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## Why are corn seedlings turning purple?

Roger W. Elmore

*Iowa State University*, [relmore@iastate.edu](mailto:relmore@iastate.edu)

Lori Abendroth

*Iowa State University*, [labend@iastate.edu](mailto:labend@iastate.edu)

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# Why are corn seedlings turning purple?

## **Abstract**

Cool, wet weather has created a yellowish cast across many newly emerged corn fields in Iowa. Symptoms like this are not unexpected considering the conditions seedlings were subjected to following planting. Seedbed conditions now are very different than what they were originally for corn planted weeks ago. The seedbed is cooler now and coupled with the recent cloudy skies and cool air temperatures we've experienced, the end result is a stressful environment for the young seedlings. Average soil temperatures on Sunday, May 7, 2006, were in the mid-50°s to mid-60°s across the state.

## **Keywords**

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## Crop Production

### Why are corn seedlings turning purple?

by Roger Elmore and Lori Abendroth, Department of Agronomy

Cool, wet weather has created a yellowish cast across many newly emerged corn fields in Iowa. Symptoms like this are not unexpected considering the conditions seedlings were subjected to following planting. Seedbed conditions now are very different than what they were originally for corn planted weeks ago. The seedbed is cooler now and coupled with the recent cloudy skies and cool air temperatures we've experienced, the end result is a stressful environment for the young seedlings. Average soil temperatures on Sunday, May 7, 2006, were in the mid-50's to mid-60's across the state.

John Kennicker, ISU Extension field crop specialist in south-central Iowa, has reported seeing corn seedlings that are exhibiting a purplish tint. Purple leaf coloring is more pronounced in some hybrids' genetics than others. Most often though, the leaf purpling is related to stress experienced by the young seedling and/or restricted root development. Phosphorus unavailability is often mentioned as a culprit for the purple leaves. Phosphorus deficiency will result in reddish-purple leaves, yet it is not likely the primary cause. A reddish-purple tint on leaves can be due to anything that disrupts sugars within the plant. Cool and/or compacted soils, as well as shallow planting, can each create the opportunity for purpling to be expressed in corn leaves. If root development is restricted (due to temperature or seedbed problems), then the observed symptoms are simply an expression of this since the plant is not developing normally.



Purple corn is probably related to stress and restricted root development. (John Kennicker)

We believe any root restriction that may be occurring is only temporary in nature and that seedlings should regain a healthy green color as weather conditions improve. As such, yield should not be affected. It is a good check to dig a few plants after they green up to ensure that root development resumes and is not hindered in any way.

*Roger Elmore is a professor of agronomy with research and extension responsibilities in corn production.*

*Lori Abendroth is an agronomy specialist with research and extension responsibilities in corn production.*

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