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Introduction

Plentiful soil moisture in most areas and perfect air temperature should promote high yield potential in area corn fields as they move into the reproductive phase. Many early planted corn fields are now tasseling and beginning pollen drop. The soybean crop is advancing into the full flower (R2) stage of development. Western bean cutworm moth catch in area traps continues to be very low as we near the point of predicted 25% moth emergence. Bean leaf beetle 1st generation populations should be peaking over the next ten days depending on when the soybean field emerged. Scout this generation to help make control decisions for the 2nd generation next month. The most recent issue of the [ISU ICM newsletter](http://www.ipm.iastate.edu/icm/) has information on pests affecting crops in other areas of Iowa. The newsletter can be accessed on-line at <http://www.ipm.iastate.edu/ipm/icm/>

Row-Crop and Forage Development

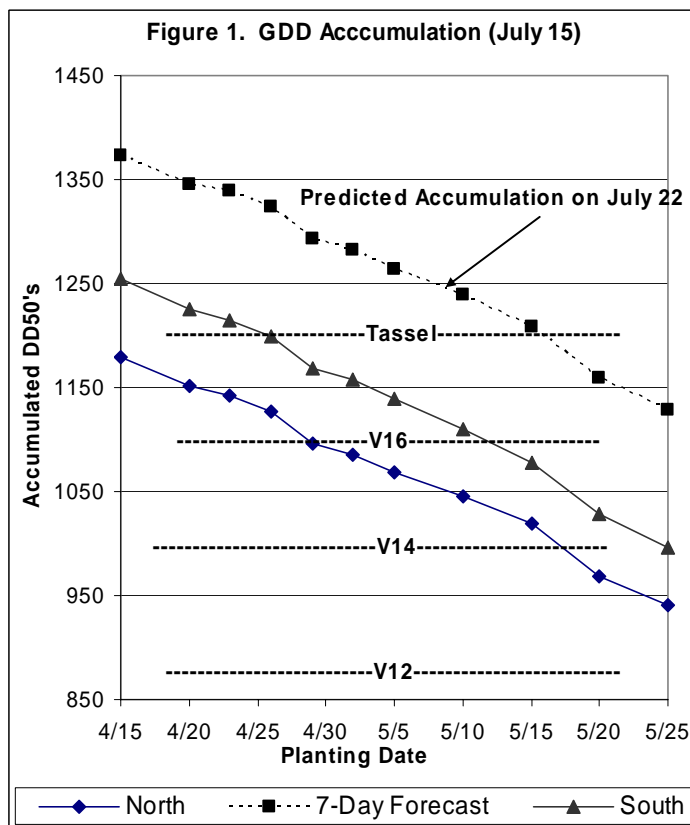
Figure 1 shows accumulated degree days (Y-axis) by planting date (X-axis) and in turn attempts to predict growth stage of corn based on planting date. For a detailed discussion on how to interpret this figure, refer to the May 5 newsletter http://www.extension.iastate.edu/carroll/crops/vol_3_no_07.htm

Degree-Day Weekly Accumulation			
	2003	2002	12-Yr Ave
July 7 - 13	142	157	155
Forecasted July 14 - 20	172	183	164

Corn degree-days (Base 50) During the rainy week of July 7 – 13 degree day accumulation were below the 12-yr average (again) but the forecasted accumulation over the succeeding seven days calls for near normal degree-day accumulations. Degree-days (average for NW Iowa) can be accessed at this web site:

<http://www.extension.iastate.edu/carroll/crops/degree-days-2003.htm>

Corn Development has reached VT (tassel) and R1 (pollination) in the earliest planted fields. The VT stage is initiated when the last branch of the tassel is completely visible and the silks have not yet emerged. VT begins approximately 2-3 days before silk emergence, during which time the corn plant will almost attain its full height and pollen shed begins. The time between VT and R1 can fluctuate considerably depending on the hybrid and environmental conditions. Under field conditions, pollen shed (also termed pollen drop) usually occurs in the late mornings and early evenings. R1 begins when any silks are visible outside the husks. Pollination occurs when these new moist silks catch the falling pollen grains. A captured pollen grain takes about 24 hours to grow down the silk to the ovule where



fertilization occurs and the ovule becomes a kernel. Generally 2-3 days are required for all silks on a single ear to be exposed and pollinated. The shank and husks attain full size between the R1 and R2 stages.

Soybean Development has reached the R2 stage in some fields. R2 is the classification for full flower. At R2 root development has moved across the space of a 40-inch row and root development is tapping the lower soil depths. The soybean plant has accumulated approximately 25% of its final biomass weight and has attained 50% of its final node number. This is a period of rapid growth and dry matter accumulation, which will continue through R6 (Full Seed). The soybean crop is demanding from 0.2 to 0.3 inches of water per day from R2 through R5. The greatest impact of water stress will not occur until Pod Fill. Nutrient uptake at R2 has been minimal by the soybean plant; approximately 31%, 30% and 34% of the total nitrogen, phosphorus, and potassium respectively have been accumulated in the plant at this time. Greatest nutrient demand occurs during pod elongation and fill (R3 – R7).

Special Bulletin: Midseason Hail and Flood Damage on Corn, Soybean and Alfalfa can be found at:
<http://www.extension.iastate.edu/carroll/crops/newsletters/2003/Hail-and-Ponding-Special-edition.pdf>

Pest Management

Western Bean Cutworm moth catch continues at a slow pace over much of Iowa. Still, field scouting should be initiated when western bean cutworm moths are first noticed (NebGuide G98-1359-A). At least one moth has been caught in most west-central Iowa counties (see the moth catch data). Degree-day accumulation for predicted 25% moth emergence has been reached in western IA. Hopefully the small moth catch up to this point is an indicator that WBC populations may be low this year.

You can monitor current degree-day accumulations and trap catch numbers at the following web page: <http://extension.iastate.edu/carroll/crops/wbc-2003.htm>

Trap Catch numbers for all of Iowa can be seen here:
<http://latroductus.ent.iastate.edu/westernbeancutworm/>

A picture of an egg mass can be seen at this web address
http://www.ent.iastate.edu/imagegal/lepidoptera/wbcutworm/western_bean_cutworm_eggs.html

For more detailed information on the WBC, refer to the Nebraska publication G98-1359-A.
<http://www.ianr.unl.edu/pubs/insects/g1359.htm> and an ISU article at
<http://www.ipm.iastate.edu/ipm/icm/2002/7-8-2002/wbeancutworm.html>

Corn rootworm beetle emergence has begun across the area. Fields that have been at risk should be scouted for silk clipping once beetle emergence begins. More information on rootworm beetle scouting and control can be obtained in the most recent ISU IPM newsletter <http://www.ipm.iastate.edu/ipm/icm/2002/7-15-2002/rw.html>

Bean Leaf Beetle degree-day accumulation has surpassed the 1212 mark for soybeans emerging through mid-May. Peak 1st generation emergence will occur around 1212 GDD's following soybean emergence. Begin sampling fields 1 week after peak emergence. **If 1st generation beetles are above threshold, scout again mid August to confirm beetles are present, then make a treatment to control the 2nd generation beetles.** Refer to the following web page for population thresholds and updated degree-days
<http://extension.iastate.edu/carroll/crops/blb-2003-1st-gen.htm>

Cowpea aphids (in Alfalfa) spread across Iowa; ISU Integrated Crop Management Newsletter (7/14/2003)
<http://www.ipm.iastate.edu/ipm/icm/2003/7-14-2003/cowpea.html>

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Serving northwest Iowa

IOWA STATE UNIVERSITY
University Extension

For further information pertaining to this newsletter; please contact me or any of the county extension offices.
This newsletter can also be accessed on-line at http://extension.iastate.edu/carroll/crops/newsletter_2003.htm.

If you would like this letter to be emailed directly to you, please send an email with the desired email address to vagts@iastate.edu.

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