

YARD & GARDEN REPORT

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A love story

It's hard to love a baldfaced hornet. Hornets are scary and their stings cause great pain. But the more you get to know a hornet, the more you can't help but to admire them.

The life of a worker hornet is selfless. It is full of hard work. The life of a worker hornet is full of love and loyalty to her mother.

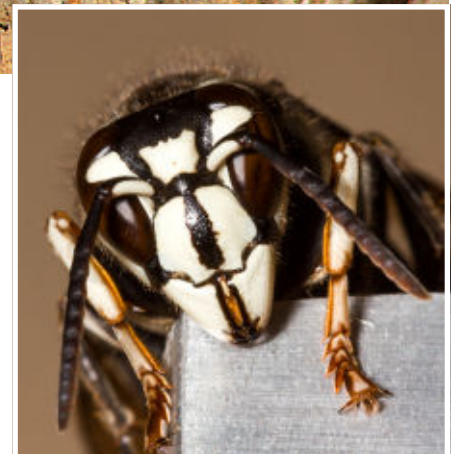
The hornet nest you see today began in May when a queen awoke from her winter slumber. Perhaps she survived inside a tree cavity.

Already impregnated last fall, she immediately got to work this spring in making chambers for the eggs. She used plant fibers and spit as her building materials.

The queen laid her first eggs in these chambers. The hornets that hatched from these eggs were sterile females who will spend their entire lives serving their mother.

The female workers work tirelessly all summer to build the nest. The nest itself is an engineering marvel. A sturdy framework of hexagonal combs supports the structure (similar to a beehive). The workers carve tiny vents to keep the nest cool in summer and yet shed rain away. The silver and brown rings on the outside of the nest are as ornate as the domes of St. Basil's Cathedral in Russia (Fig. 1).

The workers gather nectar and hunt down other insects to feed the baby hornets. In doing so, hornets pollinate our crops and kill insects that harm our gardens. In fact, baldfaced hornets may be considered as beneficial insects.



The hornets will leave you alone unless you threaten their home. Stay at least 10 feet away or you risk facing a ferocious foe. This ferocity causes us to hate hornets, but how can you hate a daughter for protecting her mother and sisters?

And imagine the courage it takes! A hornet attacking a person is akin to you attacking a foe the size of a 50-story skyscraper! Your odds of success are not very good, but sometimes love has no limits.

By this time of year, a hornet nest may have 300 workers inside. The queen has already made plans for next year. She created males and new queens. These hornets have left the nest and the new queens are seeking a shelter to survive winter.

Now the nights are getting colder. The sterile female hornets and their elderly mother stay in the nest together as a family. The workers will not leave their mother. They have lived their entire lives together.

They shiver at night together. They suffer together. They will stay

Figs. 1, 2. Close-ups of a baldfaced hornet and its nest.

together while the killing frost strikes. The hornets will perish as a family whose love never ends.

Fear the hornet—but admire it too.

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Escaped the first frost?

Whew, that was a close one....Most gardeners escaped the first wave of frost that swept across the state.

The North Dakota Agricultural Weather Network (NDAWN) reported a scattering of light frost in the west over the past five nights. Damage in most gardens was limited to unprotected, tender crops.

Hard, killing frosts were reported in only 7 of 60 stations: Beach, Bowman, Crosby, Hettinger, Hofflund, Langdon and Ross. See the Weather Almanac on page 6 for more information.

If 2014 is a “normal” year, most gardeners have at least 10 days until they face a hard frost (*Fig. 3*).

The first frost is usually a light one (29–32°F). In this case, you can protect your sensitive plants with a blanket or tarp. This will provide a few degrees of protection.

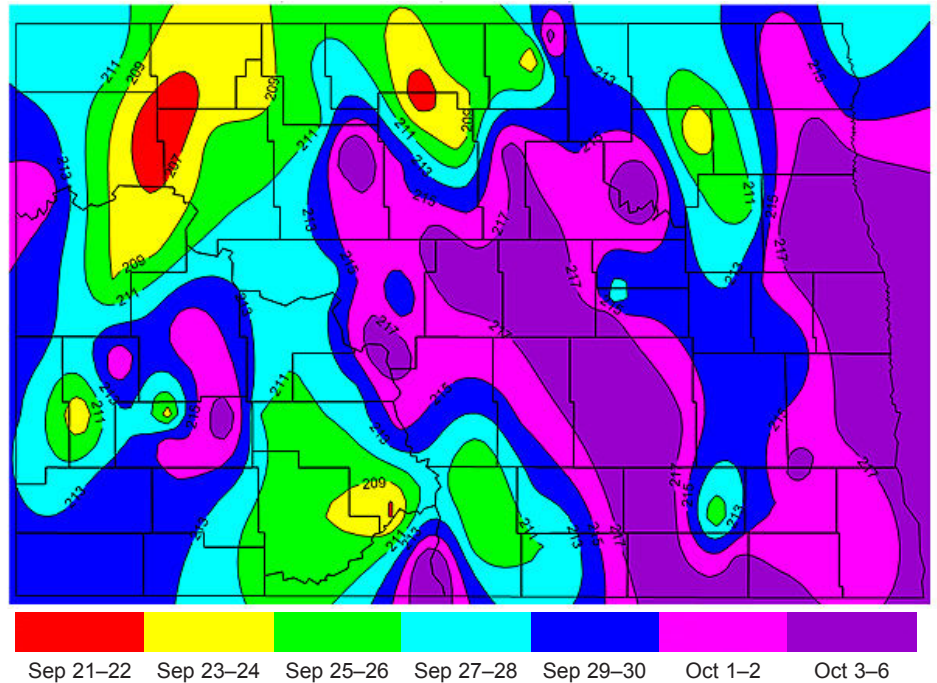


Fig. 3. Median date of the first hard (28°F) frost. In 50% of years, the first hard frost occurs earlier than the dates shown above; in 50% of years, the first hard frost occurs later than the dates shown above.

Ripening tomatoes off the vine

It has been a cool summer and there are going to be lots of green tomatoes on the vine when the first hard frost strikes.

Any tomatoes showing a pink blush will ripen off the vine. Clean these blushing fruits. Discard any with disease spots or cracks since these will rot before ripening.

The blushing tomatoes should be placed out of direct sunlight. If placed in a sunny area, the outer skin of each tomato will redden before its inner flesh ripens and develops flavor.

Tomatoes ripen best under room temperature. Higher or lower temperatures will lead to less taste and a higher incidence of rotting.

Set the tomatoes on a sheet of newspaper, and then place another



Fig. 4. Blushing tomatoes can be ripened off the vine.

sheet over the fruits. This will trap ethylene gas, which tomatoes naturally emit when ripening. Some gardeners individually wrap each tomato—that’s great. You can also place apples nearby since they emit lots of ethylene.

Check the tomatoes every day or so. Dispose of any that begin to rot. When a tomato ripens, enjoy one of the last tastes of summer.

Fearless winter weather prediction

What kind of winter will we face this year?

Don't ask the National Weather Service. They have a hard time getting their predictions correct for next week, let alone next season.

Ask your local woollybear caterpillar (*Pyrrharctia isabella*), the larvae of Isabella tiger moth. You can find them as they crawl around looking for a place to spend the winter.

According to legend, the wider the copper band on the caterpillar, the milder the winter we can expect.

The black bands on either end can be informative. If the head end is very dark, the beginning of winter will be very cold. Likewise if the back end of the caterpillar is very dark, the end of the winter will be very cold.

A woollybear caterpillar has 13 segments and there are officially 13 weeks of winter. Is this a coincidence? Perhaps not.

This legend has been around since colonial times. Colonists would see the caterpillars crawling out of pastures and across dirt roads this time of year. The severity of winter was a life-or-death matter to colonists and they were desperate to find any way of predicting the weather.

The legend grew in popularity after Dr. Howard Curran, Curator of Entomology from the American Museum of Natural History, did a study in the 1940s and 50s. He went out to Bear Mountain in New York every fall and measured the copper bands on the caterpillars. He then made a prediction for the winter. His predictions were published in newspapers across the nation.

The stories surrounding the woollybear have grown over the years. If the coat of hair is very thick,



Fig. 5. Woollybear caterpillars have been used to predict the severity of winters for centuries. The legend is amusing but not accurate.

we will have a cold winter. If the caterpillar is crawling south, it will be a cold winter because the woollybear is heading for warmth.

Festivals, parades and caterpillar races are held in many towns every autumn to celebrate the woollybear, much like we celebrate Punxsutawney Phil and Groundhog Day. Woollybear Day is the biggest one-day festival in Ohio.

Unfortunately, a woollybear cannot predict the severity of winter. Its coloring is primarily based on its age. A woollybear caterpillar molts and sheds its skin six times.

Its copper band becomes wider each time it molts. Complicating matters is there are hundreds of related tiger moth caterpillars, each with slightly different color patterns.

Nevertheless, this is a fun legend and woollybear caterpillars are amazing survivors. Once they find a place to overwinter, they produce an anti-freeze in their body, glycerol, which allows them to survive frigid temperatures. They have been reported to survive temperatures as low as -90°F and can survive an entire winter inside an ice cube! That's cool, excuse the pun.

Best time to aerate the lawn

Now is the best time of year to aerate the lawn. This aeration will promote a stronger root system and reduce thatch problems.

Core aerators are available from rental stores. Use self-propelled units with vertically operating, hollow tines. Two to four passes are recommended.

Avoid drum rollers (they pull shallower cores) and avoid solid tines (they may actually compact

the soil). Do not aerate when the soil is wet since this may compact the ground.

All lawns benefit from aeration, but most lawns will never need it. Let me repeat: most lawns will never need it.

Spring is another good time to aerate the lawn, but disturbing the soil in spring can lead to weed problems.

Survey of timely topics for gardeners in North Dakota:

FLOWERS



F6. Rose hips

Stop deadheading roses. The maturation of seed pods (rose hips) will help plants harden for winter. The pods add color to winter landscapes.



F7. Peony leaf spot

The foliage of peony and most other perennials is old and susceptible to disease. Clip off foliage at ground level and remove. Application of a fungicide when peony plants are 6 inches tall can prevent diseases.



F8. Propagating impatiens

Clip off 6-inch shoot tips and trim away lower leaves. Set shoot ends in water and the shoots will send out roots. Pot up and enjoy impatiens this winter in front of a bright window.

LAWNS



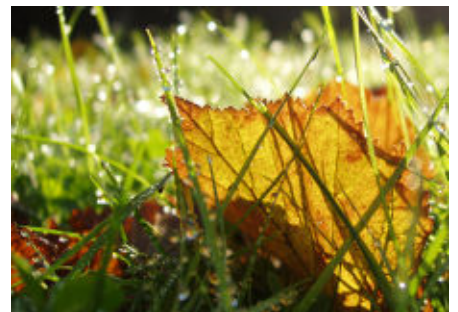
F9. Seeding

Seed must be sown immediately to allow the seedlings sufficient time to get established before winter. An alternative is to sow in November; this seed will sprout in spring.



F10. Perennial weeds

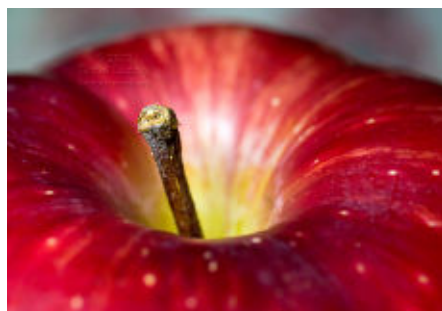
The best time to kill dandelions and other perennial weeds is in mid to late September. The weeds will channel the herbicide down into their roots as they prepare for winter. Products with dicamba are recommended.



F11. Fertilizing

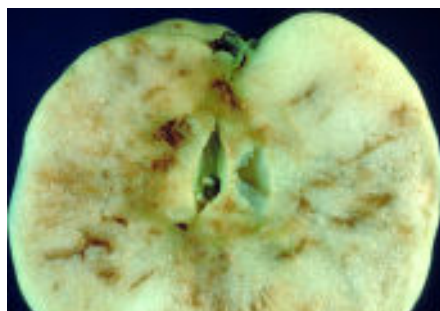
Fertilizing in late September can delay hardening and lead to winterkill. Wait until leaf blades stop growing (mid-late October). This dormant application will develop roots and leaf buds for a thicker turf next spring.

FRUITS



F12. When to harvest apples?

The background color (seen at the top of fruit) begins to turn from green to yellow. Fruit comes off easily when harvested. Use an upward and twisting motion when harvesting fruit.



F13. Apple maggot

Fruits develop dimples where flies laid eggs. Maggots hatch and create trails into fruits. Pick up fallen fruit. Hang traps in July to monitor for flies. Insecticides can protect fruit in future.



F14. Sooty blotch and flyspeck

Fungi create smudges and clusters of tiny dots. Prune in March to open canopy and prevent disease. Pick up trimmings (the fungi overwinter on twigs). Fungicides can help next year.

Survey of timely topics for gardeners in North Dakota (continued):

VEGETABLES



F15. Storing squash, pumpkins

Keep at least 1 inch of stem. Wipe off dirt but do not wash. For all but acorns, cure in warm (80°F) spot for 10 days to toughen skin. Later keep cool (50–55°F) and moderately dry (50–70% RH). Store on pallets.



F16. Potato scab

Peel off scabs. In future, keep soil evenly moist while tubers grow (4–6 weeks after flowers appear). Use resistant cultivars and certified disease-free seed. Avoid using fresh manure.



F17. Harvesting potatoes

Use spading fork to dig tubers. Remove loose dirt and avoid bruising. Store in a cool, moist and dark location. Temperatures in high 30s and humidity of 95% are ideal. A root cellar or a cool, damp basement is best.



F18. Forked, twisted carrots

Usually found in rocky or compacted ground, or when fresh manure is used. A loose, fertile seed bed is critical. Thin seedlings to avoid overcrowding.



F19. Bacterial speck

Dark, sometimes raised specks develop on fruits. Avoid working in garden when wet. Fruits are edible but remove damaged skin. Do not use for canning.



F20. Anthracnose

Black, sunken spots develop on ripe fruits. Avoid overhead watering. Remove and discard fruits. Clean garden in fall.

HOME PEST CONTROL



F21. Crickets

Seal windows, doors and foundation. Reduce outdoor lighting. Remove debris near foundation. Insecticides may be sprayed near entries. Crickets die from frost. They will starve if they get indoors.



F22. Boxelder bugs

Congregate on south- and west-facing sides of buildings. Seal crevices in doorways, windows and foundation. Spray with detergent (3 tsp per gallon water). Several sprays will be needed.



F23. Osage orange

“Hedge apples” are sold to repel spiders and insect pests in basements. Chemicals in these fruits are not effective at natural concentrations. A better option is to seal the home.

Weather Almanac for September 7–13, 2014

| Site | TEMPERATURE | | | | RAINFALL | | | | GROWING DEGREE DAYS ^{1,2} | | | |
|--------------|-------------|------|-----|-----|----------|------|-------|-------|------------------------------------|------|-------|------|
| | Week | | | | Week | | 2014 | | Week | | 2014 | |
| | Avg | Norm | Max | Min | Total | Norm | Total | Norm | Total | Norm | Total | Norm |
| Bottineau | 50 | 59 | 81 | 31 | 0.01 | 0.33 | 16.32 | 14.38 | 21 | 68 | 1747 | 1931 |
| Bowman | 49 | 60 | 84 | 26 | 0.19 | 0.29 | 15.97 | 12.41 | 25 | 74 | 1707 | 2001 |
| Carrington | 52 | 60 | 84 | 36 | 0.57 | 0.49 | 12.40 | 16.11 | 31 | 70 | 1776 | 2078 |
| Crosby | 48 | 57 | 82 | 28 | 0.10 | 0.29 | 13.02 | 12.32 | 14 | 64 | 1715 | 1792 |
| Dickinson | 49 | 59 | 84 | 31 | 0.46 | 0.35 | 15.81 | 13.61 | 25 | 74 | 1777 | 1978 |
| Fargo | 55 | 62 | 83 | 37 | 0.18 | 0.67 | 15.10 | 17.29 | 41 | 72 | 2180 | 2230 |
| Grafton | 53 | 62 | 85 | 32 | 0.13 | 0.42 | 17.37 | 16.03 | 39 | 71 | 1927 | 2244 |
| Grand Forks | 54 | 59 | 85 | 36 | 0.79 | 0.50 | 17.38 | 16.20 | 41 | 68 | 2028 | 1991 |
| Hazen | 51 | 61 | 84 | 36 | 0.18 | 0.32 | 17.40 | 13.68 | 29 | 80 | 1818 | 2172 |
| Hillsboro | 54 | 61 | 81 | 33 | 0.90 | 0.52 | 16.23 | 16.72 | 40 | 69 | 2003 | 2106 |
| Jamestown | 52 | 60 | 85 | 32 | 0.45 | 0.60 | 14.60 | 15.62 | 32 | 68 | 1884 | 2065 |
| Langdon | 50 | 57 | 80 | 27 | 0.08 | 0.43 | 11.30 | 15.68 | 24 | 58 | 1643 | 1662 |
| Mandan | 52 | 61 | 87 | 34 | 0.25 | 0.36 | 13.67 | 14.64 | 31 | 70 | 1883 | 2072 |
| Minot | 51 | 59 | 79 | 38 | 0.01 | 0.34 | 17.39 | 14.66 | 19 | 63 | 1792 | 1896 |
| Mott | 50 | 60 | 85 | 31 | 0.21 | 0.30 | 16.10 | 13.42 | 29 | 78 | 1776 | 2066 |
| Rugby | 52 | 58 | 81 | 38 | 0.00 | 0.41 | 13.29 | 15.91 | 25 | 68 | 1820 | 1924 |
| Wahpeton | 54 | 63 | 82 | 33 | 0.04 | 0.73 | 16.02 | 17.22 | 41 | 77 | 2085 | 2327 |
| Watford City | 50 | 59 | 86 | 30 | 0.09 | 0.24 | 9.69 | 12.05 | 23 | 71 | 1908 | 1992 |
| Williston | 50 | 62 | 84 | 30 | 0.03 | 0.27 | 9.81 | 11.75 | 19 | 80 | 1951 | 2246 |
| Wishek | 52 | 60 | 84 | 35 | 0.38 | 0.50 | 13.19 | 16.90 | 30 | 68 | 1783 | 1890 |

DAYLENGTH (September 13, McClusky)³

Sunrise: 7:16 AM | Daylength: 12h 44 m
 Sunset: 8:00 PM | Change since Sep. 6: -24m

LONG-TERM OUTLOOKS⁴

6–10 Day: Temp: Above Normal; Precipitation: Below Normal
 8–14 Day: Temp: Above Normal; Precipitation: 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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3. graham, www.flickr.com/photos/grahamking/3751576906/; 6, 21, 22. Martin LaBar, www.flickr.com/photos/martinlabar/8848533248/, .../4387287220/, .../4325120192/; 7. Julie Kramlich, NDSU; 8. Serres Fortier, www.flickr.com/photos/lesserresfortier/8884856164/; 9. Timo Newton Syms, www.flickr.com/photos/timo_w2s/8986743787/; 10. Paul Tridon, www.flickr.com/photos/paultridon/13803386224/; 11. Auntie P, www.flickr.com/photos/auntiep/73343760/; 12. Dave Lundy, www.flickr.com/photos/lundyd/8360585746/; 13. E.H. Glass, New York State Agricultural Experiment Station, Bugwood.org; 14. Clemson Univ. - USDA Coop. Ext. Slide Series, Bugwood.org; 15. cdn-pix, www.flickr.com/photos/cdn-pix/3920594517/; 16. Angela Johnson, NDSU; 17. Ishikawa Ken, www.flickr.com/photos/chidorian/2630925542/; 18. Samuel Huckins, www.flickr.com/photos/samuelhuckins/5825270283/; 19. Scot Nelson, www.flickr.com/photos/scotnelson/9101555371/; 20. Michelle Effertz, NDSU; 23. Universal Pops, www.flickr.com/photos/universalpops/5117673646/.

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