

Warm Enough For You?

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With the air conditioner on the fritz down at the Chat 'n Chew Café, the few faithful patrons sweltering in the heat and humidity of the lunch time ambiance have been questioning whether the corn crop is suffering as much as they are. The simple answer is "...probably not."

Yield loss related to excessive heat in the Eastern Corn Belt usually goes hand in hand with dry soil conditions. The nearly statewide rains of last week have enabled many Indiana cornfields to weather (no pun intended) the current hot spell with minimal, if any, effects on yield potential. With ample soil moisture, temperatures in the low 90's are not terribly stressful on corn, even if it is in the middle of pollen shed and silking. Exceptions to this obviously include fields with severe soil compaction, rootworm larval feeding injury, or otherwise shallow root systems.

Throughout this past hot weekend, pollen was plentiful during the relatively cooler morning and evening hours in my field plots at the Purdue Agronomy Farm (yes, I know that's good "dirt" there). Fresh silks continued to lengthen their normal 1 to 2 inches per 24 hours. Exposed silks appeared to be moist and receptive.

Once the bulk of the crop finishes the pollination period, then attention will turn toward the early stages of grain fill. Yield loss during grain fill can occur from abortion of young developing kernels (blister to early milk stage of kernel development) or from lighter weight surviving kernels (Nielsen, 2005).

IF, and I emphasize IF, soil moisture conditions would deteriorate significantly over the next few weeks to a month AND the heat spell were to continue, THEN one could begin to talk about possible yield losses due to heat and drought. At the moment, the forecasts don't seem to be pointing towards that scenario. Temperatures are to moderate later this week and through the weekend. The current NWS 8 to 14 day forecast (as of 17 July) calls for normal temperatures and normal to above normal rainfall throughout Indiana for the remainder of the month.

Statewide USDA estimates indicate nearly half of the state's corn crop is now in the critical pollination period (USDA-NASS Weekly Crop & Weather Report, 17 July). By now, that number is obviously higher and by next week at this time could be as much as 75% of the state's crop. That will leave the remaining 25% of the crop planted or replanted in late May or early June to pollinate in the early days of August.

Related References

Nielsen, R.L. (Bob). 2005. Kernel Set Scuttlebutt. Corny News Network. Purdue Univ. Online at <http://www.kingcorn.org/news/articles.05/KernelSet-0809.html> [URL verified 7/17/06].

USDA-NASS. 17 July 2006. Indiana Weekly Crop & Weather Report. Online at http://www.nass.usda.gov/Statistics_by_State/Indiana/Publications/Crop_Progress_&_Condition/2006/we2906.pdf [URL verified 7/17/06].

Don't forget, this and other timely information about corn can be viewed at the Chat 'n Chew Café on the Web at <http://www.kingcorn.org/cafe>. For other information about corn, take a look at the Corn Growers' Guidebook on the Web at <http://www.kingcorn.org>.

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