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Corny News Network

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Fearmonger Alert:

Monitor Corn Fields for Weakened or Diseased Stalks

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During the grain filling period, developing kernels become a significant photosynthetic "sink" for the products of photosynthesis and respiration. Corn plants prioritize the movement of these photosynthates to the kernels, even at the expense of not maintaining cellular health of stalk, leaf, and root tissues.

The primary effect of severe stress on a corn plant (drought, heat, nutrient deficiency, leaf diseases, insect damage, hail damage, consecutive days of cloudy weather) is a reduction in photosynthetic rates. If photosynthetic capacity decreases significantly during grain fill, plants often respond by remobilizing stored carbohydrates from stalk and leaf tissues to supply the intense physiological demand by the developing grain on the ears. In addition to physically weakening the stalk of plants, remobilization of stored carbohydrates and/or the consequent lower cellular maintenance of root and stalk tissues increases the susceptibility of the plant to root and stalk rots.

Reports have already begun to trickle in from several areas of Indiana about weak plants with varying degrees of root and stalk rot development. Growers should monitor stressed fields the remainder of this month and into early September for compromised stalk strength or the development of severe stalk rots and adjust their harvest schedules accordingly to harvest these fields early in the season before that one big storm brings the crop to its knees.

Related References

Shaner, G. and D. Scott. 1998. **Stalk Rots of Corn.** Purdue Univ. Extension Publication BP-59. Available online at http://www.ces.purdue.edu/extmedia/BP/BP-59.pm65.pdf (URL verified 8/23/05).

Vincelli, Paul. 2004. **Factors That Could Enhance Stalk Rots in Corn.** Kentucky Pest News (Aug 2). Univ. of Kentucky. Available online at http://www.uky.edu/Agriculture/kpn/kpn_04/pn040802.htm#corrot (URL verified 8/23/05).