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Phomopsis-infected seed

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Abstract

In recent years, there has been an increase in diseases caused by *Phomopsis* fungi, and these diseases have contributed to premature yellowing or death of many soybean fields in the 2001 growing season. This fall, the Iowa State University Plant Disease Clinic received samples of soybean with the stems covered with black lesions, diagnostic of *Phomopsis* pod and stem blight.

Keywords

Plant Pathology

Disciplines

Agricultural Science | Agriculture | Plant Pathology

INTEGRATED CROP MANAGEMENT

Phomopsis-infected seed

In recent years, there has been an increase in diseases caused by *Phomopsis* fungi, and these diseases have contributed to premature yellowing or death of many soybean fields in the 2001 growing season. This fall, the Iowa State University Plant Disease Clinic received samples of soybean with the stems covered with black lesions, diagnostic of *Phomopsis* pod and stem blight.

When pod and stem blight occurs, dark lesions are found on the pods, petioles, and nodes of stems. Upper portions of an infected plant turn yellow and die. A cool summer and delayed planting are favorable conditions for this disease (see the [September 2001 Integrated Crop Management newsletter](#) [1] for details on this disease). When pod infection occurs, the fungus may penetrate pod and infect seeds, resulting in seed decay, which is found only after harvest.



Soybean stem infected by *Phomopsis*.

[Enlarge](#) [2]

Seeds infested with *Phomopsis* are cracked and shriveled and usually have a reduced germination rate. My laboratory tested seed from one field this fall and the seed infection was as high as 38 percent. If these seeds are planted, emergence would be low due to seed rot or seedling blight. It is recommended to do seed testing if seeds are to be saved from fields where pod and stem blight was severe this year. ISU Seed Science Center provides seed testing for a reasonable charge. For more information on seed testing, call 515-294-6821.



Soybean seeds infected by *Phomopsis*.

[Enlarge](#) [3]

If the *Phomopsis* infection is light, the seed may still be used for planting. However, keep in mind that although some infected seed may look fine right after harvest, seed decay can continue during storage. Consequently, the germination rate may actually be lower than

indicated for seed tested right after harvest. Studies show that use of seed treatments can improve germination for *Phomopsis*-infected seeds. However, when seed decay is severe and has badly reduced seed vigor, the effect of seed treatment may be limited. Knowing the level of seed infection is therefore important.

Furthermore, the *Phomopsis* fungus survives in infested crop residues. If the infection was severe during the growing season, consider using tillage or reduced tillage to bury the infested residues, which helps reduce disease pressure for the next soybean crop.

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<http://www.ipm.iastate.edu/ipm/icm//ipm/icm/2001/10-22-2001/phomopsis.html>

Links:

[1] <http://www.ipm.iastate.edu/ipm/icm/2001/9-17-2001/whyyellow.html>

[2] <http://www.ent.iastate.edu/imagegal/plantpath/soybean/phomopsis/phomopsisstem.html>

[3] <http://www.ent.iastate.edu/imagegal/plantpath/soybean/phomopsis/phomopsisseeddamxb.html>

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