

# Stalk Rot: Naturally Controlled In Sorghum; Same For Corn?

**ANDY ANDREWS**  
Editor

**LANDISVILLE** (Lancaster Co.) — Research into a natural resistance to stalk rot on sorghum plants is slowly yielding its promise to plant scientists.

Penn State researchers are looking for ways to convert that same type of naturally occurring resistance to stalk rot from sorghum to corn plants.

The potential harvest of information could mean savings of thousands of dollars in spraying fungicides on crops or the use of preplant strategies to control fungus.

The idea of coming up with ways to metabolically engineer phytoalexins in corn is the work of Surinder I. Chopra, assistant professor of maize genetics, Department of Crop and Soil Sciences and Faculty of Life Sciences Consortium at Penn State.

Together with colleague Michael Robbins, doctoral student in ecological and molecular plant physiology, Chopra is looking at ways of using natural plant chemicals to impart plant dis-

ease resistance.

Chopra and Robbins spoke about the research during the first Penn State-sponsored Agronomy-Industry Field Day at the Southeast Research and Extension Center last July.

Robbins noted the research is in the very early stage. But the fungus (anthracnose) that attacks stalks in corn is put at bay by naturally occurring chemicals in sorghum.

The department is using a "transgenic approach," noted Chopra, to find the genes in corn and to adapt those methods either through traditional breeding or biotechnology.

The sorghum's genes produce a red pigment. The pigment is toxic to the fungus. The question: how to find that same protein in corn?

In the coming years, the team will be looking at several strategies that could provide a big impact on how fungus is controlled in field corn.



Michael Robbins, far right, is a doctoral student in ecological and molecular plant physiology at Penn State. He spoke about research into developing natural resistance in corn to stalk rot in July. Photo by Andy Andrews, editor

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