

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
May 21, 2013**

RYEGRASS GROWING DEGREE DAYS (GDD)

Ryegrass GDD will be tracked for the 2013 growing season with comparisons to the previous five years. A base temperature of 32 degrees F will be used for ryegrass (T-Base =32 F)

Reported GDD are based on the total accumulation from the beginning of the calendar year to the current calendar date. Thus far in 2013, we have accumulated only 410 GDD as of May 19th (Table1). Last week was the warmest of the year as 186 GDD were accumulated. However, 2013 on track to be one of the coolest springs on record! The short term forecast indicates a cooling trend as the projected GDD for next week at Roseau is 155 (22.1/day). Based on this forecast, by Memorial Day weekend we will have accumulated approximately 565 GDD's for the current calendar year.

Table 1. Growing degree days (GDD) for March 2008 to May 2013 near Roseau MN.

Year	2013	2012	2011	2010	2009	2008	2013 vs. 12
March	0	304	7	137	30	6	-304
April	80	370	278	476	247	202	-594
May		726	639	707	515	501	
May 1-19	330						
Total	410	1,400	924	1,320	792	709	
May 20-26*	155*						
Total	565*						

* Forecasted GDD at Roseau for the next 7 days.

Soil temperature and ice out dates generally are good indicators of “earliness or lateness” of the growing season (Table 2 and 3). Last year, a 40 degree soil temperature in tilled soil was reached on March 12th compared to May 4th this year. In turf conditions, a 40 degree soil temperature was reached on March 23rd and May 4th in 2012 and 2013, respectively. The spring of 2013 has latest recorded 40 degree soil temperature in the last 7 years! The cool soil temperatures are a primary factor in the delayed emergence of leaves on trees and annual weeds in fields. The data in Table 3 lists the ice out dates on Lake of the Woods for the last ten years. In 2013 the ice out date of May 15th is the latest calendar date in the last ten years on Lake of the Woods. The median ice out date for Lake of the Woods is May 3rd.

Table 2. Calendar date when soil temperatures reach 40 F, in tilled and sod conditions near Roseau in 2006 to 2013.

	2013	2012	2011	2010	2009	2008	2007	2006
Tilled	5-4	3-12	4-8	3-30	4-14	4-15	4-14	4-11
Turf	5-14	3-23	4-23	4-13	4-29	4-18	4-19	4-11
Difference	10	11	15	14	15	3	5	0

Table 3. Ice out date on Lake of the Woods from 2004 to 2013.

2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
May 15	April 08	May 05	April 13	May 08	May 12	May 03	April 20	April 23	April 28

GENERAL CROP CONDITION

Ryegrass

As the soil temperatures warm into the high 40's and 50 degrees look for accelerated weed emergence, especially the cool season broadleaves and grasses (common lambsquarters, smartweed spp., wild mustard, wild buckwheat and wild oat). Herbicide applications for broadleaf weeds will be right around the corner. Now is the time to schedule fields to be scouted for broadleaf weeds. Winter annuals (dandelion, shepardspurse, and cockle) are in the rosette stage and will soon bolt. Annual weeds (volunteer canola, mustard, and smartweed) are first to emerge in the spring. Weeds grow fast and regular scouting is essential to determine the best weed control program for your situation.

CROP MANAGEMENT

Ryegrass

Last week's newsletter contained a review of the nitrogen utilization patterns of perennial ryegrass. Due to the recent rainfall, a common question being asked is how long can we wait to make an application of nitrogen fertilizer in ryegrass without a yield penalty? Previous U of MN research indicates if a base rate of 30 to 60 pounds of nitrogen is in the ryegrass root zone due to nitrogen carryover of the previous year's crop, soil mineralization or nitrogen application last fall with the P & K, spring fertilizer can be applied up to the jointing stage in ryegrass without a sacrifice in seed yield. Based on prior years GDD information, ryegrass plants will begin to joint at approximately 800 GDD. Year to date we have accumulated 410 GDD. If we average 25 GDD/day, we have approximately 15 days (two weeks) to apply nitrogen in ryegrass. Spring applied nitrogen would require rainfall to move this nitrogen into the root zone in a timely manner.

What can be done if nitrogen levels in the root zone are limiting? If ryegrass plants are not showing signs of nitrogen stress (stunting & yellowing) a soil test or tissue test will document current nitrogen levels in the soil and plant tissue. However, if ryegrass plants are showing stress from nitrogen (not water logging), a supplemental application of nitrogen should be a consideration. Previous U of MN research suggests ryegrass, up to heading, will tolerate 28% up to 20% of actual N (six gallons). These applications were applied with a small plot sprayer with flat fan nozzles delivering 12 GPA. Streamer bars would be an option for higher volumes of 28%. The other option would be an application of urea by air.

With the accumulated rainfall over the last three days many fields have soil saturation conditions or standing water. These soil moisture conditions present several challenges: 1) tracking of the field by ground equipment, 2) elevated potential loss of applied nitrogen and, 3) reduced growth rate of ryegrass. When field conditions allow it will be important to schedule nitrogen applications in ryegrass. It's critical to get nitrogen into the ryegrass root zone prior to the time of high nitrogen demand (phase 2).

University Research

Grass Seed Research Results are available on the web. Research reports from 1967 to the present are available at the web address below.

http://www.mnturfseed.org/html/progress_reports.html

Next week's newsletter will be released on May 28, 2013.