

Checking the Back Forty



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Weekly Growing Degree Days thru October 2, 2011

Station	Temperature (°F)				Growing Degree Days (GDD) (Base 50°F)							
	High	Low	Avg	Departure from normal	Week of September 4-11	Since May 8	Departure from normal	Since May 22	Departure from normal	Since June 6	Departure from normal	
Cobleskill	80	41	62	+8	88	2291	+400	2198	+387	1972	+290	
Morrisville	84	38	61	+8	85	2291	+491	2183	+460	1994	+392	
Norwich	83	41	63	+9	94	2327	+437	2200	+392	1992	+313	
Oneonta	81	42	62	+10	90	2306	+573	2194	+533	1980	+436	

From the USDA National Agricultural Statistics Service New York Field Office and the New York Department of Agriculture and Markets. Weekly accumulations are through 7:00 AM Sunday Morning

This is the last issue of the growing season. I hope it has been of value to you.

We have been tracking Growing Degree Days (GDD) during the season using 50°F as a base temperature. Here are three dates of reference for these GDDs, May 8, May 23 and June 6, 2011. I have eliminated showing the rainfall accumulation at this point in the season even to the end we have had harvest hampered by wet weather.

Corn needs between 1950 to 2100 GDDs to get to silage harvest depending on corn hybrid maturity. So even corn planted June 6 should have had the chance to reach maturity for corn silage. Although we started late we actually had more than adequate heat units for the summer.

OK I am going to go ahead and put in the total rainfall for the season not like anybody really wants to know but the table at right has rainfall for the past week and also for the entire growing season. We had a good third to close to half again as much rain as we normally have in a summer. Even in this last week we had over 1.5 inches. It is hard to imagine that a number of farms to the western side of our region actually had corn drought stressed during the growing season to the point plants were hurt for yield.

Total Season Rainfall thru October 2, 2011				
Station	Precipitation (Inches) 1/			
	Week of Sept 25-Oct 2	Departure from normal	Season	Departure from normal
Cobleskill	1.90	+1.11	37.68	+15.60
Morrisville	2.28	+1.41	34.16	+11.95
Norwich	1.62	+0.82	42.02	+20.08
Oneonta	1.57	+0.80	41.83	+18.44

What happened to the corn? Disease or matured early? Both!

This question keeps coming up and I would encourage we have seen both, plants that definitely were affected by disease and also plants that reached maturity on what appeared to be the early side. Lets take the early maturing corn first. As we have noted in previous Checking the Back 40 issues we have had plenty of GDDs for to get early planted corn mature. I have seen a number of fields that appeared to have all but died over night, totally brown. Bob Nielsen of the Agronomy Department at Purdue University had a good article on this phenomenon called “Top Leaf Death or "Dieback" in Corn”. Given all of the rain we had we still had fields that were drought stressed at times and as Bob points out this can lead to an early dieback. I also think a lot of the corn that appeared to mature early really didn't, it matured normally; the GDDs just accumulated quicker than people thought. Some corn that folks were going to take for corn silage matured earlier by the calendar than they anticipated.

However there was still considerable corn affected by Northern Corn Leaf Blight (NCLB). Although I have shown diseased plants in at least two other issues here is another photo of what the lesions look like. With NLCB you will see distinct boat-shaped or long oval lesions.

NLCB typically is brought into fields by rain events. Right now it looks like it may have been brought in around the time of Hurricane Irene but tropical storm Lee really seemed to bring about the conditions for the disease to spread on plants and plant to plant. As you are choosing hybrids for next year look to choose hybrids with more disease resistance.

Reference:

URL: <http://www.kingcorn.org/news/timeless/TopLeafDeath.html>



A New Disease in New York-Soybean Vein Necrosis Virus (SVNV)

Dr. Gary Bergstrom,

Department of Plant Pathology and Plant-Microbe Biology, Cornell University

The presence of a new soybean disease was confirmed in New York this week. The pathogen is soybean vein necrosis virus (SVNV). It was first described in Tennessee in 2008, and in Arkansas, Illinois, Kansas, Kentucky, and Missouri in 2009. The symptomatic plants in New York came from a soybean field in Ontario County. Symptoms observed in the field were vein-clearing followed by ‘scalded’ reddish areas around the veins and a browning of the veins, especially on the lower leaf surface (see the photo below). Dr. Ioannis Tzanetakis of the University of Arkansas, a leading researcher on SVNV, positively identified RNA of SVNV in samples from Ontario County. In nearly the same time frame as our New York discovery, SVNV has been confirmed in Delaware and Maryland, and with pending diagnoses in Virginia and Pennsylvania. This morning I viewed photographs with symptoms from a field in Herkimer County that also appear to be caused by SVNV; the symptoms were predominantly on the upper, youngest leaves. (Note: Dr. Bergstrom has since confirmed SVNV)

What is known about SVNV? The answer is not very much. It is thought to be transmitted from soybean to soybean by thrips (soybean thrips and perhaps others). Soybean thrips are observed in New York along with a number of other thrips species. The virus has been placed in the Tospovirus group of plant RNA viruses (stands for *Tomato spotted wilt virus*) which are transmitted by thrips. Finding it this year doesn’t mean we will find it next year. We don’t know if the virus can also be transmitted through seed or by any other means. We don’t know if it will have an impact on yield. Potentially the virus may be transported long distances by thrips in one growing season or the virus may survive locally in weed hosts (no one has demonstrated this yet) and then be transmitted locally by thrips when their population increases within a season. Tospoviruses are circulative/propagative in their association with thrips, so if thrips survive our winters, SVNV might well survive in the living thrips. Insecticidal seed treatments may have a role to play in killing thrips on young soybean plants and reducing the incidence of early virus infection. Resistant varieties appear to be the main path to sustainable management and several investigators are assessing varieties in other parts of the country. There is no basis to recommend that farmers do anything substantially different now in their cropping practices just because we found this new virus. For now, I would classify its presence in NY only as a potential problem worth keeping an eye on. We encourage growers and consultants to inspect any still-green soybean plants for possible SVNV and to inform your local Cornell Cooperative Extension field crops educator if you find symptoms that are similar to soybean vein necrosis.

