

## Japanese Beetle is Spreading

The Japanese beetle is one of the biggest threats to landscapes in North Dakota. The pest devours over 300 types of plants including lawns, roses, lindens, elms, grapes, apples and chokecherries.

This pest is rapidly spreading across our state. In 2016, 386 beetles were captured in **12** counties. In 2017, the number spiked to 1,467 beetles in **22** counties (*see map*).

Is it time to *pani*? No, it's time to *fight back*.

Much of this increase in beetles is related to shipments of infested plants from a wholesale nursery in Minnesota. Once this was discovered, the North Dakota Department of Agriculture (NDDA) effectively worked with 80 local nurseries to treat and/or remove infested plants. Eighty percent of the 1,467 beetles caught in our state were at these nurseries.

This nursery in the Twin Cities (where most of North Dakota's plants come from) has taken steps to prevent the shipment of infested plants in the future. All potted plants shipped here will be drenched in an insecticide to kill any beetle larvae in the soil. The plants will then be sprayed with insecticide to kill any adult beetles. This method has been used in the past and proven to be very effective.

Our best defense against this pest will be our bitter cold winters. Japanese beetle larvae are in the soil

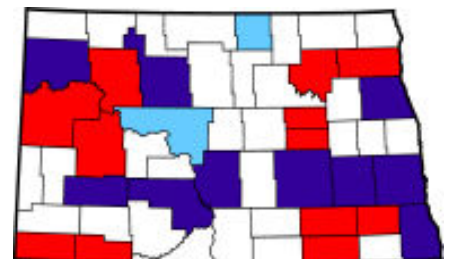


now, typically 2–6 inches deep. Let's hope for some frigid temperatures, preferably without a snow blanket, for a couple weeks to kill these pests.

We can help by keeping our eyes open for the pest. The beetle emerges in June and is easy to identify. It is 3/8-inch long with a metallic green head and bronze wings. There are tufts of white hair that run along its sides. The beetle is quite beautiful but will destroy your plants (*see photo*).

If you ever see this pest, kill it (spray with soap or any common insecticide such as Sevin) and report it to your local NDSU Extension Office. We can work with NDDA and prevent a colony from forming.

It's unrealistic to think we can eliminate Japanese beetle in North Dakota, but with our focused efforts and cold winters we can slow its spread and minimize its damage.



Japanese Beetle Survey

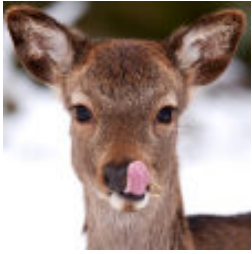
- Found in both 2016 and 2017
- Found in 2017 for first time
- Found in 2016, not in 2017

### Inside This Issue

- ♦ Japanese Beetle Update 1
- ♦ Deer-Resistant Perennials 2
- ♦ Winter Weather Forecasts
  - ♦ Government Weather Service 3
  - ♦ Old Farmer's Almanac 3
- ♦ Chores & Challenges
  - ♦ Fruits, Veg, Lawns, Storage 4
  - ♦ Flowers, Houseplants, Trees 5
- ♦ Weather Almanac 6



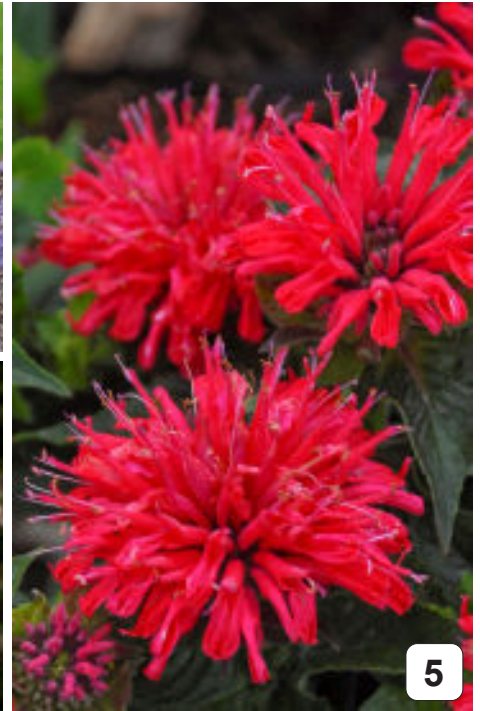
# Deer-Resistant Perennials



Deer are active now and often wander in home landscapes. The following plants have fragrances or textures that deer will find repulsive. Can you match these perennials with their names? Answers are on page 5.

*\*Many varieties hardy to Zone 4 only.*

- |  |  |
|--|--|
| <input type="checkbox"/> Baptisia*           | <input type="checkbox"/> Monarda*      |
| <input type="checkbox"/> Catmint             | <input type="checkbox"/> Ostrich Fern  |
| <input type="checkbox"/> Coneflower          | <input type="checkbox"/> Peony         |
| <input type="checkbox"/> Coreopsis*          | <input type="checkbox"/> Russian Sage* |
| <input type="checkbox"/> Feather Reed Grass* | <input type="checkbox"/> Yarrow        |



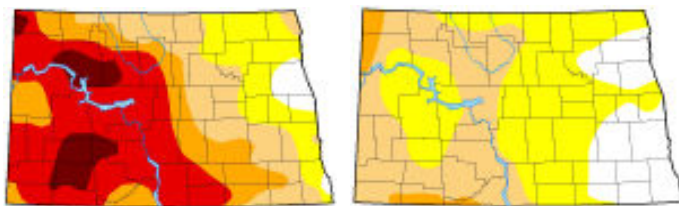


# NOAA Forecast: Cooler, Wetter Winter

Do you remember last winter? It was the sixth wettest winter on record since 1895 statewide. This was caused by *La Niña* (the cooling of surface waters in the tropical Pacific) and it looks like she is ready to strike again.

The National Oceanic and Atmospheric Administration (NOAA) reports a 55 to 65% chance of *La Niña* forming. This creates a 33 to over 40% likelihood of a **cooler and wetter than normal winter** for us (see maps at right).

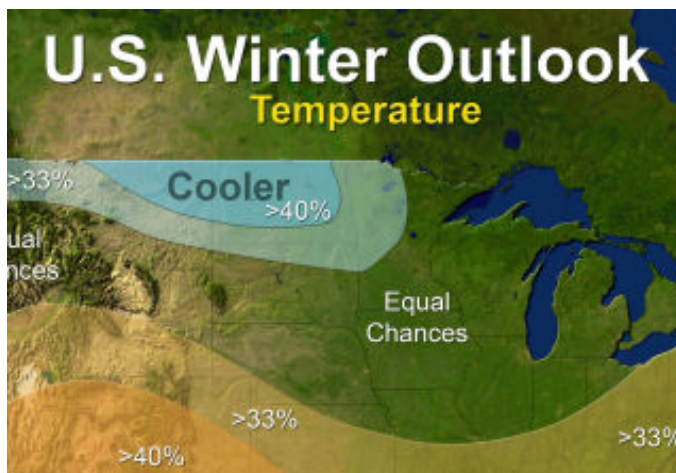
We suffered through an extreme drought this summer (see maps below). Conditions are improving but most of our state remains dry. A snowy winter can help restore soil moisture, but the NOAA projects that drought conditions will persist in parts of the Northern Plains into springtime.



August 1, 2017

October 31, 2017

- Moderately dry: 97% of state on August 1; 82% now.
- Moderate drought: 82% of state on August 1; 37% now.
- Severe drought: 62% of state on August 1; 3% now.
- Extreme drought: 44% of state on August 1; 0% now.
- Exceptional drought 8% of state on August 1; 0% now.



# Almanac Forecast: Warmer, Drier Winter

The Old Farmer's Almanac is one of America's favorite publications. Its famous, fearless weather forecasts have been read by farmers since 1792. These forecasts are based on a secret formula devised by the publication's founder, Robert B. Thomas, and stored in a black box at company headquarters in New Hampshire.

Thomas believed weather was influenced by *sunspots* (magnetic storms on the surface of the sun). Forecasters at the Old Farmer's Almanac have refined their techniques by comparing solar patterns and historical weather conditions with

current solar activity. They claim an accuracy rate of 80% (it is unclear how their accuracy is measured).

The almanac splits North Dakota into two regions: the *High Plains* (western Dakota including Williston, Bismarck and Minot) and the *Upper Midwest* (eastern Dakota including Fargo, Grand Forks and Jamestown).

For both regions, the Almanac predicts **warmer than normal temperatures** and **below normal amounts of precipitation**. Details:

*Western North Dakota:* The coldest periods will be in late November into

early December, and late December into early January. The snowiest times will be in mid- and late November, mid- to late December and early to mid-March. Spring will be cooler than normal, and rainfall amounts will be slightly above normal.

*Eastern North Dakota:* The coldest periods will be in late November, early and late December, early January, and early February. The snowiest times will be in mid- to late December and early to mid-February. Spring will be cooler than normal, and rainfall amounts will be near normal.

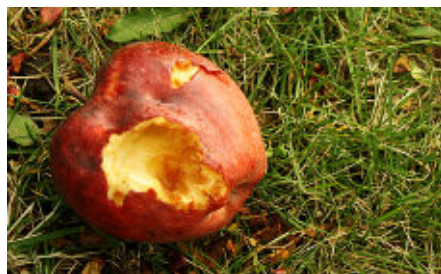
# Chores & Challenges

## Fruits and Vegetables



### Recycle Jack-O'-Lanterns

Smash the pumpkin and put it in your compost pile, or break it down into one-inch pieces and work it into your garden soil.



### Clean Under Fruit Trees

Rake and remove fallen leaves and fruits. This litter can be a source of diseases and insect pests next year. Look out for wasps when picking.



### Test Your Garden Soil

A soil test can lead to healthier plants and higher yields. You will learn nutrient levels, acidity, salinity and organic matter levels. For more info and forms, google “NDSU Soil Testing Lab.”

## Lawns



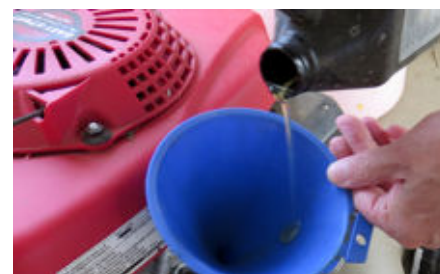
### Last Mowing

A tall turf is bad over winter. It attracts voles and becomes more susceptible to mold. Cut your lawn at a normal height or slightly lower (1.5–2.0 inches).



### Dormant Seeding

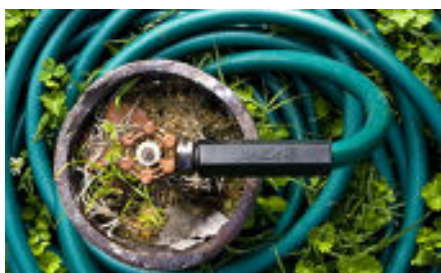
Filling in bare spots? Seed may be sown now in flat, sheltered areas. This seed will sprout in spring. Sow seed, lightly incorporate in soil, and irrigate once.



### Winterize Mower

Scrape dirt from under the mower deck. Run engine until all gas is gone or add a fuel stabilizer and run the engine for a few minutes. Change oil. Remove the spark plug and battery.

## Winter Storage



### Store Your Garden Hose

Hoses may crack if left outdoors over winter. Drain hoses and bring indoors. Warm hoses to room temperature before coiling them for storage.



### Clean and Store Tools

Brush off soil and sharpen blades. Put oil on moving parts and rub a light amount of oil into the wood.



### Store Vegetable Seeds

Most seed will germinate for at least three years. Store seed inside a sealed jar or bag. Place in a dark, cool place (a refrigerator is ideal). Use fresh seed of sweet corn, onion and okra every year.



# Chores & Challenges

## Flowers and Houseplants



### Plant Tulips Outdoors

Bulbs are on sale. It sounds crazy, but you can plant until the ground is frozen solid. The flower bud is already inside the bulb. Irrigate and mulch.



### Planting Mums?

Mums purchased at grocery stores and florist shops are rarely hardy and will die over their first winter. Mum lovers should buy starter plants from nurseries in spring. Look for U of MN varieties.



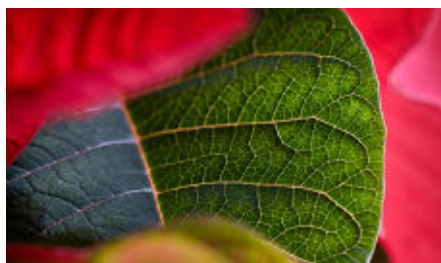
### Caring for Geraniums

Place into 8-inch pots. Cut back to 1/3 height to keep plants compact. Set near a bright sunny window. Cool temps (60s) are best. Water sparingly.



### Mulch Tender Flowers

Apply 4–6 inches of straw *after* the ground freezes. Straw insulates plants from extreme temps, prevents premature sprouting, and keeps the soil stable during freezing/thawing cycles. Mulching too early can attract rodents.



### Re-Color Your Poinsettia

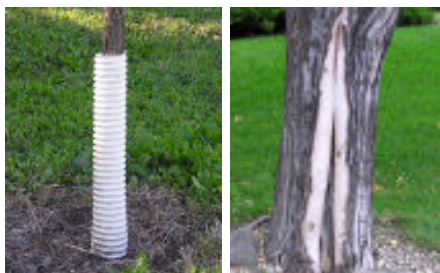
Do you still have last year's poinsettia? Congrats! To get it to turn red again, place it in absolute darkness for 15 hours *every night* for two months. Move it to a sunny window *every day*. Does this seem like too much work? Yep.



### Plant Tulips Indoors

Set bulbs close; not touching; flat side against rim. Cover with soil so bulb tips are at surface. Water. Place in unheated garage (32–50°F) for 12–14 weeks. After bulbs sprout, set in 60°F spot with bright, indirect light. Move to a sunny spot when sprouts are 2 inches.

## Trees



### Wrap Young Trees

Place white tree guards (left) or wrap Kraft paper around young trees. This prevents cracking (right) and protects against wildlife. Linden, mountainash, maple and fruit trees are very sensitive.



### Irrigate Evergreens

Irrigate to fill needles full of water and prevent drying of needle tips. Needles are exposed to the winds and glaring solar rays of winter. Young, wind-exposed trees are most sensitive.

Deer-Resistant Perennials
1. Coreopsis ('SunKiss')
2. Russian Sage ('Dennin 'n Lace')
3. Ostrich Fern
4. Peony ('Festiva Maxima')
5. Monarda ('Pardon My Curses')
6. Yarrow ('Strawberry Seduction')
7. Feather Reed Grass ('Karl Foerster')
8. Baptisia ('Cherries Jubilee')
9. Catmint ('Walker's Low')
10. Coneflower ('Purple Emperor')

# Weather Almanac for October 2017

Site	FIRST FROST <sup>1,2</sup> (28°F)		TEMPERATURE <sup>2</sup> October				RAINFALL <sup>2,4</sup>				GROWING DEGREE DAYS <sup>2,5</sup>			
							October		2017		October		2017	
	2017	Norm	Avg	Norm	Max	Min	Total	Norm	Total	Norm	Total	Norm	Total	Norm
Bottineau	10/03	09/27	41	42	75	9	0.03	1.25	9.39	14.48	118	74	2097	2153
Bowman	10/04	09/30	44	44	81	11	0.12	1.38	6.83	12.68	158	103	2409	2270
Carrington	10/09	10/05	45	44	77	12	0.00	1.77	13.26	17.08	142	98	2286	2340
Crosby	10/05	09/29	43	41	80	10	0.50	1.11	6.23	12.65	134	65	2297	1998
Dickinson	10/04	10/03	45	43	81	11	0.00	1.27	8.49	14.16	159	117	2486	2267
Fargo	10/27	10/05	48	46	78	14	0.80	2.15	11.03	18.14	163	96	2568	2489
Grafton	10/10	10/04	45	43	77	15	0.08	1.98	11.95	17.64	137	81	2220	2177
Grand Forks	10/15	10/05	47	43	80	13	0.09	1.97	14.50	17.22	171	76	2454	2219
Hazen	10/06	09/27 <sup>6</sup>	44	46	81	9	0.05	1.38	9.83	14.41	162	142	2393	2508
Hillsboro	10/09	10/06	45	45	77	10	0.10	2.17	13.19	17.85	160	81	2358	2340
Jamestown	10/09	10/04	45	44	76	11	0.03	1.69	11.73	16.64	143	80	2238	2298
Langdon	10/09	09/28	42	40	74	4	0.02	1.49	10.24	16.68	98	43	1881	1830
Mandan	10/09	10/01	46	44	81	16	0.17	1.37	11.40	15.44	161	102	2475	2336
Minot	10/12	10/07	45	43	80	17	0.09	1.41	8.14	14.72	130	65	2310	2099
Mott	10/04	09/28	44	44	83	8	0.07	1.28	7.35	13.39	169	125	2437	2371
Rugby	10/05	10/04	43	42	76	11	0.10	1.18	9.38	16.10	121	80	2230	2155
Wahpeton	10/09	10/06 <sup>7</sup>	47	47	78	14	1.44	2.39	20.42	19.14	166	106	2432	2608
Watford City	10/09	09/25	45	43	81	11	0.34	1.03	8.57	12.09	144	101	2458	2260
Williston	10/09	09/29	45	46	79	13	0.50	0.97	9.06	12.00	148	134	2529	2571
Wishek	10/09	09/27	45	44	77	16	0.06	1.60	9.40	16.83	132	82	2268	2122

## DAYLENGTH (Nov 1, McClusky, center of ND)<sup>3</sup> LONG-TERM OUTLOOKS<sup>1</sup>

Sunrise: 8:25 AM      Daylength: 10h 1m      Nov 7–11: Temp.: Below Normal; Precip.: Below Normal  
 Sunset: 6:26 PM      Change since Oct 1: -1h 41m      Nov 9–15: Temp.: Below Normal; Precip.: Normal

<sup>1,2,3</sup>Sources: National Oceanic and Atmospheric Administration, North Dakota Agricultural Weather Network, www.sunrisesunset.com

<sup>4</sup>Measurements begin April 1.

<sup>5</sup>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.

<sup>6,7</sup>Frost data for Beulah and Campbell, respectively.

## Credits

### Sources:

Elhard, C. 2017. Japanese beetle survey 2017. North Dakota Department of Agriculture.

National Oceanic and Atmospheric Administration. 2017. U.S. Winter Outlook: NOAA forecasters predict cooler, wetter North and warmer, drier South. <http://www.noaa.gov/media-release/us-winter-outlook-noaa-forecasters-predict-cooler-wetter-north-and-warmer-drier-south>.

The Old Farmer's Almanac. 2017. 2018 long range weather forecast. <https://www.almanac.com/weather>.

University of Nebraska. 2017. Drought monitor, <http://droughtmonitor.unl.edu/>.

Written by Tom Kalb, Extension Horticulturist, North Dakota State University. Photos were made available under Creative Commons licenses specified by the photographers. The URLs of

the photos start with "www.flickr.com/photos/" unless stated otherwise: **PAGE 1:** Whitney Cranshaw, Colorado State University, Bugwood.org; **PAGE 2:** Xavier Robin, .../xavier\_robin/33872481216/; all photos of perennials courtesy of Walter's Gardens, Inc. with exception of fern: Tom Potterfield, .../tgpotterfield/11630483973/; **PAGE 3:** National Oceanic and Atmospheric Administration (www.noaa.gov); United States Drought Monitor, <http://droughtmonitor.unl.edu/>; **PAGE 4: Fruits and Vegetables:** JD Hancock, .../jdhancock/4062426885/; Nic Stage, .../nic-stage/4063040020/; Kate, .../blueberryfiles/11818771983/; **Lawns:** Leo Papandreou, .../manualcrank/4736839163/; Matt Lowden, .../matthewlowden/3594670268/; Tom Kalb, NDSU; **Winter Storage:** Ray Sadler, .../rsphoto/1057301635/; Clay Giraffe, .../dmythos/8234851/; Chior's Run, .../chiorsrun/4262056489/; **PAGE 5: Flowers and Houseplants:** alcidesota@yahoo.com-O, .../cabodevassoura/9093353038/; Joe deSousa, .../mustangjoe/7872147344/; P.L. Tandon, .../13070711@N03/9111538199/; Steven Lybeck, .../slybeck/3484900281/; John, .../johnpics/2111165495/; **Trees:** Tom Kalb, NDSU (2); Mike Schomaker, Colorado State Forest Service, Bugwood.org.

The information given herein is for educational purposes only. References to commercial products or trade names are made with the understanding that no discrimination is intended and no endorsement by the North Dakota Extension Service is implied.

NDSU Extension Service, North Dakota State University of Agriculture and Applied Science, and the U.S. Department of Agriculture cooperating. Chris Boerboom, Director, Fargo, North Dakota. Distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. We offer our programs and facilities to all persons regardless of race, color, national origin, sex, handicap, age, Vietnam era veterans status, or sexual orientation; and are an equal opportunity employer. This publication will be made available in alternative formats for people with disabilities upon request (701) 231-7881.

**NDSU** EXTENSION SERVICE