plant dries and breaks off at the ground, spreading seeds as it blows in the wind. It will tolerate broad growing conditions and easily establishes in disturbed sites, gardens and flower beds.

Tumble mustard rosettes have deeply toothed margins and in some cases leaflets.

After germination, tumble mustard forms a low-growing rosette until it gets the signal to produce flowers. The rosette leaves are up to six inches long with deep lobes or pinnate leaflets. The upper leaves have narrow, linear lobes. The yellow, four-petaled flowers give rise to a silique seed pod that is held mostly upright, 2-4 inches long.

Tumble mustard reproduces only by seed. Seeds may remain viable for up to ten years in field conditions. Control efforts must focus on eliminating seed production and spread.

Shepherd's Purse

Characteristic heart shaped seed pod of shepherd's purse. Closeup photo by Mary Ellen (Mel) Harte, Bugwood.Org/ inset by The Ohio State University, Bugwood.org

Shepherd's purse (Capsella bursa-pastoris) is a non-native annual mustard that mostly germinates in the fall, but some germination occurs spring and summer. Fall-germinated seedlings form a rosette that survives the winter. Spring- and summer-germinated seedlings produce seed that same season. White flower clusters appear at the end of a flowering stalk, usually 12 to 18 inches tall. The seed pod is heart shaped. Shepherd's purse invades disturbed areas, yards and gardens, pastures, alfalfa fields, cultivated and no-till fields, ditch banks, and rights-of-way.

It only reproduces by seed so all control efforts should be focused on keeping it from going to seed.

Yellow and Desert Alyssum

Yellow alyssum showy spring blossoms don't last long.

Yellow Alyssum (Alyssum alyssoides) and desert alyssum (Alyssum desertorum) are winter annual mustards that are very similar in appearance. Both are from Eurasia, and they grow from 3 – 10 inches tall. They do well in gravel driveways and roadsides, and quickly establish in disturbance areas. They can displace desirable vegetation if not managed.

The seeds germinate fall through early spring. The small, yellow to white flowers give a brief spring show then quickly go to seed. The disc-shaped fruit on yellow alyssum is hairy, while on the desert alyssum it is hairless—about the only way you can distinguish them visually. There is a seed compartment on each side of the disc, and the membrane between them is persistent after the seeds have dropped. They flower and fruit from April to July.

Desert alyssum seed pods form in early spring.

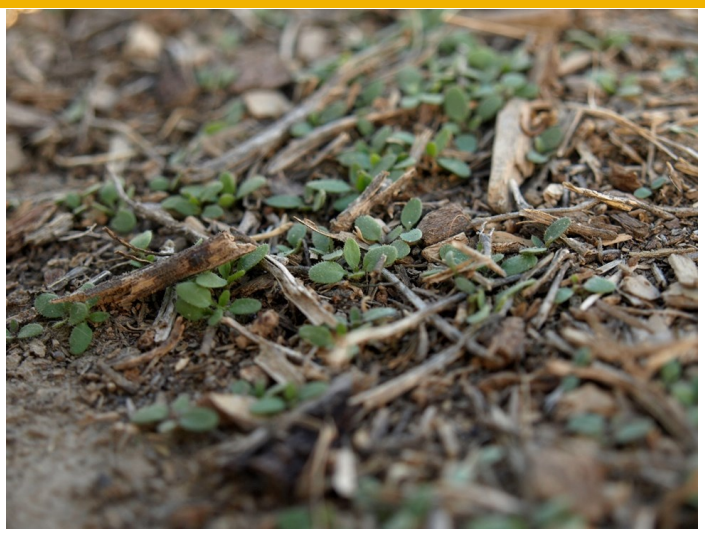
They reproduce only by seed. Seeds may remain viable for several years in field conditions. Control efforts must focus on eliminating seed production and spread.

Blue Mustard

Herbicides applied at the blooming stage of any mustard plants are ineffective.

Blue mustard (Chorispora tenella) is a winter annual from Europe that produces blue to purple flowers in early spring. It is one of the earliest herbaceous plants to bloom in the spring. The leaves are alternately arranged with lightly toothed, wavy margins. The stems mostly branch out at the base and may grow up to 18 inches tall. They can quickly take over disturbed sites. Blue mustard can also invade established fields and flower beds.

The seeds germinate through the fall and form a small rosette. The purplish flowers have four petals that form a cross shape. The silique seed pods are up to two inches long and mostly upright. Viable seeds can be produced within ten days of flowering, which occurs in March through June.



It is easiest to control seedlings in the fall before rosettes form.

Blue mustard reproduces only be seed. Focus on eliminating seed production.

Integrated Pest Management (IPM) Options:

These control options are all more effective when combined with the other efforts described. Mustards are best controlled in the fall and very early spring.

Prevention—feed weed-free hay; keep ditch banks free of seed-producing weeds; clean vehicles and equipment.

Mechanical—hand dig or cultivate rosettes or bolting plants before seed production; flame weed young seedlings in the fall or early spring. It is late enough in the season now that most of these weeds should be pulled up and thrown away to prevent a new crop of seeds.

Cultural—provide growing conditions for healthy competition from desirable plants; soil solarization; organic mulch at least 3 inches deep.

Biological—none.

Chemical—Pre-emergent herbicides applied in the fall; post-emergent broadleaf herbicides with 2,4-D or dicamba on young plants—don't apply when temperatures will reach above 85 F for the following three days; glyphosate for bare ground areas. Post-emergence herbicides are most effective when applied while these plants are still in the rosette stage in the fall or early spring. Be sure the target weed and crop, or landscape situations are listed on the product label. **Always read and follow herbicide label directions.**

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:**
  - 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. Be sure to observe the pre-harvest interval.
  - 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. Be sure to observe the pre-harvest interval.
  - 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. Be sure to observe the pre-harvest interval.
  - Pick a different product to use for each generation.

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.

Spray Timing Table					
Location	Option A Apply First Spray	Option B		Greatest Period of Egg Hatch 1st Generation	End of 1st Generation
		Apply Oil	Apply First Insecticide		
Burley	--	--	--	June 16 – July 6	July 20
Pocatello Airport/ Chubbuck	--	--	--	June 20 – July 9	July 23
Pocatello East Side	--	--	--	June 10 – July 1	July 13
Fort Hall	--	--	June 30	June 29 – July 16	July 31
Blackfoot	--	--	July 1	June 30 – July 15	July 27
Idaho Falls Airport	--	--	--	June 27 – July 14	July 28
South Idaho Falls	--	--	--	June 17 – July 8	July 23
Ucon	--	--	July 4	July 3 – 19	unknown
Rigby	--	--	July 6	July 5 – July 28	unknown
Ririe	--	--	July 5	July 4 – July 25	unknown
Rexburg	--	--	July 3	July 2 – July 19	unknown
Sugar City	--	--	July 6	July 5 – July 23	unknown
St Anthony	--	--	July 8	July 7 – July 24	unknown
Driggs	unknown	unknown	unknown	unknown	unknown

Spray Timing Table—Second Generation			
Location	Beginning of second generation	Greatest Period of Egg Hatch 2nd Generation	End of 2nd Generation
Burley	July 30	unknown	unknown
Pocatello Airport/Chubbuck	unknown	unknown	unknown
Pocatello East Side	July 22	unknown	unknown
Fort Hall	unknown	unknown	unknown
Blackfoot	unknown	unknown	unknown
Idaho Falls Airport	unknown	unknown	unknown
South Idaho Falls	unknown	unknown	unknown
Ucon	unknown	unknown	unknown
Rigby	unknown	unknown	unknown
Ririe	unknown	unknown	unknown
Rexburg	unknown	unknown	unknown
Sugar City	unknown	unknown	unknown
St Anthony	unknown	unknown	unknown
Driggs	unknown	unknown	unknown

Codling moth Control Options

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.

EASTERN IDAHO

PEST ALERT

UPCOMING EVENTS

JULY 11 IDAHO HOME GARDEN TIPS

SUCCESSION PLANTING

RON PATTERSON, EXTENSION EDUCATOR

July 11| 7:00pm MT

If you've ever wanted to start a second crop of cool season vegetables, such as radishes, peas, lettuce and other cool season plants for a fall harvest, this class is for you! Ron will discuss which plants you can do this with, and when to start.

PLANT TALK

RON PATTERSON & JARED GIBBONS

July 11 | 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!

JULY 25 IDAHO HOME GARDEN TIPS

PRESERVE THE HARVEST

KATHRYN KICKOK, EXTENSION EDUCATOR & EAT SMART IDAHO ADMINISTRATOR

July 25 | 7:00pm MT

Learn what to do with your excess garden produce and best practices for preserving your home grown food for winter and later use.

PLANT TALK

RON PATTERSON & REED FINDLAY

June 27 | 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:

This beautiful sweet gum tree has a terrible case of Iron Chlorosis, a problem that is VERY common in our harsh Idaho soils. If you have trees or shrubs turning a bright green yellow color, you likely have iron chlorosis problems as well.

See Ron's article in the newspaper for more information on diagnosis and management:

https://www.eastidahonews.com/2023/06/iron-chlorosis-heres-what-you-need-to-know/

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