

YARD & GARDEN REPORT

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Mysterious Crop Circles

Several years ago I was called by the police to investigate a pasture where crop circles appeared. It was like a circus at the scene. A UFO organization was videotaping. Scientists were taking samples. The farmer recalled his cat was dancing during the night the circles appeared.

The circles of dead grass in the valley were real. Lab tests showed no traces of herbicide. Were these spots caused by aliens? Maybe. The mystery was never solved.

Personally, I think the dead grass was caused by temporary flooding in the valley, but that wasn't the answer the UFO crew was looking for.

Today, there are new cases of crop circles in North Dakota. These circles are on bushes (*Fig. 1*). Is this another invasion of aliens?

No, these circles are caused by leafcutter bees. The bees carve semicircles out of leaves to line their nesting cavities and protect their eggs from predators (*Fig. 2*).

A leafcutter bee is an impressive pollinator and our friend in the garden. The bee carries its golden pollen loosely on the underside of its abdomen (*Fig. 2*). Since she keeps the pollen dry, it falls off easily when she flies from flower to flower. She is a much more efficient pollinator than a honey bee, who tucks pollen in "baskets" in its hind legs. A honeybee does a great job of *gathering* pollen, but not in *spreading* it.

Leafcutter bees are solitary and busy. They nest in small cavities found in rotted wood or hollow



Figs. 1–3. A female leafcutter bee makes a circular cut in 10 seconds and uses the tissue to line its nesting cavity. Damage to the plant is minimal. Leafcutter bees are outstanding pollinators and may be attracted into nesting tubes.

stems. They are non-aggressive. These bees only sting when handled or trapped, and its effect is no more painful than a mosquito bite.

You can build a nesting site for leafcutter bees. A group of hollow tubes is placed where it gets the morning sun (*Fig. 3*). Another option is to drill holes (3/16 to 1/4 inch in diameter and 6 inches deep, at a slight angle) in a block of wood. The bees will nest in pithy plants such as sumac and raspberry.

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Trees in Shock

Did you plant any trees recently? If yes, we need to give these trees special attention. They are suffering from shock.

When a tree is dug for transplanting, it can lose 95 percent of its root system. Wow! That's shocking!

How long does it take for a tree to recover? Big trees suffer a long time; small trees suffer a short time.

Tree size is measured by its *caliper*. For young trees (less than 4 inches in trunk diameter), a tree's caliper is its trunk diameter at 6 inches above the ground.

There is a rule of thumb that for every inch of caliper, it undergoes shock for 1 to 1.5 years. For example, a tree with a 2-inch caliper will take 2 to 3 years to recover from shock.

How often should I water? For the first two weeks, a new tree can be watered every day if the soil is dry. For the first growing season, it can be watered every 2–3 days when needed. In future years, the tree should be monitored weekly until it's overcome its shock.

How much water? This varies, depending on the type of soil, weather patterns, and even the tree itself (some trees like it moister than others). Here are some guidelines:

One rule of thumb is a tree requires *10 gallons of water per week for every inch of caliper*. If you water about 3 times a week, then a tree would get 3.3 gallons per inch of its caliper during each irrigation.

This amount agrees with the recommendation of Colorado State University (2–4 gallons per inch caliper each irrigation) but exceeds the recommendation of the University of Minnesota (1.0–1.5 gallons per inch caliper each irrigation).



Figs. 4, 5. These balled-and-burlapped trees can lose 95 percent of their feeding roots in the transplanting process. They will be in shock for several years. A common malady is scorching of leaves.



Figs. 6, 7. Irrigating with perforated 5-gallon pails and Gatorbag. Quarter-inch-diameter holes were drilled in the pails to slowly emit water.

Another rule is to irrigate 5 gallons per week for every square yard of mulch beneath the tree.

These are only guidelines. Before you irrigate a tree, check to see if the soil is moist. Get a shovel or a metal rod and go 8 inches deep. Water only if the soil is dry. We want to keep the soil moist but not soggy.

Overwatering is just as harmful as underwatering. Tree roots need air. Overwatering fills air pockets

with water, effectively drowning the roots. The roots will rot and the tree will turn yellow and wilt.

A slow watering is best to make sure the water goes to the tree roots and does not run off. You can water with a soaker hose, garden hose, perforated pails, Gatorbag or drip irrigation (*Figs. 6, 7*).

Established trees generally do not require watering unless there is a drought.

Hort Shorts



PROTECTING FRUIT FROM BIRDS

Our feathered friends are stealing our fruits. Place nets over plants when fruits begin to show color. Anchor the nets with fabric staples. Netting is expensive but can be used over several years. It's very effective.

Scare devices (streamers, pinwheels, plastic owls, rubber snakes, scary-eye balloons and aluminum pie tins) will have a temporary benefit. They work best when moved regularly.

Gardeners have limited access to bird repellents. Grape-flavored Kool-Aid contains methyl anthranilate, a widely used bird repellent. Mix at double the rate and spray on ripening fruits. Results are unreliable.



HOW TO WATER YOUR LAWN

Lawns are turning yellow and going dormant. That's perfectly all right. But if you want your lawn to stay green and growing, it needs water. It needs about one inch per week from you or Mother Nature.

Set a group of flat-bottomed cups at 5- to 10-foot intervals from the base of your sprinkler to the edge of its reach. Measure the time it takes for an inch of water to fall in the cups. Use this as your base time.

Irrigate in the morning. Do not irrigate during the afternoon since much of the water will be loss due evaporation. Do not irrigate at night since this encourages rust (shown) and other diseases.



TRAPPING SWD

Spotted wing drosophila (SWD) is established in ND and often found in raspberry patches. Set traps to monitor for it. Use a 16-ounce plastic party cup with lid. Punch entry holes

(1/8- to 3/16-inch diam.) in the cup. Bait with 4 ounces of apple cider vinegar. Add a drop of soap to kill flies. A sticky yellow card can help you see the tiny flies.

Place traps in shade suspended on a stake. Change bait weekly.

Male SWD have spots on their back wings. If detected, pesticides are available. Eat, cook or refrigerate fruit promptly. Download *Integrated Pest Management of Spotted Wing Drosophila in ND* for more info.

Survey of problems found in North Dakota yards and gardens:

TREES AND SHRUBS



Herbicide injury

Leaves become elongated, curled or cupped. Extreme strapping (shown) was caused by glyphosate injury. Most woody plants survive from drift. Severe exposure may cause death.



Ash flower gall

"Tumors" develop after mites bite into male flowers in spring. These galls may turn brown and persist through winter. These galls are harmless; no treatments are needed.



Petiole galls on poplar

Bumps appear on petioles; leaves may drop. Aphids develop inside galls and later feed on mustards. Defoliation is minor. Rake leaves. No pesticides.



Spittlebugs

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



Oystershell scale

Affects ash, dogwood, poplar, lilac, willow and other leafy trees/shrubs. Insects suck sap out of branches, causing dieback. Crawlers are hatching (right). Spray with acephate, carbaryl, pyrethroids or summer oils. Spray dormant oil before bud break.



Dutch elm disease

Major branch shows yellowing and wilting. Take a one-inch-diameter sample and look for brown streaking in sapwood and beneath bark. Prompt removal of tree is the most effective strategy to prevent its spread.

FLOWERS



Rust on rose

Orange pustules appear on stems and lower leaf surfaces. Leaves turn yellow and drop. Remove infected tissues. Avoid overhead watering. Apply fungicides. Grow disease-resistant cultivars.



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 cultivars.

LAWNS



Summer patch

Soil fungi create dead areas, often with green centers. Associated with compacted soil, excessive thatch and heat stress. Aerate or dethatch in September. Promote deep roots by raising mower height. Fertilize in fall.

Survey of problems found in North Dakota yards and gardens:

VEGETABLES



Herbicide injury

Pesticide drift or herbicide-tainted manure may cause curling (shown is asparagus exposed to glyphosate). Plants are stunted and vegetables may be contaminated. Avoid spraying herbicides in summer.



Cucumber beetle

Striped and spotted beetles feed on leaves of cucumber and muskmelon, spreading a bacterium that causes wilting. Pests may be controlled with neem, permethrin, bifenthrin or carbaryl. Spray in early evening to avoid killing honeybees.



Colorado potato beetle

Orange egg masses can be found on leaf undersides, and larvae are eating foliage (shown). Squish eggs; remove larvae. Sprays of esfenvalerate, neem, spinosad and a strain of Bt (Colorado Potato Beetle Beater) are effective, especially before adults develop.

FRUITS



Pear slugs (sawflies)

Slimy larvae skeletonize leaves of rose, chokeberry, pear and cherry. Jet spray of water usually adequate; or control with Sevin or insecticidal soap.



Apple maggot

Maggot flies emerge now and will lay eggs in fruits. Sticky traps can be hung to monitor for pests. If found, consider protecting fruit with carbaryl, malathion or other insecticide.



Pesticide burn

Bronze lesions appear on foliage, particularly on south and west sides. Pesticides, especially sulfur and copper, can burn when applied under high temps. Minor defoliation occurs.

WEEDS



Perennial sowthistle

Perennial may grow 4 or more feet tall. Cut to prevent seed dispersal. Its deep roots make pulling difficult. Spot spray with dicamba or glyphosate. Fall applications are most effective.



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.



Chicory

Sky blue flowers found along roadsides and disturbed sites. Perennial grows up to 5 feet with deep taproot. Not aggressive. Mow. Spray with herbicide in fall, if necessary.

Weather Almanac for June 29–July 12, 2016

Site	TEMPERATURE				RAINFALL				GROWING DEGREE DAYS ^{1,2}			
	June 29–July 12				Jn 29–Jl 12		2016		Jn 29–Jl 12		2016	
	Avg	Norm	Max	Min	Total	Norm	Total	Norm	Total	Norm	Total	Norm
Bottineau	64	67	83	43	3.03	1.52	11.20	10.34	192	226	939	886
Bowman	71	68	97	46	1.19	1.08	6.85	9.58	250	238	1059	847
Carrington	67	69	107	44	2.96	1.75	8.60	11.01	214	248	979	960
Crosby	66	65	82	51	1.43	1.50	10.52	8.69	202	206	924	799
Dickinson	70	67	95	49	2.06	1.37	7.42	10.00	248	227	1063	861
Fargo	69	70	89	44	4.88	1.51	10.50	11.97	252	268	1168	1042
Grafton	67	67	88	42	2.73	1.52	16.61	10.88	224	230	1022	911
Grand Forks	67	68	89	39	2.11	1.62	10.34	10.61	221	237	1056	932
Hazen	68	69	93	43	3.74	1.33	9.59	10.02	236	249	1051	986
Hillsboro	67	69	88	39	3.02	1.65	8.97	11.38	231	253	1084	975
Jamestown	67	69	91	41	3.54	1.69	12.00	10.55	221	252	1029	947
Langdon	64	65	86	39	3.91	1.64	12.70	10.50	188	199	874	755
Mandan	68	69	91	42	4.40	1.56	12.37	9.89	233	251	1048	924
Minot	66	68	85	43	1.02	1.38	8.37	10.64	212	229	968	853
Mott	68	69	92	44	2.52	1.29	8.43	10.26	234	247	1016	905
Rugby	66	67	90	47	2.26	1.64	9.48	11.02	212	226	999	898
Wahpeton	68	71	91	38	4.05	1.69	10.04	11.64	244	275	1141	1096
Watford City	70	68	91	51	0.94	1.43	6.30	8.83	249	232	1045	879
Williston	69	70	86	51	1.58	1.33	7.38	8.31	241	262	1041	1011
Wishek	66	68	91	43	5.74	1.52	13.50	11.93	213	233	953	844

DAYLENGTH (July 12, McClusky, center of ND)³

Sunrise: 5:57 AM | Daylength: 15h 40m
 Sunset: 9:38 PM | Change since June 29: -15m

LONG-TERM OUTLOOKS⁴

July 19–23: Temp.: Above Normal; Precip.: Below Normal
 July 21–27: Temp.: Above Normal; Precip.: Below 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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