MINNESOTA TURF SEED COUNCIL
NEWSLETTER
June 16, 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. As of June 14th, accumulated GDD for 2015 are 1,590 (adjusted GDD = 1318), see Table 1. Projected forecast for the next week suggests near normal temperatures. The current seven day forecast projects an accumulation of 203 GDD or 29/day. Long term average GDD for the third week of June is 196 GDD or 28/day.

Table 1. Growing degree days (GDD) for March 2010 to June 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	659	654	640	726	639	707	+5
June 1-14	445						
June		964	975	979	898	911	
Total	1,590^	1,777	1,695	2,379	1,822	2,231	
June 15-24*	311						

* 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 = **1318**

PEST MANAGEMENT

Insects

The recent rainfall and warm weather has resulted in the emergence of mosquitos and other insects. This is a good reminder that insect infestations can occur quickly and regular field scouting is required to identify the insect pest, determine insect infestation and economic threshold levels. Army worms and grasshoppers are two insect pests that can cause damage to area ryegrass fields. As would be expected, the most likely areas to find armyworms are in lodged areas and grasshoppers in field edges of ryegrass fields.

Threshold levels

Action thresholds for grasshopper nymphs are 30-45/square yard (6 to 8 adults or 25% defoliation) if grass is vegetative and insect feeding is on the leaf tissue. Threshold levels will be lower if insect feeding is on the seed head. Field scouting will determine the infestation level and the type of feeding.

The economic threshold for armyworms has not been established for ryegrass. However, in wheat, the action level is 4 or more larvae/square foot. Armyworms feed at night and hide under vegetation or in loose soil during the day. Armyworms moths tend to lay eggs in lodged areas of the fields and these areas should be first place to check for armyworms.

Rust in ryegrass

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.

In previous years, in northern Minnesota environments, crown rust has been observed after approximately 1,500 GDD and leaf and stem rust at 1,900 GDD. Thus far in the 2015 season we have accumulated 1,590 GDD. Trace levels of crown rust was observed last week in ryegrass. However, most likely, this was local infection, not one transported in from southerly winds (see USDA Rust Bulletin) web site below for further information).

The USDA-ARS tracks rust development and movement north from the Gulf of Mexico to the northern plain states. As of June 10th, trace levels of wheat leaf rust was detected in southern MN and crown rust was observed in border rows in a buckthorn nursery in St. Paul, MN. For additional information see the link below for The Cereal Rust Bulletin. The link to this site:

(*http://www.ars.usda.gov/mwa/cdl*)

One of the unique features in the life cycle of rust diseases is the requirement of an alternate host to aid in the spread of the disease. The alternate host for leaf and stem rust is barberry (*Berberis vulgaris*) and crown rust is common buckthorn (*Rhamnus cathartica*). These alternate hosts for rust are a necessary step in the life cycle of rust diseases. Rust spores typically are observed on the alternate host prior to infection of susceptible plant species. The following is information from the USDA Cereal Rust Bulletin.

Rust on barberry. In early June, trace levels of early aecial infections have been observed on common barberry in southeastern Minnesota and south central Wisconsin.

Rust on buckthorn. Aeciospores are being released from aecia on common buckthorn the alternate host for oat crown rust, in the Matt Moore Buckthorn Nursery at St. Paul in southeastern Minnesota. Crown rust infections have spread to oat spreader rows in early June.

SUMMER GRASS SEED FIELD TOUR

The annual Grass Seed Field tour sponsored by the U of MN and MN Turf Council has been scheduled for 5:00 pm on Wednesday, June 24th at the U of MN Magnusson Research Farm. Directions to the U of MN Magnusson Research Farm: from the intersection of Hwy 11 and 89 travel 2 miles north on Hwy 310, turn left off Hwy 310 onto Roseau County 16 and proceed west for approximately 3 miles. The farm is located on the north side of Roseau County Highway #16. Bluegrass, ryegrass, and fescue variety trials will be included on the tour. In addition to grass seed variety trial research, various management trials in perennial ryegrass including; fertility rate and timing, growth regulators, fungicides, foliar nitrogen and other research will be included on this tour.

Next week's newsletter will be released on June 23, 2015.