North Dakota State University

NDSU EXTENSION SERVICE

YARD & GARDEN REPORT

September 1, 2014 Vol. 2, No. 14

The garden glutton

Parents of teenagers often say "My kids are eating me out of house and home. I can't believe how much they eat."

Just be glad you are not feeding a hornworm. They eat FOUR TIMES their weight EVERY DAY!

Imagine if your 150-pound teenage boy had the appetite of a hornworm and you took him to McDonalds. He would step up to the counter and order **600** Big Macs. Not 6 Big Macs; **600**! That's what I call a Big Mac Attack!

He is just getting started. Next comes **600** large orders of French fries! Add to this **100** side salads! After all, he must have a balanced diet.

For dessert, how about **100** ice cream cones? Fortunately, they offer reduced-fat ice cream.

We have to get tomatoes into this hornworm diet, so let's add **1,000** packets of ketchup to slurp on!

It's hard to eat four times your weight in one day. And tomorrow he will eat even more!

Tomato and tobacco hornworms (*Manduca* spp.) are amazing insects. Their genus *Manduca* literally means *glutton*. The four-inch caterpillars eat so much their guts literally burst out of their skins, requiring them to molt and shed their skins several times. They increase in size by 1,000 times in only three weeks. That's comparable to a cat growing to the size of an elephant!

The striped patterns of the hornworm allow them to camouflage themselves within the vines. Most gardeners don't realize a hornworm is in their garden until a tomato branch disappears overnight. Hornworms will also eat other members of the tomato family, including potato, pepper and nicotiana.

Once you notice one, a hornworm is easy to control. Grab it and throw it in a bucket of soapy water—or throw it on the ground and stomp on its guts. Gross, but effective.

Fig. 1. A camouflaged hornworm can eat a tomato branch overnight.

Fig. 2. Parasitic wasps will lay eggs into hornworms. The larvae hatch and eat the guts inside the caterpillar. Shown are the white cocoons they spin after burrowing out of the hornworm.

INSIDE THIS ISSUE

Starting a backyard prairie

North Dakota is a prairie state. Our climate and soils are perfect for prairies. So why not grow a patch of prairie in your backyard?

Backyard prairies add a natural touch to landscapes. The plants put on a dynamic display of colors and textures as they emerge, bloom and fade. As a bonus, your prairie will attract all kinds of butterflies and birds to the backyard (*Fig. 4*).

Successful prairie establishment is not cheap and it's not easy. It requires careful site preparation, improving the soil, and selecting proper plants.

Now is the best time to start a wildflower prairie. I know this for a fact since the best gardener in North Dakota sows her wildflower seeds this time of year. Who's that? Her name is Mother Nature, of course.

The wildflowers grown by Mother Nature are now ripening. Soon the seeds in those flowers will drop to the ground. These seeds will germinate next spring.

Prepare a good seed bed for your prairie. In most situations we need to kill the existing vegetation. Glyphosate (Roundup) works well because it will kill the vegetation down to its roots. The plants will die within two weeks. Cultivate the land when the vegetation dies and prepare a smooth soil bed. Consider working in an inch of compost to enrich the land.

Many wildflowers do well in North Dakota. Popular choices include purple and yellow coneflower (*Fig. 3*), goldenrod (*Fig. 4*), New England aster, white false indigo, ox-eye sunflower, prairie blazing star, compass plant and black-eyed susan. Wildflowers can be established from seeds or transplants.

Figs. 3, 4. The beauty of a wildflower prairie is subtle, full of texture, and ever-changing. These gardens attract butterflies such as this monarch on a goldenrod. Monarch populations are peaking now in North Dakota.

Most backyard prairies use low-growing grasses as the foundation to the planting. These grasses choke out weeds that emerge between the wildflowers, provide physical support for the wildflower stems, and accentuate the beauty of the wildflowers. The grasses will turn gold in fall and can be attractive through the winter months. Popular low-growing grasses include little bluestem, sideoats grama, and prairie dropseed. These grasses are best for urban landscapes.

Tall grasses may be considered in rural landscapes. These grasses provide seeds and protective cover for wildlife. Popular choices include switchgrass, big bluestem and Indian grass.

Make sure you get your seeds or plants from a northern source. Such plants will adapt better here.

Besides classic seed mixes, specialty mixes are available for sandy or clay soils, wet or dry sites, woodland edges and septic fields. There are mixes that attract butterflies and mixes that repel deer. More information on establishing backyard prairies is available from seed suppliers including Prairie Nursery and Prairie Moon Nursery.

Plums for the prairie

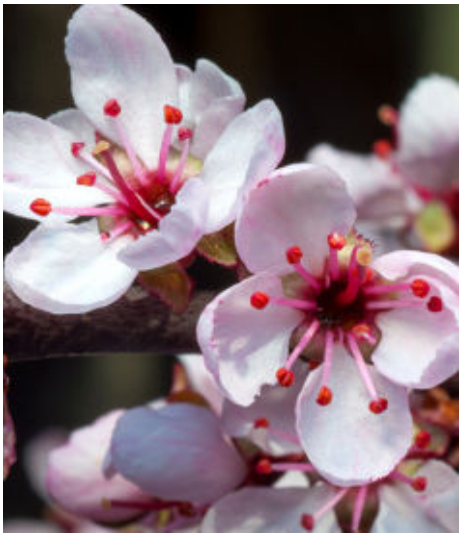
Cherry plums might be the easiest to grow tree fruit in North Dakota.

Hybrids between sandcherries and plums, they were developed to survive the extreme weather of the Northern Great Plains. Cherry plums are extremely hardy (Zone 3), resist drought and will bear fruit after only two years. Perfect for us!

The trees grow only 6 to 8 feet tall and can be spaced 4 to 8 feet apart. Give them a sunny spot with well-drained soil.

The fruits are just over one inch in diameter (larger than a cherry and smaller than a plum). They are used in making jams and jellies.

Cherry plums are self-unfruitful and more than one cultivar is needed. Many cultivars have been released over the past 100 years, but cherry plums are difficult to propagate. Only a few cultivars are readily available.



Figs. 5, 6. Cherry plum trees were developed for the Northern Great Plains. They have lovely flowers that bear reliable crops of small plums.

CULTIVAR	FEATURES
Compass	Reddish fruit with juicy, yellow flesh. Good for jams and sauces. Good pollinator. From Minnesota.
Red Diamond	Red-purple skin with deep red flesh. Sweet, thick flesh. Developed in Minnesota.
Sapalta	Dull purple skin and flesh. Nearly freestone. Very productive. Canadian introduction.

Sneak preview of fall

You can feel the changing of the seasons. The days are getting shorter and kids are going back at school. The peak of the fall colors will be here in a few weeks.

We can get a sneak preview of fall now. The seed pods of tatarian maple are already blazing.

Maples are famous for their fall foliage and tatarian maple (*A. tataricum*) is one of the most adaptable maples in our state. It is hardy everywhere and shows moderate tolerance to drought and soil alkalinity. The multi-stemmed shrub/tree grows 15–20 feet tall and wide. 'Hot Wings' is popular for its dark green foliage and red samaras (*Fig. 7*). The foliage turns yellow to red in fall.

Figs. 7, 8. 'Hot Wings' tatarian and 'Embers' ginnala maple.

The subspecies *ginnala* and its cultivars are more widely available than *A. tataricum*. Its leaves are glossier and show brilliant fall color. It is less tolerant of alkaline soils (a flaw of many maples), which may cause the leaves to turn yellow in summer. 'Flame' and 'Embers' (*Fig. 8*) have fiery red fall color and are popular selections.

Photos courtesy of Bailey Nurseries, Inc.

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

TREES AND SHRUBS

F9. Fall webworm

Caterpillars eat leaves but cause little damage to trees (leaves are expendable on mature trees now). Sprays are useful only on young trees; remove nests or soak with Sevin or pyrethrin.

F10, 11. Aphids

Leaves curl. Pry open the leaf to reveal pests. The excrement is sticky and glistens. Damage is minor. Jet spray with water. A spray of acephate may be justified for young trees.

F12. Powdery mildew

Gray blotches appear on leaves. Lilac, rose and honeysuckle are affected, especially in shady spots with poor air circulation. Rake fallen leaves. Prune to increase sunlight and air movement.

LAWNS

F13. Mushrooms

Recent rains created this outbreak. Mushrooms are decomposing organic matter in soil; it's natural and can't be stopped. Leave alone or rake. Do not eat. No spray is useful.

F14. Perennial weeds

Spray dandelion and other perennials in mid to late September. Weeds will channel the herbicide down into their roots as they prepare for winter. Products with dicamba recommended.

F15. Thin lawns

Now through mid September is the best time to overseed. Ground is warm. Disturb soil and scatter seed. Rake to cover seed. Keep moist for 3 weeks.

FRUITS

F16. Russeting on apple

Some varieties ('Haralson', 'Chestnut', 'Regent)' are very susceptible. Caused by late frost and humid spring, excess nitrogen, or pesticides applied under hot temps. Does not affect flavor.

F17, 18. Mystery fruits

Never eat any fruit unless you are sure what it is. Honeysuckle and black nightshade (shown) are toxic. Provide branch with fruits (or digital photos) to local Extension office for identification.

FLOWERS

F19. Slugs

Apply iron phosphate baits. Sprinkle diatomaceous earth around perimeter of garden. Trap using pie tins filled with beer or collect from underneath boards set out as traps.

VEGETABLES

F20, 21. Blossom end rot

Initial fruit clusters are susceptible to this calcium deficiency. Keep soil evenly moist; mulching helps. Do not damage roots when cultivating. Occurs less frequently later as developing roots find calcium in soil.

F22. Cracking

Caused by rapid growth of fruits, often due to rains after period of drought. Cracks may become infected. Mulch plants to maintain uniform moisture conditions. Use resistant varieties.

F23. Leaf blights

Evening dews provide moisture that promotes fungi. Avoid overhead irrigation. Remove badly infected leaves. Prevent spread with chlorothalonil, mancozeb or copper. Use disease-resistant varieties.

F24. Flea beetle

Tiny (1/8-inch) pests create shotholes in radish and leafy greens. Young seedlings are very sensitive. Consider spraying carbaryl, neem or pyrethrin if 10–30% defoliation.

F25, 26. Colorado potato beetle

Beetles attack potato family, including eggplant, pepper and tomato. Pick larvae (inset) or adults and throw in pail of soapy water. Carbaryl, pyrethrin, neem or spinosad sprays are most effective when pests are young.

F27. Misshaped cucumbers

"Nubs" and "crooks" (left and right) are caused by insufficient pollination due to extreme temps or lack of bee activity. Avoid using insecticides, especially carbaryl, when vines are blooming. Limit sprays to evenings.

MISCELLANEOUS

F28. Crickets

Seal windows, doors and foundation. Reduce outdoor lighting. Remove debris near foundation. Insecticides may be sprayed near entries. Crickets die from frost; starve when indoors.

F29. Yellowjackets, ground nest

If nest is in hazardous place, kill pests before populations soar in fall. Sprinkle, or better yet use a turkey baster to shoot Sevin dust into the hole of nest. Apply during a cool night.

F30. Cocklebur

Annual broadleaf may reach 6 feet. Prickly seedheads. Found in gardens and along roads. Will die from frost. Cultivate or mow regularly to prevent seed set.

Weather Almanac for August 24–30, 2014

Site	TEMPERATURE Week Avg	Norm	Max	Min	RAINFALL Week Total	Norm	2014 Total	Norm	GROWING DEGREE DAYS[1,2] Week Total	Norm	2014 Total	Norm
Bottineau	60	65	86	40	0.44	0.42	15.44	13.67	72	87	1626	1761
Bowman	59	66	86	42	1.09	0.20	15.52	11.86	71	96	1582	1816
Carrington	58	65	77	40	0.00	0.53	10.97	15.12	62	93	1645	1901
Crosby	61	63	90	42	1.10	0.34	12.50	11.73	77	83	1608	1628
Dickinson	60	65	88	42	0.24	0.33	15.07	12.92	71	93	1652	1792
Fargo	65	67	81	49	0.58	0.66	13.16	15.94	85	101	2017	2042
Grafton	61	67	80	43	0.84	0.55	16.49	15.15	70	103	1775	2056
Grand Forks	63	65	80	45	2.46	0.65	16.16	15.14	74	89	1873	1820
Hazen	60	67	86	41	0.18	0.35	16.28	13.01	73	101	1682	1973
Hillsboro	63	66	81	45	0.51	0.59	14.72	15.65	78	95	1852	1930
Jamestown	61	65	75	45	0.27	0.55	13.16	14.42	68	92	1748	1893
Langdon	59	62	80	39	0.50	0.55	10.46	14.80	62	75	1523	1515
Mandan	59	66	76	42	0.45	0.41	12.67	13.89	61	96	1745	1894
Minot	61	65	83	46	0.20	0.45	16.25	13.95	71	89	1673	1735
Mott	59	66	82	41	0.86	0.33	15.81	12.82	68	97	1646	1871
Rugby	60	64	80	43	0.12	0.43	12.71	15.06	65	86	1696	1755
Wahpeton	65	68	80	46	0.66	0.64	15.61	15.73	84	107	1928	2126
Watford City	62	65	91	41	0.14	0.28	9.24	11.55	81	90	1779	1813
Williston	62	68	90	43	0.26	0.35	9.18	11.16	82	107	1830	2044
Wishek	60	65	75	42	0.13	0.47	12.72	15.91	65	88	1650	1720

DAYLENGTH (August 30, McClusky)[3]

Sunrise: 6:57 AM | *Daylength:* 13h 31m

Sunset: 8:28 PM | *Change since Aug. 23:* –22m

LONG-TERM OUTLOOKS[4]

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

8–14 Day: Temp: Below 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

Sources:

McDonald's. 2014. McDonald's USA nutrition facts for popular menu items. www.nutrition.mcdonalds.com/getnutrition/nutritionfacts.pdf. Accessed 8/30/2014.

Moeller, K. 2014. ASU Ask A Biologist. https://askabiologist.asu.edu/manduca/introduction/. Accessed 8/30/2014. Arizona St. Univ.: Tempe.

Written by Tom Kalb, who expresses gratitude to the NDSU educators who contributed to this report: Venkat Chapara, Kelsie Egeland, Sheldon Gerhardt, Marietta Good, Harlene Hatterman-Valenti, Scott Knoke, Jared LeBoldus, Esther McGinnis, Karla Ryan, Steve Sagaser, Kelsey Sheldon, Todd Weinmann and Joe Zeleznik.