



[www.ag.ndsu.edu/extension-aben/irrigation/water-spouts](http://www.ag.ndsu.edu/extension-aben/irrigation/water-spouts)

# water spouts

No. 262

June 2012

## Upcoming 2012 NDSU Field Days

<b>Streeter – Central Grasslands</b> Research Extension Center	June 27	(701) 424-3606
<b>Hettinger</b> Research Extension Center	July 10	(701) 567-4323
<b>Dickinson</b> Research Extension Center	July 11	(701) 483-2348
<b>Casseltown</b> Agronomy Seed Farm	July 16	(701) 347-4743
<b>Carrington</b> Research Extension Center	July 17 8:30 a.m.	(701) 652-2951
<b>Minot – North Central Research</b> Extension Center	July 18 9 a.m.	(701) 857-7679
<b>Langdon</b> Research Extension Center	July 19	(701) 256-2582
<b>Williston</b> Research Extension Center	July 24	(701) 774-4315
<b>Nesson Valley Irrigation Tour</b> (30 miles east of Williston)	July 25	(701) 774-4315
<b>Oakes</b> Irrigation Research Site	July 30	(701) 742-2744

NDSU plant pathologists Gary Secor and Neil Gudmestad will use the forecast information to make late blight management and fungicide application recommendations. The recommendations are made Monday, Wednesday and Friday of each week during the growing season. The first late blight recommendations were made Friday, June 1. The Blightline likely will continue through mid-September, depending on disease pressure.

The Blightline also will be used to confirm reported late blight sightings and serve as a clearinghouse for national late blight information.

In addition to late blight forecasting, the hotline also provides cumulative P-values (probabilities) for early blight disease forecasting and management recommendations. Finally, it serves to alert growers of other disease and insect news, as well as posting messages of general interest such as potato field day dates. The hotline recommendations can be accessed by phone or website. The toll free phone number is (888) 482.7286.

The NDAWN website for potato disease forecasting contains colored maps of North Dakota to illustrate the late blight severity values (two-day and seasonal), favorable day values and P-day values for early blight throughout North Dakota. That site is [www.ndawn.ndsu.nodak.edu](http://www.ndawn.ndsu.nodak.edu). Go to "Applications" in the left-hand menu and click the "Potatoes" drop-down box.

Current and archival information on late blight and other potato diseases, and research trial data, also can be found at [www.ndsu.edu/potato\\_pathology](http://www.ndsu.edu/potato_pathology).

You also can connect to the latest blight hotline news and message update reminders by text messaging BLIGHTND to 97063, or on Twitter, follow @SyngentaSpuds.

Growers and scouts are encouraged to send suspect late blight samples to us for positive identification. Late blight is a community disease, and proper identification and prompt notification is important. Leaf samples should be placed in a slightly inflated zip-lock plastic bag **without** a wet towel and sent to: *Gary Secor, NDSU Dept. 7660, PO Box 6050, Fargo, ND 58108.*

## NDSU Potato Blightline

The Plant Pathology Department at North Dakota State University again will be providing the potato Blightline service at no charge to the potato industry of North Dakota and western Minnesota in 2012.

Based on the amount of late blight found in 2011, late blight likely will be present in 2012 if conditions are favorable.

The NDSU Blightline is the first place to go to get the most recent blight updates and management information.

This will be the 18th year NDSU has provided this service, which is sponsored by Syngenta Crop Protection.

The hotline uses local weather data collected from North Dakota Agricultural Weather Network (NDAWN) weather stations throughout our area to forecast the occurrence and spread of late blight in 15 nonirrigated and 12 irrigated production areas in North Dakota and western Minnesota. The weather data is analyzed by a computer program (WISDOM) to forecast when conditions are favorable for late blight to occur.

**NDSU**

EXTENSION SERVICE

County Commissions, NDSU and U.S. Department of Agriculture Cooperating.  
This publication will be made available in alternative formats for  
people with disabilities upon request, (701) 231-7881.

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## Project Safe Send: Collection of Unusable Pesticides at 12 Sites in July

"This is a good time to look through your barns, sheds, garages and storage areas for unusable pesticides," said Agriculture Commissioner Doug Goehring. "With 12 collection sites across the state, it should be easy for everyone to participate in Project Safe Send and get rid of their unusable pesticides safely and at no charge."

The collections are scheduled from 9 a.m. to 3 p.m. (local time) at the following dates and sites. All collection sites are at North Dakota Department of Transportation maintenance facilities in or near the selected cities.

• Harvey	Tuesday	July 10
• Bottineau	Wednesday	July 11
• Minot	Thursday	July 12
• Tioga	Friday	July 13
• Killdeer	Monday	July 16
• Hettinger	Tuesday	July 17
• Bismarck	Wednesday	July 18
• Jamestown	Thursday	July 19
• Lisbon	Friday	July 20
• Langdon	Tuesday	July 24
• Larimore	Wednesday	July 25
• Casselton	Thursday	July 26

People with more than 1,000 pounds of pesticides should preregister. No other preregistration is required. A maximum of 20,000 pounds of pesticides per participant will be accepted. Pesticide rinse water also will be accepted. The first 100 pounds of rinse water will be taken free of charge, with a fee of \$1 for each additional pound.

To preregister or obtain heavy-duty plastic transportation bags, contact Jeremiah Lien at (800) 242-7535 or [jjlien@nd.gov](mailto:jjlien@nd.gov).

More information about Project Safe Send, including directions to the collection sites, can be found at [www.nd.gov/ndda](http://www.nd.gov/ndda).

Authorized by the North Dakota Legislature, Project Safe Send is funded through the fees paid by pesticide manufacturers to register their products in North Dakota.

Since 1992, more than 2.9 million pounds of waste pesticides have been collected from nearly 7,750 individuals through Project Safe Send.

**Ted Quanrud**, (701) 328-2233  
North Dakota Department of Agriculture  
[tquanrud@nd.gov](mailto:tquanrud@nd.gov)

## Summer Water Tours – North Dakota Water Education Foundation

This summer, the North Dakota Water Education Foundation will offer six water tours. The first tour will start on June 20 and the last will be on Sept. 6. These tours provide a firsthand look at North Dakota's critical water issues. Registration is \$15 per person and includes tour transportation, meals, refreshments, informational materials and a one-year subscription to *North Dakota Water* magazine.

### Tours offered are:

#### • Devils Lake: Solutions in Action – June 20

The first of two Devils Lake tours, the tour focuses on the critical outlets and flood control infrastructure as the lake approaches the level where it will spill out naturally. The tour begins and ends in the city of Devils Lake. The tour will visit the west- and east-end outlets, along with the flood control structure on Tolna Coulee.

#### • Fargo-Moorhead Flood Facilities – July 12

This is a half-day tour that begins and ends in Fargo. Stops will include existing flood control facilities and projects under construction.

#### • Innovations in Irrigation – July 18

In northeastern North Dakota, hearing about flooding issues is more common than hearing about irrigation. However, the bench land areas and sandy soil left behind by water flowing into glacial Lake Agassiz typically dry up during July and August, leading to poor crop production. In the absence of large aquifers to supply irrigation water, creative growers in the region have implemented innovative ways to capture water that is "in the wrong place at the wrong time" and store it for later use. The first stop will be a lunch and tour of the unique water capture and irrigation systems at the Forest River Hutterite community. The afternoon stops will include several examples of cutting-edge water capture and irrigation in Walsh and Pembina counties. The tour begins and ends in Grand Forks.

#### • Managing the Mighty Mouse – Aug. 2

#### • Sites Along the Sheyenne – Aug.15

#### • Devils Lake: Infrastructure Inundation and Protection – Sept. 6

To register for one or more of these tours, go to [www.ndwater.com](http://www.ndwater.com) or send a check to NDWEF, PO Box 2254, Bismarck, ND 58502. Please indicate which tour or tours you want to attend and include the number of people planning to attend. For more information, give us a call or send an email.

**North Dakota Water Education Foundation**, (701) 223-8332  
Fax (701) 223-4645  
[ndwaterusers@btinet.net](mailto:ndwaterusers@btinet.net)

# Updated Spreadsheet for Irrigation Scheduling in North Dakota and Minnesota

An updated spreadsheet for irrigation scheduling is available for North Dakota and Minnesota. The spreadsheet was introduced in the June 2011 issue of Water Spouts ([www.ext.nodak.edu/extnews/spouts/ws256\\_june11.pdf](http://www.ext.nodak.edu/extnews/spouts/ws256_june11.pdf)).

Updates for 2012 include the addition of a scroll bar chart and management-allowed depletion lines to the charts, improved navigation directions in the spreadsheet and updates in the users manual.

Links for accessing the spreadsheet, the users manual and a technical document describing the spreadsheet are at the end of this article.

As described in the users manual, the figure below shows an example of a scroll bar chart with a 14-day interval starting on July 7. If today is July 13, the chart shows the previous six days, back to July 7. Irrigation was applied on July 9 to keep the soil water deficit (SWD) smaller than the dashed management-allowed depletion (MAD) line at 45 percent. Looking ahead, with no rain events, the chart shows that irrigations will be required on July 14 and 19 to keep the SWD values lower than the MAD line.

Printing only two weeks at a time will produce a chart that is easier to read, compared with a full-season chart.

The chart's start date can be changed as the season progresses to produce similar two-week charts on a weekly basis. Other users may want monthly or full-season charts, and these can be developed and printed as well. Instructions for the scroll bar chart, as well as the rest of the spreadsheet, are included in the updated users manual.

The Excel spreadsheet uses lookup functions to retrieve water use or evapotranspiration (ET) estimates for the crops listed in the table below.

**Table 1. Crops available for irrigation scheduling.**

North Dakota Crops	Minnesota Crops
Alfalfa	Alfalfa
Barley	Corn
Corn	Soybeans
Pinto bean	Field beans
Potato	Potatoes
Soybean	Spring wheat
Sugar beet	Sugar beet
Sunflower	Any other crops at full canopy
Spring wheat	

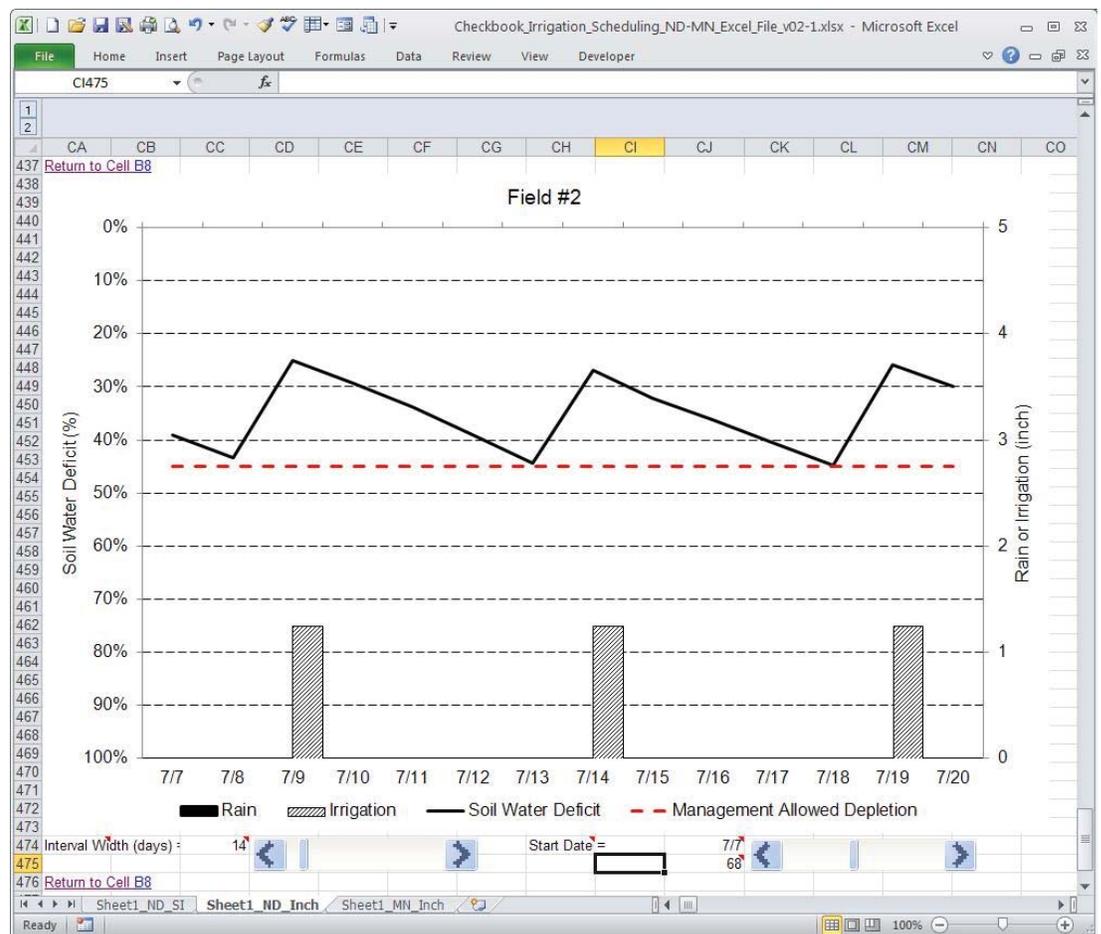
## Links to the Spreadsheet File, Users Manual and Technical Article

The Excel spreadsheet file, a copy of the users manual for the spreadsheet and a copy of the technical article fully describing the spreadsheet is available at: [www.ag.ndsu.edu/extension-aben/irrigation/irrigation-scheduling](http://www.ag.ndsu.edu/extension-aben/irrigation/irrigation-scheduling).

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Figure 1.

Scroll bar chart showing a 14-day interval starting on July 7.





**For more information on  
this and other topics, see  
[www.ag.ndsu.edu](http://www.ag.ndsu.edu)**

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## Measuring Rain and Obtaining Crop Water Use Estimates

Variable rainfall events can fool you into thinking that plenty of water is in the root zone, so you delay starting the irrigation system. Generally, the crops in North Dakota are about two to three weeks ahead of previous years, so getting your irrigation systems ready now is important.

Irrigation water management requires accurate measurement of rain amounts. To measure rainfall, I recommend having a rain gauge with at least a 2-inch diameter opening in each irrigated field that can measure to one-tenth of an inch.

Due to variable weather conditions, daily crop water use can vary significantly. You have two easy ways to obtain daily estimates of crop water use. The first is to get a copy of publication AE-792, "Irrigation Scheduling by the

Checkbook Method," from your county Extension office or online at [www.ag.ndsu.edu/pubs/irrigate.html](http://www.ag.ndsu.edu/pubs/irrigate.html).

This publication contains tables that allow you to estimate the daily water use of most crops by knowing the maximum air temperature and the number of weeks since emergence.



Crop water use information in map and table form also is available on the North Dakota Agricultural Weather Network (NDAWN) website, <http://ndawn.ndsu.nodak.edu>.

You can find the maps and tables under "Applications" in the lefthand menu.

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