

Extension Crop Update

This newsletter, and previous issues from recent years, can be found on-line at:

<http://www.extension.iastate.edu/plymouth/info/cropupdate.htm>

April 23, 2009

Volume 12, Issue #4



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Corn Emergence: Yesterday (Wednesday) morning I was in a field that was planted last week to see how those seeds had developed. It looked to me like those seeds had just come out of the bag – which I would expect since soil temperatures locally had been below 50 degrees almost the entire time (see this site for soil temperatures: <http://extension.agron.iastate.edu/NPKnowledge/>). Most soils that I dug into looked pretty fit for planting the last few days, and planting into good soil conditions is a must for excellent yield potential. However, the forecast looks for a return to cooler weather after these few warm days, and I know I will be answering questions about slow emergence in a couple of weeks.

In an ISU “Integrated Crop News” article published this week, Elwynn Taylor published a graph that estimated days to emergence with different soil temperatures. You can find this article here: <http://www.extension.iastate.edu/CropNews/2009/0420taylor.htm>. If soil temperatures are only a little above 50 degrees it can take three weeks for emergence – which I observed a year ago in some very early planted corn! If this temperature approaches 60 degrees, emergence time drops to about two weeks. Of course, planting depth, tillage, soil texture and other factors alter these averages.

Bob Nielsen from Purdue University has several articles that might be good references as you watch the emergence of cornfields. The article titled “Germination Events in Corn” does a nice job reviewing the basics, including the fact that a corn kernel has to absorb 30% of its weight in water through the seed coat before it can start the germination process (that’s why dry soils cause slower germination!). See this short article here:

<http://www.agry.purdue.edu/ext/corn/news/timeless/GerminationEvents.html>

Also check out the links at the bottom of that article on “Requirements of Uniform Germination and Emergence in Corn,” and an ISU link to “How a Corn Plant Develops.”

Although most fields I have observed this week have had good planting conditions, like every year there are likely sites that have issues with sidewall compaction. This is a real problem because the main nodal root system that a corn plant needs for the majority of the season originates not at the seed level, but at about one inch below where the first shoot sees sunlight. If that zone one-inch deep is compacted, roots cannot establish well, and our yield potential is reduced. Paul Jasa from the University of Nebraska had a pretty good article discussing how to reduce sidewall compaction in their “Crop Watch” newsletter in 2007. I think it is a great review – go here: http://cropwatch.unl.edu/archives/2007/crop8/sidewall_compaction.htm and read it!

I’m a firm believer that if you fully understand how plant growth and development occurs you improve how you think about managing the planting process. Spend a little time learning or reviewing these articles!

Extension Crop Update, continued

Alfalfa Issues – I've had several calls this past week about patches in alfalfa fields that are not greening up. I think we have areas in some fields that were blown clean of snow this winter, and then really cold weather caused freeze injury to these crowns. Many of these areas do not have any new growth coming back; some have very slow growing plants. When I have dug many of these crowns I observe mushy, yellow colored root tissue. Not a good sign – we want firm, white tissue in roots. In many cases, if these plants continue to grow, they often grow slowly and then die after we start getting moisture stress during the summer.

We often do crown counts this time of year, but counting stems per square foot is a better idea. I like over 55 stems in that area. Spend a little time reading this alfalfa information if you have questions:

<http://www.uwex.edu/ces/crops/uwforage/StandEvaluationFOF.htm> .

Early Planting Risks of Soybeans: I had my earliest call ever today about planting soybeans. I know that Palle Pedersen has frequently discussed the advantage of early planted beans. But, for NW Iowa, his recommendation for early planting starts about May 1 with good weather forecasts. I think that planting today in great weather, with a forecast of cool temperatures for the next week after this warm weather puts a little too much frost risk on soybeans planted right now. I do not recommend it. In a week – with a good forecast? Probably. But not yet – the soybean planting window is still very wide open! Here is a link to his fact sheet on planting dates for your review: http://extension.agron.iastate.edu/soybean/documents/PlantingDate_000.pdf.

Additionally, on the Missouri River Bottom ground south of Sioux City, I observed several soybean fields in 2007 with Sudden Death Syndrome (SDS) in the late summer. ISU Plant Pathologist X.B. Yang, in an ICM News article from this week discusses increased risk of SDS with early planting in wetter soils. In fields with an SDS history, planting after May 15 seems to reduce the incidence of this disease. This article can be found here: <http://www.extension.iastate.edu/CropNews/2009/0421yang.htm>

Have a safe week!

"Thanks for Subscribing!"