

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
May 12, 2015**

RYEGRASS GROWING DEGREE DAYS (GDD)

Ryegrass GDD will be tracked for the 2015 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 date. Thus far in 2015, accumulated GDD are 710 (adjusted GDD 438) as of May 10th (Table1). Projected forecast for the next ten days suggests a return to normal temperatures. The current forecast projects an accumulation of 201 GDD or 20.1/day which is close to the long term average of 19 GDD/day for the second week of May.

Table 1. Growing degree days (GDD) for March 2010 to May 2015 near Roseau MN.

Year	2015	2014	2013	2012	2011	2010	2015 vs. 14
March	119	0	0	304	7	137	+119
April	367	159	80	370	278	476	+208
May		654	640	726	639	707	
May1-10	224						
Total	710 [^]	813	720	1,400	924	1,320	
May 11-20*	201						

* Forecasted GDD at Roseau for the next 10 days.

[^] Total GDD for 2015.

Adjusted GDD (-272 GDD) due to extensive ryegrass leaf desiccation in April 2015 = **438**

GENERAL CROP CONDITION

The wide-spread rainfall of the last few days will help with ryegrass stand assessments. Ryegrass stand assessments have been a challenge all spring as the early ryegrass green-up was set back due to below freezing temperatures in the first 10 days of April and subsequent leaf tissue and crown desiccation.

CROP MANAGEMENT

With the recent rainfall and the short term forecast for rain showers off and on all week, 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 from:

- nitrogen carryover of the previous year's crop
- soil mineralization
- nitrogen application last fall with the P & K

Nitrogen fertilizer in ryegrass can be applied up to the jointing stage 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, our adjusted accumulated GDD is 438. If we average 23 GDD/day which is the long term average for the third week of May, we have approximately 16 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.

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%.

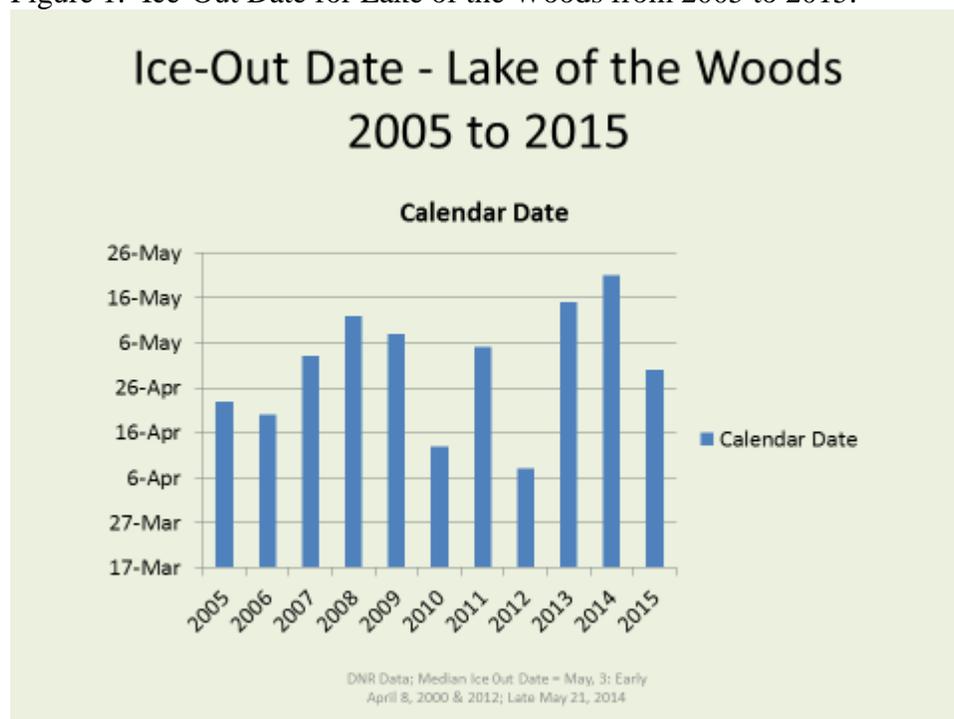
With the accumulated rainfall over the last few days soil saturation conditions and standing water can be observed in ryegrass fields. These soil moisture conditions present several challenges: 1) tracking of the field by ground equipment, 2) elevated potential loss of applied nitrogen and, 3) reduced 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 that occurs during phase 2 (see April 26th newsletter).

LAKE of the WOODS – ICE-OUT DATE

The date when lakes are free of ice (ice-out date) is an indication of the “earliness” or “lateness” of spring. With the early snow melt (mid-March), the 2015 season had all the indications of an early spring. The last early spring was in 2012, which also had snow melt in mid-March with an ice out date of April 8th (Figure 1). The 2015 season growing season began with an early snow melt, but an ice out date of April 30th. The cold snap, in early in early April, with limited to no snow cover, had a negative impact on ryegrass survivability.

The data in Figure 1 lists the ice-out dates on Lake of the Woods for the last ten years. The median ice-out date for Lake of the Woods is May 3rd. The earliest ice-out date is April 8th which was recorded in 2000 and again in 2012. Latest ice-out date is May 21st 2014. Ice out date for 2015 was April 30th.

Figure 1. Ice-Out Date for Lake of the Woods from 2005 to 2015.



Next week's newsletter will be released on May 19, 2015.