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Assess Seedling Health When Doing Stand Counts

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Assess Seedling Health When Doing Stand Counts

Abstract

Corn planting is virtually done, and across Iowa small green spikes are becoming visible as seed germinates. Now is the time to start assessing stands. Doing stand counts involves more than just counting the number of seedlings that have emerged. Seedling health should also be assessed. ISU Extension field agronomists Virgil Schmitt and Mark Carlton have reported that seedling rots are prevalent in southeast Iowa.

Keywords

Plant Pathology

Disciplines

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Assess Seedling Health When Doing Stand Counts

By Alison Robertson, Department of Plant Pathology

Corn planting is virtually done, and across Iowa small green spikes are becoming visible as seed germinates. Now is the time to start assessing stands. Doing stand counts involves more than just counting the number of seedlings that have emerged. Seedling health should also be assessed. ISU Extension field agronomists Virgil Schmitt and Mark Carlton have reported that seedling rots are prevalent in southeast Iowa.

Rotted seedlings may result from fungal infections, anhydrous ammonia injury, wireworms and cold injury. Seedling susceptibility to fungal infection increases the longer the seed sits in the ground, and the more stress germinating corn undergoes. Wet and cool (less than 55 F) soil conditions predispose seedlings to infection by a number of fungi.

Corn germinates well at soil temperatures above 68 F. When soil temperatures are below 55 F, germination is greatly retarded. This growing season, soil temperatures across much of the state were above 55 F from April 13 through April 23, when temperatures dropped below 55 F for two (central and northwest Iowa) to five (southeast Iowa) days (Figure 1).

Last year, Gary Munkvold and I reviewed seedling diseases of corn and discussed some of the seed treatments that are available for corn in the ICM News article, [Check General Root and Mesocotyl Health when Assessing Corn Stands](#). I encourage you to read through the article again.

As you evaluate corn stands, remember to dig up seedlings and check for symptoms of seed rots and seedling blights. This will also give you an opportunity to evaluate the effectiveness of the seed treatment that was applied to the seed planted. If you have significant seedling rot, you may have to replant. For replant decisions, please see Roger Elmore and Lori Abendroth's article on [assessing corn stands for replanting](#).

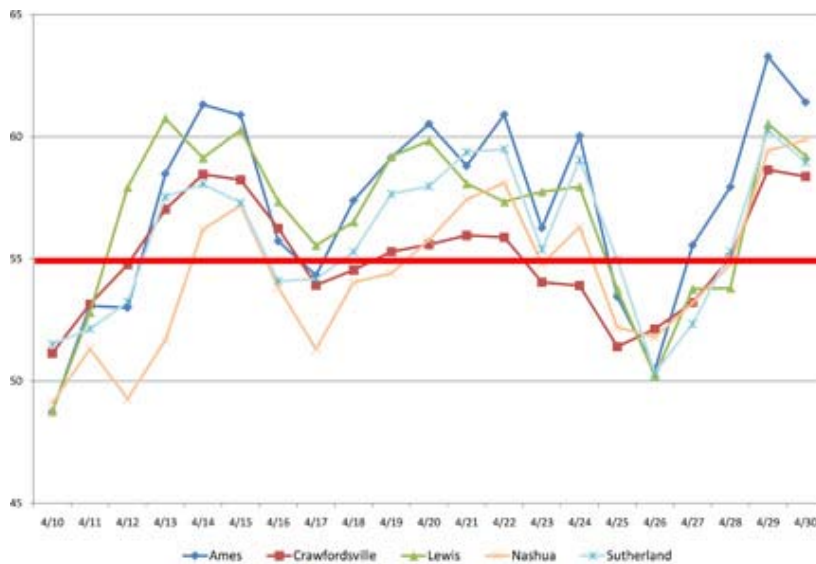


Figure 1. Mean 4-inch soil temperatures at ISU research farms from April 10 through April 30, 2010. Soil temperatures below 55 F greatly retard germination of corn and predispose seedlings to infection by a number of fungi.

Alison Robertson is an assistant professor of plant pathology with research and extension responsibilities in field crop diseases. Robertson may be reached at (515) 294-6708 or by email at alisonr@iastate.edu.

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