MINNESOTA TURF SEED COUNCIL
NEWSLETTER
June 28, 2016

RYEGRASS GROWING DEGREE DAYS (GDD)

Ryegrass GDD will be tracked for the 2016 growing season with comparisons to the previous six 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 year to the current calendar date. Thus far in 2016, we have accumulated 1,891 GDD, as of June 26th (Table 1). Last week averaged 226 GDD (32.2/day). The short term forecast suggests a slight pause in the above average temperatures we have experienced, thus far, in June. Projected GDD for the next 10 days at Roseau are 345 (34.5/day) compared to the long term average of 35/day) as the calendar turns into July.

Table 1. Growing degree days (GDD), March - May 2010 to March -May 2016 near Roseau MN.

Year	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2016 vs. 15**
March	38	119	0	0	304	7	137	-81
April	263	367	159	80	370	278	476	-104
May	765	659	654	640	726	639	707	+106
June		941	964	975	979	898	911	
June 1-26	825							
Total	1,891	2,086	1,777	1,695	2,379	1,822	2,231	
June 27-July 6 *	345							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

Leaf and stem rust (very low levels) have been observed at the U of MN Magnusson Research Farm. This leaf and stem rust was observed from areas of fields, which did NOT receive a prior fungicide treatment. Ryegrass fields that received a prior fungicide treatment will be protected based on the product, use rate and number of days since last fungicide application. If looking for leaf and stem rust in perennial ryegrass, the first place to look would be lodged areas of the fields. In addition, other "hot" spots for rust development are areas of the field adjacent to tree lines, wood lots etc., which air movement is reduced and the plants remain wet for an extended period of time.

PEST MANAGEMENT

Rust in ryegrass

Now that leaf and stem rust has been detected in the 2016 season, what are conditions conducive for spread of this disease? Leaf and stem rust develops rapidly when rain or dew is present on plant tissue and the temperatures are above 50 F. A rust infestation can explode in just a few days. Data from the west coast indicates that rust will complete a cycle in 13 to 17 days in 50F and 8 to 9 days if the temps are 65F. Field scouting will determine the presence of rust and the level of infestation. At this point in the growing season, a full rate of a fungicide should protect the ryegrass plant until swathing.

Leaf and stem rust that infects ryegrass is carried into our area on southerly winds. Rust infection is most likely with daily high temperatures in the mid-70 and lows in the 60's. Rust also requires free water on the leaf surface. We usually have dew on the grass until mid-morning in the summer and many days have temperatures that fit into the ideal range for rust development.

Strategies for rust control in ryegrass post heading were reviewed in last week's newsletter, but will be reprinted now that leaf and stem rust has been documented in the 2016 growing season.

Strategies for rust control in ryegrass post heading 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 last applied fungicide is about to "run out". The number of days of disease protection will depend upon the fungicide used and product rate.
3) Spray a fungicide after the accumulation of 1,900 GDD. Historically, leaf and stem rust is observed 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 2,800 GDD).

SUMMER GRASS SEED FIELD TOUR

The annual grass seed field tour will be held 5:00 pm, This Wednesday, June 29th at the U of MN Magnusson Research Farm. Directions to the Magnusson Research Farm.

From the intersection of Hwy 11 and 89 travel 2 miles north on Hwy 310, turn left (west) off Hwy 310 onto Roseau County 16 and continue west for approximately 3 miles. The farm is located on the north side of Hwy 16. Grass seed varieties include: fescue, intermediate wheatgrass, perennial ryegrass and switchgrass. Management projects include: cover crop research, biomass and vegetation composition research, weed control research in ryegrass, fertility rate and timing in ryegrass, ryegrass date of planting trials, ryegrass growth regulators, fungicides and other trials will be included on the tour.

Next week's newsletter will be released on July 5th, 2016.