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Early-Planted Corn & Potential for Freeze Injury

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Corn planting began in some parts of Indiana during the past couple of weeks. As of 20 April, the USDA-NASS estimated that 9% of the state's corn acreage was already planted. Periods of reasonably warm soil temperatures have encouraged germination of corn and some fields may be approaching emergence or beyond. Such early planting of corn is always accompanied by the 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 growing points. Non-lethal injury by cold temperatures may cause deformed elongation of the mesocotyl or physical damage to the coleoptile, resulting in a "cork-screw" symptom and subsequent leafing out underground.

Air temperatures in some areas of Indiana dipped to potentially lethal levels for several hours early in the morning of 23 April. In many other areas, temperatures were easily in the low 30's F. Given the risk of chilling injury to young corn; it would behoove growers to monitor early-planted fields for stand establishment problems. It wouldn't be surprising if some fields, or areas of fields, will eventually require replanting due to lethal or sub-lethal injury from cold temperatures.

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

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