MINNESOTA TURF SEED COUNCIL
NEWSLETTER
July 8, 2014

RYEGRASS GROWING DEGREE DAYS (GDD)

Ryegrass GDD will be tracked for the 2014 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 year to the current calendar date. To date in 2014, we have accumulated 1,896 GDD as of July 6th (Table1).

The ten day forecast near Roseau projects average high and low temperatures of 76 and 58 F, respectively. If this forecast holds, accumulated GDD for the year will be 2,138 by the weekend.

Do we have more windy days? Several people have suggested that it seems we have more days of southerly winds than normal. The average wind direction for Roseau from a southerly direction, (S, SE & SW) is 34% of the time. This year in June, based on NDAWN data for Roseau, the wind came from a southerly direction 46% of the time. Further, the last 15 days of June we experienced southerly winds 60% of the time. In addition, 77% of the time, we experienced wind gusts of over 20 mph. Well, compared to the long term averages, we have had more winds from a southerly direction with more velocity this June. Leaf and stem rust and other pests travel on southerly winds into the area. It will be important to scout for these pests in the next couple of weeks.

Table 1. Growing degree days (GDD) for March to June, near Roseau, MN in 2009-2014.

Year	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2014 vs. 13**
March	0	0	304	7	137	30	0
April	159^	80	370	278	476	247	-2
May	654	640	726	639	707	515	+14
June	964	975	979	898	911	860	-11
July 1-6	200						
July 7-13*	242						
July**	1,116	1088	1230	1162	1174	943	
Total***	2,812	2,783	3,609	2,984	3,405	2,595	

^ -78 GDD after majority of snow drifts melted
* - Forecasted GDD at Roseau for the next 7 days
** - Projected GDD for July based on an average of 36 GDD/day
*** - Total for 2014 includes projected GDD for July

GENERAL CROP CONDITION

Ryegrass fields seeded in the spring of 2013 are flowering and shedding pollen. Leaf and stem rust has been observed in isolated fields across the area as have grasshoppers and armyworms. Check with your local agronomist, crop scout or seed company representative for pest population levels in your area.

CROP MANAGEMENT

Rust in ryegrass

Leaf and stem rust have been detected in the ryegrass production areas of NW MN. However, as of this week, observed rust infestations have been isolated, not wide spread. The USDA-ARS tracks rust development and movement north from the Gulf of Mexico to the northern plain states. At of the end of June, trace levels of wheat leaf rust was detected in wheat nurseries in St. Paul, MN and Brookings, SD. The leaf and stem rust pathogen 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*)

Several strategies for rust control in ryegrass were discussed in last week's newsletter and will be listed again for a review. In addition, action level for army worm and grasshopper are listed below.

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 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).

Threshold levels

Grasshoppers can be a problem in grass seed crop. 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.

The next newsletter will be released July 15, 2014.