

MINNESOTA TURF SEED COUNCIL
NEWSLETTER
July 2, 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 1,695 GDD as of June 30th (Table1). Last week, accumulated GDD were 273 (39/day). Last week was the warmest of the year thus far and crops and weeds are growing well and insects are very active. Based on the current 7 day forecast, by the weekend we will have added 286 GDD (40.9/day). If this forecast holds, by the first weekend in July we will have accumulated approximately 1,981 GDD's for the current calendar year.

Table 1. Growing degree days (GDD) for March 2008 to June 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	640	726	639	707	515	501	-86
June	975	979	898	911	860	870	-4
Total	1,695	2,379	1,822	2,231	1,652	1,579	
July 1-7*	286*						
Total	1,981*						

* Forecasted GDD at Roseau for the next 7 days.

GENERAL CROP CONDITION

Ryegrass fields seeded in the spring of 2012 are heading, flowering and shedding pollen. Ryegrass sheds pollen generally after the dew lifts for the day and will continue for a couple of hours in the mid-morning.

CROP MANAGEMENT

Rust in ryegrass

The USDA-ARS tracks rust development and movement north from the Gulf of Mexico to the northern plain states. As of June 26th, trace levels of wheat leaf rust was detected in SE Minnesota. Leaf and stem rust that infects ryegrass is carried into our area on southerly winds. Daily high temperatures in the mid-70's and lows in the 60's are ideal temperatures for disease infection and development. Rust also requires free water on the leaf surface. We usually have dew on the grass until mid-morning during the summer months and many days have temperatures that fit into the ideal range for rust development. Field scouting will continue to monitor and track the progress of rust as it moves northward.

For additional information see the link below for The Cereal Rust Bulletin. The link to this site:
(<http://www.ars.usda.gov/mwa/cdl>)

PEST MANAGEMENT

Ryegrass

Most ryegrass fields in the region are heading and shedding pollen. The GDD model indicates we are soon into the time frame when leaf and stem rust can be observed in ryegrass.

Three strategies for rust control in ryegrass at this time are:

- 1) Scout ryegrass fields for rust every two- to- three days. In favorable environmental conditions rust can increase rapidly and this fungal pathogen can “explode” in just a few days.
- 2) If a fungicide has been applied with a previous trip across the field, apply a fungicide when the first fungicide is about to “run out”. The number of days the fungicide will provide disease protection will depend upon the fungicide used and product rate.
- 3) Spray a fungicide after the accumulation of 1900 GDD. Historically, we have first observed leaf and stem rust at approximately 1,900 GDD. A full rate of a fungicide will provide rust protection for 21 to 28 days. A fungicide applied at 1,900 GDD should provide disease protection until ryegrass swathing (approximately 2800 GDD).

The following information was taken from the June 26th edition of the USDA Cereal Rust Bulletin. This information was observed on the alternate hosts of leaf and stem rust and crown rust. Once rust is observed on the alternate host, it generally is a signal that disease infection to susceptible crop soon be observed on plant tissue.

Common barberry (*Berberis vulgaris*) is an alternate host of leaf and stem rust. Light amounts of aecial infection were found on common barberry in eastern Wisconsin this week. Previously, light amounts of early aecial infections were observed on common barberry in southeastern Minnesota.

Common buckthorn (*Rhamnus cathartica*) is an alternate host for crown rusts. Oat crown rust continues to develop at the USDA-ARS buckthorn nursery in St. Paul, Minnesota. Inoculated spreader rows displayed high severities of oat crown rust. Trace levels of barley crown rust were observed on Aim barley at the early boot stage in the buckthorn nursery. Previously, crown rust aecia were reported on common buckthorn in southeastern Minnesota and northwestern Wisconsin in early June.

Next week’s newsletter will be released on July 9, 2013.