



water spouts

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<http://www.ext.nodak.edu/extnews/spouts/>

Upcoming NDSU Field Days

Streeter Central Grasslands Research Extension Center	June 24	(701) 424-3606
Hettinger Research Extension Center	July 7	(701) 567-4323
Dickinson Research Extension Center	July 8	(701) 483-2348
Williston Research Extension Center	July 9	(701) 774-4315
Casselton Agronomy Seed Farm	July 13	(701) 347-4743
Carrington Research Extension Center	July 14	(701) 652-2951
Minot North Central Research Extension Center	July 15	(701) 857-7677
Langdon Research Extension Center	July 16	(701) 256-2582

Tom Scherer, (701) 231-7239
Extension Agricultural Engineer
Thomas.Scherer@ndsus.edu

ranchers have done their part by safely storing unusable pesticides such as DDT and mercury seed treatments. Now they have a way to get rid of these old pesticides for good. It's called Project Safe Send.

It's safe, simple, nonregulatory and free. Collections will be held at the following locations and dates. Please note that all locations, unless otherwise indicated, are at North Dakota Department of Transportation facilities. The times are 9 a.m. to 3 p.m. local time. After the collections, hazardous pesticides are packed carefully and shipped out of state for incineration.

Please check your storage areas for any unusable pesticides. If you find some, bring them to Project Safe Send. Preregistration is not required. If you need more information or want to arrange for large quantity deliveries, call the NDDA toll-free at (800) 242-7535. In the meantime, keep pesticides safely locked up. If you have deteriorating or leaking containers, overpack them in larger containers and add absorbent materials. Free heavy-duty plastic bags are available from the NDDA.

2009 Project Safe Send Dates and Locations

Project Safe Send was started in 1992 to help farmers safely and legally get rid of unusable pesticides. Since then, more than 6,400 people have brought in excess of 2.3 million pounds of pesticides. That's a lot. But with the support of pesticide manufacturers, the North Dakota Department of Agriculture (NDDA) has funds to help get rid of more.

We can accept any pesticides (herbicides, insecticides, rodenticides and fungicides) that are old, unusable or banned, such as DDT, arsenic, dieldrin, chlordane or mercury seed treatments.

A healthy environment is something we take for granted. But keeping our air and water clean and pure requires commitment and can be costly. For years, farmers and

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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.

- July 7, Tuesday – **Casselton**
15482 37th St. S.E.; take I-94 Exit 331, go north on North Dakota Highway 18, take frontage road west about three-fourths mile.
- July 8, Wednesday – **Hillsboro**
590 6th St. N.W.; take I-29 exit 104 at Hillsboro, go east one-half block, then one-third mile north on Sixth Street Northwest.
- July 9, Thursday – **Grand Forks**
1951 Washington St. N., from I-29, take Gateway exit, go east to U.S. Highway 81 (Washington Street), go north one mile.
- July 10, Friday – **Drayton**
just east of I-29 interchange on North Dakota Highway 66, (north side of the road).
- July 13, Monday – **Devils Lake**
1905 Schwan Ave. N.W.; 2½ miles west of Devils Lake Industrial Park, south side of U.S. Highway 2.
- July 14, Tuesday – **Valley City**
1524 8th Ave. S.W., south of I-94 at Exit 292.
- July 14, Tuesday – **Bottineau**
one-half mile east of Bottineau on North Dakota Highway 5, then 1½ miles north on Lake Metigoshe Road (east side of the road).
- July 15, Wednesday – **Edgeley**
two miles north of the junction of U.S. Highway 281 and North Dakota Highway 13, west side of Highway 281.
- July 15, Wednesday – **Minot**
from the intersection of U.S. Highways 83 and 2, go east about three miles; DOT is on the east side of U.S. Highway 2, just north of the Gooseneck Implement (John Deere dealership).

- July 16, Thursday – **Wyndmere**
from the junction of North Dakota Highways 13 and 18, go 2½ miles north on Highway 18 (west side of road).
- July 16, Thursday – **Williston**
605 Dakota Parkway W.; on the U.S. Highway 2 and U.S. Highway 85 bypass (across from the Kum and Go gas station).
- July 17, Friday – **Dickinson**
1700 3rd Ave. W., Suite 101; on east side of North Dakota Highway 22, one-half mile north of the junction of I-94 and North Dakota Highway 22.
- July 20, Monday – **Beulah**
205 Highway 49 S.; take I-94 to exit 110, then go 30 miles north on North Dakota 49 to the south side of Beulah. DOT is west of North Dakota 49 and just south of the railroad tracks.
- July 21, Tuesday – **Flasher**
from North Dakota Highway 21, on the west edge of the city of Flasher, turn north on Morton County road 84, go one block north (DOT is on the east side of the road).
- July 22, Wednesday – **McClusky**
west side of city, at intersection of North Dakota Highway 200 and First Street.
- July 23, Thursday – **Napoleon**
59 Broadway; take I-94 Exit 208, proceed south on North Dakota Highway 3 one-quarter mile south of the city (east side of road).

For more information, please contact your local NDSU county Extension office or me.

Judy Carlson, (800) 242-7535
North Dakota Department of Agriculture
jcarlson@nd.gov

Consider Relative Maturity First in Selecting a Corn Hybrid

Corn hybrids have benefited from many decades of genetic improvement not only in yield potential but also in a wide variety of other traits important to growers. Relative maturity (RM), test weight, stand ability, disease and insect resistance, seed quality and dry-down rate are all factors to be studied and considered in making a hybrid selection.

While the considerations are many and the variety list long, the first consideration of many growers is most often selecting a variety with a relative maturity suited to their area. The RM (day length) for corn varieties is readily available information. Average seasonal accumulated heat units or growing degree days (GDD) in an area often are used to determine the RM for corn. Corn growing degree days are calculated as follows (using Fahrenheit degrees):

$$\text{Corn GDD} = \frac{\text{Max Daily Air Temp} + \text{Min Daily Air Temp}}{2} - 50$$

For example, if the daytime high air temperature was 75 F and the overnight air temperature was 55 F, then:

$$\text{Corn GDD} = \frac{75 + 55}{2} - 50 = 15$$

Note that air temperatures above 86 F are entered as 86 degrees and air temperatures below 50 F are entered as 50 degrees.

Approximate seasonal corn GDD or heat units necessary for maturity of several varietal day lengths can be seen in Table 1.

Table 1. Approximate GDD Heat Units and Relative Maturity for Corn in Northern Growing Regions (North Dakota).

Accumulated GDD or Heat Units	Relative Maturity (days)
1,750-1,850	70
1,850-1,950	75
1,950-2,050	80
2,050-2,150	85
2,150-2,250	90
2,250-2,350	95
2,350-2,450	100
2,450-2,550	105

Note that total corn GDDs are calculated from emergence to physiological maturity or when average daily air temperature is 28 degrees (freezing).

The GDD for your area can be calculated for any given year using the calculator on the NDAWN Web site at <http://ndawn.ndsu.nodak.edu/>.

Corn GDD varied widely across North Dakota as seen in Table 2. Knowing the approximate annual GDD for your area is imperative in selecting the proper RM variety for your farm.

Table 2. Corn Growing Degree Days (GDD), May 1 – Oct. 17, 2008.

Location	GDDs
Crary	1,952
Carrington	2,022
Minot	2,082
Turtle Lake	2,123
Fargo	2,399
Oakes	2,428

The fact that longer RM varieties tend to outyield shorter RM varieties creates a temptation for many growers. The 2008 corn yield data from Carrington at the Fingal site shows yields ranging from a low of 150 bushels for a 78-day RM to a high of 190 bushels for a 93-day RM. However, some early RM varieties can yield very well, so taking the time to closely examine hybrid performance data may be time well spent.

Knowing and considering your local GDD is critical in making a variety selection. In addition, one must consider long-term average GDD for your area. For example, 10 years of corn GDD at Carrington are shown in Table 3.

Table 3. Annual Accumulated Corn GDD for Carrington, May 1 – Oct. 17.

Year	GDD
2008	2,022*
2007	2,235
2006	2,337
2005	2,225
2004	1,797*
2003	2,181
2002	2,164
2001	2,241
2000	2,123*
1999	1,962*
Average for 10 years = 2,129	

If one only looks at the 10-year average GDD of 2,129, you might surmise that an 80+ day RM corn would be consistently reliable for Carrington. However, during four years in the average ('08, '04, '00, '99), an 85-day corn would not have reached maturity, and during at least one (2004) and maybe even two (1999) years, an 80-day corn may not have reached maturity.

So we must ask ourselves how much we can afford to gamble on not making maturity. One out of 10 years? Two out of 10 years? Four out of 10 years? Can we use silage, and if so, how many acres can we utilize?

Certainly, you have many factors to be considered in selecting a corn hybrid for your farm. To learn more about calculating GDD on your farm, give your local county Extension agent a call or feel free to contact me.

Mike Liane, (701) 351-0726
 NDSU Extension Irrigation Agent
 Michael.Liane@ndsu.edu

Site-specific Irrigation Scheduling

We rapidly are approaching the hot and dry part of the growing season, so now is the time to starting setting up your fields on the Web-based irrigation scheduling tool that is part of the North Dakota Agricultural Weather Network (NDAWN) Web site.

Using this tool makes tracking soil water content in your field easy. It works just like the old Checkbook method (AE-792, "Irrigation Scheduling by the Checkbook Method") but it is specific to your field, including soil textures and soil water-holding capacities. And with an accurate rain gauge, it even can be used with nonirrigated fields. You can schedule irrigations for the following crops: alfalfa, barley, corn dry beans, potatoes, soybeans,

sugar beets, sunflowers and wheat. If you select alfalfa, the ability to select "cut dates" is included. The alfalfa water use will be adjusted to reflect the decrease in water use after the cut date. Using this tool will help you make better irrigation water management decisions.

The site-specific irrigation scheduler can be accessed on the NDAWN Web site (<http://ndawn.ndsu.nodak.edu/>). To use the irrigation scheduler, you need to log in to the NDAWN Web site and create a user name and password. This is necessary for two reasons. It creates an individualized workspace for your fields and provides a certain amount of security so others cannot alter the information you enter for each field. Click on **Login** at the bottom of the menu on the left side of the NDAWN home page and follow the instructions on the page that comes up. If you already have an account, enter the username and password. If you are new to the system, sign up for a new user account.

After you log in to the NDAWN Web site, you can access the *Irrigation Scheduler* through the **Applications** menu on the left side of the NDAWN home page. When *Irrigation Scheduler* is selected, first-time users will see the Field Creator screen. The purpose of this screen is to allow you to select the location of your irrigated field. It contains an aerial photomap of North Dakota, two drop-down menus for selecting a county and township and a *help* link. The aerial photos were taken in 2005.

You can "zoom" to your field two ways. The first is common to geographical information systems (GIS); hold down the left button on the mouse to draw a box on the map around the area to highlight. You can draw a box around the entire county or just half of it. Each time you draw the box, it will zoom in closer to your field. The second method is to use the drop-down menus to select your county and township. You can select a county without selecting a township. Unorganized townships are not listed. If you select the county and township, an aerial photo of the township will appear and you then can use the mouse to draw a box to highlight your field.

When you have found your field and put a red box around it, drawing the boundaries of the soils in the field may take some time. When this is done, at the bottom of the screen is a text box to enter a name for the field. After you enter a name, click the *save* button.

The Irrigation Scheduler page then will appear with a picture of the field containing yellow lines delineating the various soil types in the field. This is just a picture and no GIS operations can be done to it. Next select from the pull-down menus the year and crop, then enter planting and emergence dates. Default dates already are entered based on National Agriculture Statistics Service (NASS) crop data collected through the years.

North Dakota State University
Agriculture Communication
NDSU Dept. 7070
P.O. Box 6050
Fargo, ND 58108-6050

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The three nearest NDAWN weather stations are shown in a pull-down menu, along with distance from your field. You can select one of the three NDAWN weather stations (the closest is shown at the top of the menu) and weather data from the selected station will be used to calculate crop water use values for your checkbook. Click the "*save changes and update table*" button and a checkbook for the three most dominant soils in the field will be created. Notice the three tabs above the crop information. The tab labeled **Soil Properties** will show you the average water-holding capacity for each soil layer.

If the checkbook is created for the 2008 growing season, the water use values for the selected crop will be entered automatically and the checkbook updated every day. You have to enter the rain and irrigation amounts. This is done by clicking on the date on the left side of the checkbook. A box will open that allows you to enter rain and/or irrigation amounts for the selected date. If you have selected alfalfa, a box can be checked if you cut alfalfa on that day. In addition, if you go out to the field and check the soil moisture and it doesn't match what the checkbook predicts, in this box you can adjust the soil moisture value for the selected soils in the field.

You also can create a checkbook for a previous year, and in that case, the water use values for the selected crop will be entered for the whole checkbook. Once a checkbook is created, you should not have to do it again in future years.

One problem we have noticed: If you use Internet Explorer 6.0, the checkbook pages will not print properly. We have not been able to resolve this problem and recommend you use either the Firefox or Opera Web browsers. Both are free. You can access them by clicking on the buttons at the bottom of the NDAWN Web page.

If you use this method of irrigation scheduling, please send me any feedback or suggestions, whether they are positive or negative. We want this tool to be user friendly and useful to you.



Tom Scherer, (701) 231-7239
Extension Agricultural Engineer
Thomas.Scherer@ndsu.edu