

Fearmonger Alert:

Freeze Injury Potential for Early-Planted Corn

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Corn planting has been proceeding at a record pace in Indiana thus far in the 2004 growing season. Reasonably warm soil temperatures throughout April have also encouraged faster emergence than usually occurs with such early-planted corn. Such early planting and emergence of corn is always at higher calendar risk of injury by frost events or lethal cold temperatures.

Of these two risk factors, lethal cold temperature is the more worrisome one since a corn plant's growing point region is relatively protected from the effects of simple frost while it remains below the soil surface. Lethal cold temperatures (28F or less) can penetrate the upper inch or two of soil, especially dry surface soils, and kill plant tissue directly, including coleoptiles and growing points. Non-lethal injury by cold temperatures may cause deformed elongation of the mesocotyl or physical damage to the coleoptile in non-emerged seedlings, resulting in the proverbial "cork-screw" symptom and subsequent leafing out underground.

Air temperatures in northern areas of Indiana dipped to the low 30's early in the morning of 3 May, with lower-lying areas likely less than 30F. Given the risk of frost or chilling injury to young corn; it would behoove growers to monitor early-planted fields over the next week to determine whether such injury has occurred and whether replanting may be warranted.

Select References:

Nielsen, R.L. (Bob). 2004. Corkscrewed Corn Seedlings. Corny News Network, Purdue Univ. Available online at <http://www.agry.purdue.edu/ext/corn/news/articles.04/Corkscrew-0501.html>. (Verified 5/2/04).

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>.