North Dakota State University

NDSU EXTENSION SERVICE

YARD & GARDEN REPORT

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Hunting fruit flies

A fruit fly from Asia is on the loose in North Dakota and threatening our crops. The spotted wing drosophila (SWD) may cause significant damage on soft-bodied fruits such as raspberry, cherry, chokecherry, and everbearing strawberry (*Fig. 1*).

Fruit flies have always been pests on *overripe fruits* in the garden. The significance of SWD is it will attack fruits *before they ripen*. In the past, growers did not need to spray ripening fruit with insecticide, but it may become necessary now.

This Asian fly was first detected in the continental USA in California in 2008. Since then it has spread from coast to coast and throughout much of the country. Last year it was discovered in 12 counties of North Dakota: Burke, Burleigh, Cass, Cavalier, Foster, Grand Forks, Logan, McLean, Mercer, Morton, Pembina and Stark.

Similar to other fruit flies, a SWD is tiny (1/10 inch) and has red eyes. It is distinguished by the spots found on the wing tips of males (*Fig. 2*).

The first step in protecting your crops from SWD is to monitor for it. Homemade traps are easy to construct. Deli food containers or 16- to 32-ounce plastic party cups with lids work well (*Fig. 3*). Use a hole punch or glue gun to create 7 or more holes (1/8- to 3/16-inch diameter) in each trap. Bait the trap with undiluted apple cider vinegar or prepare a mix of 1TBSP active dry yeast, 4 TBSP sugar and 12 ounces of water. Add a drop of unscented liquid soap to capture flies. Use 4 ounces of bait per trap. A yellow sticky card can be placed inside the trap to make observation easier.

Figs. 1, 2. Spotted wing drosophila feeding on a raspberry. The male flies have a distinctive spot on each wing.

Place the trap in a shaded area near or within the fruit crop. Suspend the trap from a branch or stake using wire. Change the bait weekly. Only one trap is needed per acre.

You can reduce damage from SWD and other pests by harvesting fruit regularly. Keep plantings free of weeds and plant debris. Don't discard SWD bait or overripe berries in the orchard since they attract flies.

If SWD is detected, sprays of malathion, carbaryl or spinosad are popular options for control. In case you are reluctant to spray, maggot larvae are white, tiny and edible. Eat or process fruit promptly.

For more information, download NDSU publication E1715 *Integrated Pest Management of Spotted Wing Drosophila in North Dakota*.

Fig. 3. Baited trap.

INSIDE THIS ISSUE

"Over the hill" spruces

Beauty fades over time. Go online and look at People Magazine's Ten Most Beautiful People for 2014. They are all young—the oldest is 41. Let's face it: once you hit your 40s, you lose your looks and start to break down—it's depressing but true.

Beauty fades for people—and beauty fades for spruce trees. It is unrealistic to expect otherwise.

It is very common for old spruce trees in home landscapes to lose their lower branches. This is usually due to Cytospora canker (*Fig. 4*).

Cytospora is a fungus that enters branches through wounds (*Fig. 5*). The fungus chokes off the flow of water (*Fig. 6*). The entire branch dies, including the tip. The wound exudes a blue-gray sap (*Figs. 7, 8*).

The canker will move up the tree through wounds caused by rain, hail, wildlife, and pruning shears. Over time, the tree might lose so many branches that you can't stand looking at it. Then it's time to remove it.

For now, prune dead branches. Don't be shy. You can do this anytime; you can do it now. Make the cuts at the trunk and remove the entire dead branch. Sterilize your pruning shears between cuts using a 10% bleach solution, rubbing alcohol, or Lysol disinfectant spray.

Poor air circulation is a leading cause of this fungus. We plant spruce trees too closely. In home landscapes a distance of approximately 16 feet is recommended. Windbreaks are often planted at 8 feet apart; these trees will surely suffer from diseases in the long term. Well-spaced, properly cared for trees can keep their beauty much longer—like old-timers Helen Mirren and George Clooney.

For more info, read publication *Spruce Diseases in North Dakota*.

Fig. 4. Cytospora canker on Colorado blue spruce.

Fig. 5 Hail wounds can be entry poiints for the fungus.

Fig. 6. The canker destroys the veins in the branch, causing dieback.

Fig. 7. Pitch mass on branch.

Fig. 8. Pitch mass on trunk.

Pesky ground squirrels

Ground squirrels are running around landscapes now. These busy rodents are frustrating gardeners by digging up flowers, eating veggies, and making ankle-twisting holes in the lawn.

The thirteen-lined ground squirrel is found statewide. It is about 10 inches long with a tail of 3 inches. Thirteen stripes run along its body, five of them breaking up into a series of spots (*Fig. 10*). Its burrow holes are 2 inches across, surrounded by vegetation, and rarely have a soil mound.

The Richardson's ground squirrel is found in northern and eastern parts of our state. Also called the flickertail, it has light brown fur with a tail tinged in black (*Fig. 11*). It creates a mound of soil near its 4-inch-wide entrance and is often seen standing there.

This year's litters of ground squirrels are out and about (*Fig. 9*). A few squirrels in the yard can be tolerated, but unsympathetic gardeners have options to fight back:

Try to stop the rodents before they get established. Cultivate deeply to destroy new burrows (most burrows are 1–2 feet deep). Seal the entrance hole with gravel or expanding foam spray.

Fig. 9. New litter of Richardson's ground squirrels.

Burrows may be flooded. This strategy has been used by Native Americans for centuries and will bring the rodents to the surface. This exposes the rodents to gardeners, hawks and other predators.

Rat traps can protect vegetable gardens. Bait the traps with peanut butter and set them where damage is occurring and near active burrows. Sprinkle ½ teaspoon of oats around the traps to make them appealing. Other options in vegetable gardens are live traps or gas cartridges.

Fumigation is often used in parks, athletic fields, and cemeteries where the use of traps or poison could pose a hazard to people, pets, and nontarget wildlife.

Zinc phosphide-treated bait is an economical option in orchards, vineyards and noncrop areas.

Shooting may be an option, depending on local ordinances.

Do not confuse ground squirrels with pocket gophers. Gopher holes are plugged and surrounded by a crescent-shaped soil mound (*Fig. 12*). Gophers are rarely seen, but if seen their incisors are exposed.

For more information on controlling ground squirrels and other wildlife, go to the Internet Center for Wildlife Damage Management (www.icdwm.org). The site is full of research-based, practical information from the nation's universities.

Figs. 10–12. Thirteen-lined and Richardson's ground squirrels are easy to distinguish; both are active now. Do not confuse them with pocket gophers (right), which create crescent-shaped soil mounds and are rarely seen out of their plugged holes.

Stay one jump ahead of hoppers

Grasshoppers are hopping in lawns and soon will be invading gardens. Now is the time to take action.

The best time to control grasshoppers is when the insects are young, from ½ to ¾ inch long. Focus initial sprays along the perimeter of the garden and in moist, brushy areas where they breed.

Recommended insecticides include carbaryl and synthetic pyrethroids such as permethrin and cyfluthrin. Use maximum rates.

Direct applications onto the vegetables may be needed as the season progresses. Lettuce, carrot, bean, corn, and onion are preferred foods. Hoppers are less attracted to squash and pea. The addition of canola oil to sprays can improve control by making the treated foliage more attractive to hoppers.

In raised beds, aluminum window screens can be used to shield plants from hoppers. Fabric row covers may be used, but the voracious grasshoppers may chew through it.

Once hoppers appear they will be looking for lush vegetation and moisture. You may slow the migration of hoppers into your garden by allowing the areas around the edge of the garden to go unmowed. You might even consider irrigating these areas so the grasshoppers stay there. Insecticides can be sprayed in this "trap" area, and not directly on your garden plants.

Fig. 13. Grasshoppers are mobile and difficult to control.

In the future, only use insecticides when needed. Most insects in your yard are beneficial and they control grasshoppers naturally.

Beetles in the potato patch

Colorado potato beetle is the most destructive insect pest on potatoes grown in North Dakota.

The first batch of eggs has been laid and the gelatinous larvae can be detected. The large, striped beetles will soon be appearing (*Figs. 14–16*). Potato and eggplant are preferred hosts, but tomato and pepper are susceptible to damage.

Control measures are most effective *before the pest becomes a mature beetle*. Take action now. Look for egg masses on leaf undersides and squish them. Larvae and beetles can be handpicked and thrown into a pail of soapy water.

For large gardens, organic pesticides including spinosad (Entrust, Monterey) and azadiractin a.k.a. neem (Azaguard) are relatively safe and effective, especially before beetles mature.

Carbaryl (Sevin), imidacloprid, synthetic pyrethroids (permethrin, cyfluthrin, deltamethrin) and esfenvalerate are effective, but the beetle is developing resistance to these chemicals. Rotate such insecticides. Follow label instructions.

Figs. 14–16. Colorado potato beetle eggs, larva and adult.

Survey of problems found in North Dakota yards and gardens this week:

TREES AND SHRUBS

F17, 18. Dutch elm disease

Major branch shows yellowing and wilting. Look for brown streaking in sapwood and beneath bark. Removal of tree is most effective strategy.

F19. Spittlebugs

Pale green nymphs cover themselves with a frothy mass to protect against sun and predators. Spittlebugs usually cause little harm. Spray with water.

F20. Galls on leafy trees

Leaves develop bumps. Ash, linden, hackberry and silver maple among trees affected. Damage is mostly aesthetic. Pesticides not needed.

F21. Herbicide injury

Leaves become elongated, curled or cupped. Most woody plants survive. In the future, use herbicides only when needed. Spray when wind is minimal; use heavy droplets; avoid hot days.

F22. Cankers in willows

Fungi disrupt the flow of water in branches and cause them to die back. No sprays are useful since fungi is inside the tree. Rake fallen leaves and twigs. Prune infected branches.

F23. Tree suckers

Prune in summer when 6–12 inches tall. Do not spray with herbicide or you may stress the tree. Sprays with NAA (Tre-Hold, Sucker Stopper) may be applied when suckers 6–12 inches tall.

FLOWERS

F24. Downy mildew on sunflower

Plants are stunted with yellowing along leaf veins. Fungus is inside plant and no sprays are useful. Pull out plants. Remove wild sunflowers in vicinity. Use resistant varieties.

F25. Black spot on rose

Round dark spots with fringed margins; surrounding tissues turn yellow. Remove infected foliage. Avoid overhead watering. Apply fungicides. Grow disease-resistant varieties.

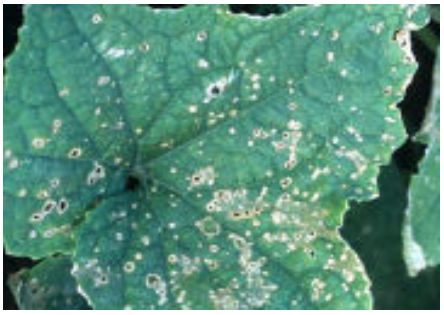
F26. Rust on rose

Powdery orange spots on lower leaf surfaces; brown spots on upper. Remove infected foliage. Avoid overhead watering. Apply fungicides. Grow disease-resistant varieties.

VEGETABLES AND FRUITS

F27. Herbicide injury

Pesticide drift or contaminated manure may cause extreme curling of foliage. Vegetables are contaminated. Avoid spraying herbicides in summer.



F28. Anthracnose on cucumber

Tan lesions appear; leaves get ragged. Keep foliage dry when watering. Protect with fungicides chlorothalonil, mancozeb or copper.

F29. Bolted spinach, radish

Cool-season crops will go to seed in response to heat. In future, mulch to keep soil cool. Use bolt-resistant varieties. Sow new crop for fall harvest.

F30. Flea beetles on greens

Tiny (1/8-inch) pests create shotholes. Young seedlings are very sensitive. Consider spraying (carbaryl, spinosad or malathion) if 10–30% defoliation.

F31. Early blight on tomato

Brown lesions with concentric rings. Pick off infected foliage, protect with fungicides chlorothalonil, mancozeb, or copper. Avoid overhead irrigation. Clean up garden. Use resistant varieties.

F32. Shotholes in chokecherry

Bacterial or fungal lesions drop out of leaves, creating holes. Rake leaf litter. Avoid irrigating foliage. Inspect branches for cankers; remove if found.

WEEDS

F33. Artemisia

Also called wormwood, this perennial has distinctive silver foliage. Spot spray with dicamba or glyphosate. Fall applications are most effective.

F34. Yellow sweetclover

Cut down or spray before seeds disperse. Use 2,4-D amine, dicamba or glyphosate. Biennial (blooms and sets seeds its second year, then dies). Seeds stay viable for 30 years.

F35. Field bindweed

Aggressive, persistent perennial with spade-shaped leaves and white or pink blooms. Its deep roots make pulling difficult. Spray with glyphosate or dicamba. Fall applications best.

Weather Almanac for July 6–12, 2014

	TEMPERATURE (Week)				RAINFALL (Week)		RAINFALL (2014)		GROWING DEGREE DAYS[1,2] (Week)		GROWING DEGREE DAYS[1,2] (2014)	
Site	Avg	Norm	Max	Min	Total	Norm	Total	Norm	Total	Norm	Total	Norm
Bottineau	66	68	80	49	0.22	0.71	11.37	10.32	90	107	821	886
Bowman	68	69	91	48	0.54	0.51	7.17	9.56	104	116	788	847
Carrington	67	69	82	48	0.13	0.87	7.66	10.99	94	117	871	960
Crosby	67	66	86	52	0.10	0.76	9.04	8.66	99	97	799	799
Dickinson	69	68	85	52	0.24	0.66	6.88	9.88	109	110	817	861
Fargo	71	71	87	57	0.51	0.69	11.29	11.94	123	126	1069	1042
Grafton	68	71	85	50	0.19	0.74	13.13	10.86	105	126	923	1051
Grand Forks	70	68	87	54	0.36	0.78	11.17	10.58	113	112	996	932
Hazen	68	70	82	50	0.50	0.65	10.45	10.00	101	119	855	986
Hillsboro	69	70	86	54	0.02	0.82	11.48	11.35	111	120	985	975
Jamestown	68	70	83	53	0.14	0.82	10.16	10.53	101	120	910	947
Langdon	65	65	79	47	0.18	0.77	6.45	10.48	89	94	775	755
Mandan	69	70	82	53	0.32	0.79	6.74	9.87	107	120	908	924
Minot	67	68	80	54	0.14	0.67	11.17	10.62	100	108	855	853
Mott	67	70	83	49	0.21	0.61	8.73	10.23	98	118	824	905
Rugby	68	67	82	52	0.31	0.80	8.99	10.99	99	108	865	898
Wahpeton	71	72	89	54	0.33	0.83	12.15	11.62	121	130	1049	1096
Watford City	69	69	89	53	0.04	0.70	6.42	8.81	113	111	871	879
Williston	70	71	92	53	0.10	0.67	5.69	8.29	115	125	909	1011
Wishek	67	68	83	61	0.30	0.71	8.30	11.90	98	111	830	844

DAYLENGTH (July 12, McClusky)[3]

Sunrise: 5:57 AM | *Daylength:* 15h 41m

Sunset: 9:38 PM | *Change since July 5:* –10m

LONG-TERM OUTLOOKS[4]

6–10 Day: Temp: Normal; *Preciptation:* Normal

8–14 Day: Temp: Normal; *Precipitation:* Above Normal

[1] GDDs for garden vegetables are not available. GDD data in this table are for corn, which responds to temperature as most vegetables grown in gardens. Data begin May 1 with base minimum and maximum temperatures of 50 and 86°F., respectively.

[2,3,4] Sources: North Dakota Agricultural Weather Network, www.sunrisesunset.com, and National Weather Service, respectively.

Credits

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