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 2017.

Monitoring the Blightline closely may be important this year because late blight was found in our area last year, and the wet conditions were favorable for late blight spread and infection at the end of the growing season last year. The NDSU Blightline will provide the most recent and accurate blight updates and management information.

This will be the 23rd year that this service has been provided by NDSU and has been sponsored continually by Syngenta Crop Protection.

The hotline collects data from weather stations in 15 nonirrigated and 12 irrigated production areas in North Dakota and western Minnesota. The data is processed by the North Dakota Agricultural Weather Network (NDAWN) and analyzed by a computer program (WISDOM) to forecast when conditions are favorable for late blight to occur.

The program also provides forecasting information for the development of early blight of potato.

We use the forecast information to make late blight management and fungicide recommendations and notify the industry of the status of late blight and other pertinent potato information in our region. Recommendations are made initially on a weekly basis but are updated more frequently as severity values increase or late blight is found.

The Blightline (toll free at 888-482-7286) began on Thursday, June 1, and 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 provides cumulative P-values for early blight disease forecasting and management recommendations. Finally, it serves to alert growers of other disease and insect issues, 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 NDAWN website (www.ndawn.ndsu.nodak.edu) pictorially illustrates the late blight severity values (two-day and seasonal), favorable day values and P-day values for early blight throughout North Dakota. Go to the NDAWN website, and in the left-hand menu, select “Applications,” then select “Potato Late Blight.”

Current and archival information on late blight and other potato diseases, and research trial data, can be found at www.ndsu.edu/potato_pathology/ and www.ag.ndsu.edu/potatoextension.

Growers and scouts are encouraged to send suspected late blight samples to NDSU for positive identification. Late blight is a community disease, and proper identification and prompt notification is important. Leaf samples should be placed in a deflated zip-top plastic bag without a wet towel and sent to us at:

NDSU Dept. 7660
Box 6050
Fargo, ND 58108

We wish you a successful potato year.

Gary Secor
701-231-8362, NDSU, Plant Pathologist, gary.secor@ndsu.edu

Neil Gudmestad
NDSU, Plant Pathologist

Andy Robinson
NDSU/University of Minnesota Extension
Potato Agronomist

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Project Safe Send – Disposal of Pesticides

Project Safe Send is a program that accepts old, unusable or banned pesticides, including herbicides, insecticides, rodenticides and fungicides. The collected pesticides are shipped out of state for incineration. Project Safe Send is funded through product registration fees paid by pesticide manufacturers.

Check your storage areas for any unusable pesticides. If the containers are deteriorating or leaking, pack them in larger containers with absorbent materials. Free heavy-duty plastic bags are available from the North Dakota Department of Agriculture if needed.

People with more than 1,000 pounds of pesticides should preregister one week prior to delivery. No other preregistration is required. A maximum of 20,000 pounds of pesticides per participant will be accepted. Pesticide rinse water and empty containers no longer are accepted.

The collections will run from 8 a.m. to noon local time at the North Dakota Department of Transportation facilities in the following cities:

<table>
<thead>
<tr>
<th>Date</th>
<th>City</th>
<th>Address</th>
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</thead>
<tbody>
<tr>
<td>July 12</td>
<td>Ashley</td>
<td>520 7th St. S.W.</td>
</tr>
<tr>
<td>July 13</td>
<td>Bismarck</td>
<td>218 Airport Road S.</td>
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<tr>
<td>July 14</td>
<td>Hettinger</td>
<td>121 1st St. N.</td>
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<tr>
<td>July 17</td>
<td>Dickinson</td>
<td>1700 3rd Ave. W., Ste. 101</td>
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<tr>
<td>July 18</td>
<td>Tioga</td>
<td>425 2nd St. S.E.</td>
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<tr>
<td>July 19</td>
<td>Minot</td>
<td>1305 Highway 2 Bypass E.</td>
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<tr>
<td>July 20</td>
<td>Harvey</td>
<td>501 Jackson Ave.</td>
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<tr>
<td>July 25</td>
<td>Wyndmere</td>
<td>7775 Highway 18</td>
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<tr>
<td>July 26</td>
<td>Valley City</td>
<td>1524 8th Ave. S.W.</td>
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<tr>
<td>Aug. 1</td>
<td>Devils Lake</td>
<td>1905 Schwan Ave. N.W.</td>
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<tr>
<td>Aug. 2</td>
<td>Langdon</td>
<td>10424 Highway 5</td>
</tr>
<tr>
<td>Aug. 3</td>
<td>Larimore</td>
<td>1524 Towner Ave.</td>
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</table>

To preregister, or obtain plastic bags or more information, call or email me.

Jeremiah Lien, 800-242-7535 or 701-425-3016
Pesticide Outreach Specialist
North Dakota Department of Agriculture
Jjlien@nd.gov
Now is the Time to Check the Soil Moisture in Your Fields

We are experiencing drought in some parts of North Dakota, and because of spotty rain and snow since last fall, soil moisture in many fields is highly variable. The soil in the top foot could be dry but much wetter below, so the only way to know is to probe the field.

Knowing the status of the soil moisture at various depths in your field is necessary for good irrigation water management. The soil in the root zone provides storage for nutrients and water that plants need for growth and development. Monitoring the amount of soil moisture not only indicates when to start irrigating but also the amount to apply.

Measuring soil moisture accurately always has been difficult. The makeup of soil and the way it interacts with water poses many problems. Soil is composed of grains of minerals that can vary in size from less than 8/10,000 of an inch (0.002 millimeter) to more than 1/32nd of an inch (1 millimeter) that are all mixed together.

Mixed in with the grains are pieces of organic matter (old roots, crop residue, manure, etc.) that act like sponges and can make up from 0.5 to 6 percent of the soil volume in the root zone. Add water to this mixture, in liquid or vapor form, and you can appreciate why measuring soil moisture is difficult.

Many methods have been developed to measure soil moisture, and many companies offer measurement devices for irrigation water management. Some devices measure soil water content and some measure soil water potential.

However, the standard for soil moisture measurement is the “gravimetric method,” in which a soil sample is obtained from a certain depth in the root zone, weighed, then dried in an oven and weighed again. The difference between the wet and dry weight, along with the soil bulk density, provides an estimate of the volume of water in the soil at that depth.

The gravimetric method is used to calibrate and check all other soil moisture measurement methods and devices.

The “feel method” is the oldest and most common method of checking soil moisture for irrigation management because it can be done anywhere in the field and at any time during the day. It involves obtaining a handful of soil from a desired depth and location in the field, then squeezing to see if it makes a ball. Based on how the soil reacts to the pressure, the moisture content can be determined.

For finer soils, an additional indicator is how the soil ribbons when pressed between the thumb and forefinger. Many crop consultants and experienced irrigators use the feel method, but for new irrigators, it can be a challenge. Go to this website – http://tinyurl.com/SoilMoistureFeelMethod – for an example of how to use the feel method.

Checking the soil moisture content at many locations in a field a couple of times per week can be time-consuming, so you have to select representative locations. Selection of ideal locations for soil moisture checking should be based on ease of access, and crop and soil types in the field. The best access for soil sampling would be next to roads or near the pivot access road.

**Tom Scherer, 701-231-7239**
NDSU Extension Agricultural Engineer
*Thomas.Scherer@ndsu.edu*
Clean water is important for the development of North Dakota, and the best way to learn about water projects is to see them in person via a tour.

These tours provide a firsthand look at North Dakota’s critical water issues. Registration is $20 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 21
- Fargo-Moorhead Flood Facilities Tour – June 28
- Managing the “Mighty” Mouse – July 14
- Southeastern North Dakota Irrigation Tour – Aug. 2
- Missouri River Expedition – Aug. 16
- Western Area Water Supply Tour – Aug. 30

For more information about each tour and to register, go to [www.ndwater.com/programs](http://www.ndwater.com/programs) and click on “Summer Water Tours” in the left-hand menu or send a check to NDWEF, P.O. Box 2254, Bismarck, ND 58502. Please indicate which tour or tours you want to attend and include the number of people who will participate. 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