

Corn Fields Shutting Down

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Fields of corn around Indiana, especially early-planted ones, are in the process of shutting down for the season. While only 3 % of the state's crop was estimated to be mature (i.e., kernel black layer) as of the week ending 31 Aug, 41 % of the crop was estimated to be at dent stage or beyond (Indiana Ag Stats Service, 2 Sep 2003).

The onset of maturity is naturally accompanied by an eventual senescence of the entire solar harvesting "machinery", but some fields appear to be shutting down prematurely and deserve to be monitored for potential stalk health issues prior to harvest (Nielsen, 2003). The short-term forecast for cool evening temperatures in the mid-50's or lower throughout much of the state the remainder of this week will further accelerate premature senescence of these stressed fields.

Plant stresses contributing to the premature "shutdown" of some fields include:

- Root systems compromised by saturated soil conditions caused by early and mid-season "monsoon" events.
- Drier than normal conditions throughout much of August, accompanied by stressful low to mid-90 F temperatures in the latter part of the month.
- Development of leaf diseases, including gray leaf spot and northern corn leaf blight. The occurrence of the latter disease is interesting given that many corn hybrids have good levels of resistance to this disease (Lipps & Dorrance, 2003).
- Nitrogen deficiency resulting from soil nitrogen loss that occurred earlier in the season following the "monsoon" events.
- Stalk tunneling caused by minor infestations of European or Southwestern corn borer in some fields.

Identifying the cause(s) of premature "shutdown" this year may help you identify management decisions for future years. For example, if leaf disease(s) is the primary culprit this year, then be sure to include disease tolerance/resistance as one of your primary hybrid decision factors next year.

Related References:

Indiana Ag. Statistics Service. 2 Sep 2003. **Indiana Crop & Weather Report**. USDA-NASS. Available on the Web at

<http://www.nass.usda.gov/in/cropweat/2003/we3503.txt>. [URL verified 9/3/03].

Lipps, Pat and Anne Dorrance. 2003. **Corn Leaf Diseases Increasing**. Crop Observation and Recommendation Network, #28: August 25 - September 1, 2003. Available on the Web at <http://corn.osu.edu/archive/2003/aug/03-28.html>. [URL verified 9/3/03].

Nielsen, RL (Bob). 2003. **Stalk Health Issues in Stressed Corn**. Purdue Univ. Corny News Network. Available on the Web at

<http://www.kingcorn.org/news/articles.03/StalkHealth-0813.html>. [URL verified 9/3/03].

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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