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January 13, 2009

Use Resistant Varieties to Combat Soybean Diseases, Save Money in '09

LINCOLN, Neb. & As Nebraska farmers continue to make their seed selections for 2009, using resistant varieties to combat soybean diseases can not only save them headaches during the growing season but time and money.

This and other cost saving tips to help deal with high input costs in crop production can be found at UNL's [Surviving High Input Costs in Crop Production](http://cropwatch.unl.edu/survivinghighinputcosts.htm) (<http://cropwatch.unl.edu/survivinghighinputcosts.htm>) Web page.

When choosing varieties, the first thing to do is to select agronomic characteristics to match ground and other conditions, said Loren Giesler, University of Nebraska-Lincoln Extension plant pathologist.

"This should be the first criteria for making a decision along with the correct disease defense package," Giesler said.

A growing problem in Nebraska soybean fields is soybean cyst nematode.

"It is important that once identified in a field that soybean cyst nematode-resistant varieties be used in a rotation system so that the population (number of nematodes per unit of soil) does not reach a level that makes soybean production unfeasible," Giesler said.

SCN was originally identified in counties bordering the Missouri River. However, it now has been observed throughout the eastern third of Nebraska and as far west as McCook.

"Soybean cyst nematode is spreading. Each year, new fields are identified," Giesler said.

SCN can reduce Nebraska soybean yields by about 2.3 million bushels each year for an impact of over \$20 million. The disease, caused by the nematode *Heterodera glycines*, can be a problem anywhere, but has been found more frequently near waterways.

More information about the soybean cyst nematode, including symptoms and how to sample a field, can be found in UNL Extension NebGuide G1383, [Soybean Cyst Nematode Biology and Management](http://www.ianrpubs.unl.edu/sendIt/g1383.pdf) (<http://www.ianrpubs.unl.edu/sendIt/g1383.pdf>), available at local UNL Extension offices or online.

Another disease that was a problem in many fields in 2008 as a result of wet conditions was *Phytophthora* root and stem rot.

This disease is caused by the fungus *Phytophthora sojae* and has been found throughout Nebraska soybean production areas, Giesler said.

However, in many Nebraska fields, the biotypes of Phytophthora can be defeated with commonly marketed resistance genes in commercial varieties, he said.

The disease primarily is a problem in fields with poor drainage or in soils with high clay content that maintain high moisture levels.

Several sources of resistance are sold in Nebraska, which include: Rps1k (most common), Rps 1 c (second most common) and Rps 1a and Rps 3 (limited availability).

"In some cases, the biotype of Phytophthora in the field may be resistant to a source and the product will be ineffective," Giesler said. "In surveys we have identified several fields with such biotypes. In these cases, it is critical that good tolerance to Phytophthora be used along with increased rates (high end of label range) of seed treatment fungicides containing mefenoxam or metalaxyl."

More information about Phytophthora, including how to identify and manage this disease, is available in UNL Extension NebGuide G1785, [Management of Phytophthora Root and Stem Rot of Soybeans](http://www.ianrpubs.unl.edu/sendIt/g1785.pdf) (<http://www.ianrpubs.unl.edu/sendIt/g1785.pdf>), available at local UNL Extension offices or online.

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