

Be aware of Imbibitional Chilling

This spring with the sudden change in temperatures from winter to spring has caused much of the snowfall we experienced this April to rapidly melt. This has occurred despite the frost conditions in the soil which still remains in some parts of the field. Most of these areas with frost will be tillable and planting will occur setting up conditions for imbibitional chilling. Below is a definition and picture of imbibitional chilling on corn.

'Cold soil temperatures (sub 50° F) can trigger imbibitional chilling injury or cold temperature injury. These phenomena occur when either seed kernels imbibe water that is colder than what is considered ideal resulting in ruptured tissue during cell expansion or from damage to the mesocotyl during cell elongation. Plant death is possible but more commonly observed are corkscrewed mesocotyls that are responsible for arrested development or delayed emergence.'



While usually an early season event, I have observed the effect of imbibitional chilling on emerged corn later into the spring, causing stunted and yellowish and purple corn symptoms. While the corn does eventually recover, yield reduction effects have already occurred.