

6-14-2004

Damping-off prevalent this spring

X. B. Yang

Iowa State University, xbyang@iastate.edu

Follow this and additional works at: <http://lib.dr.iastate.edu/cropnews>

 Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), [Meteorology Commons](#), and the [Plant Pathology Commons](#)

Recommended Citation

Yang, X. B., "Damping-off prevalent this spring" (2004). *Integrated Crop Management News*. 1565.
<http://lib.dr.iastate.edu/cropnews/1565>

The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current information on integrated crop management from Iowa State University Extension and Outreach, please visit <https://crops.extension.iastate.edu/>.

Damping-off prevalent this spring

Abstract

The combination of early planting and abundant rains means soybean seedlings have been in cool and wet soil longer than normal this season. That combination creates the perfect breeding ground for soybean seedling diseases. In this Monday's teleconference, almost all Iowa State University Extension field crop specialists (FCS) reported occurrence of damping-off in their regions. Similar reports were received from agronomists from private companies.

Keywords

Plant Pathology

Disciplines

Agricultural Science | Agriculture | Meteorology | Plant Pathology

INTEGRATED CROP MANAGEMENT

Damping-off prevalent this spring

The combination of early planting and abundant rains means soybean seedlings have been in cool and wet soil longer than normal this season. That combination creates the perfect breeding ground for soybean seedling diseases. In this Monday's teleconference, almost all Iowa State University Extension field crop specialists (FCS) reported occurrence of damping-off in their regions. Similar reports were received from agronomists from private companies. Replanting resulting from damping-off and other weather related soybean stand reductions has been reported by FCS varying in a range of 2 to 5 percent. Damping-off in corn is also reported.

Damping-off can be caused by *Pythium*, *Phytophthora* or other soilborne fungi. *Pythium* and *Phytophthora* are the most common causes of damping-off in Iowa. It is very difficult to determine the causal organism just by observing diseased plants since the damping-off symptoms are the same for the two fungi. Isolation of the fungus must be done before the cause can be determined. However, the two fungi require different temperature regimes for infection. A general rule is that, if damping-off occurs in warm soil (70-80° F), it is more likely to be caused by *Phytophthora*. If it occurs in cool soil (50-60° F), it is more likely to be caused by *Pythium*.



Stand reduction by damping-off.

[Enlarge](#) [1]

Together with temperature information, two other pieces of information also can be used to determine the casual agents. First, check to see if the infected plants have good resistance to *Phytophthora*. If yes, the chances that *Pythium* is to blame is high when temperatures are cool. Second, seedlings become more resistant to *Pythium* after V2 growth stage. If you continue to observe dying plants after V2 growth stage, the chance of *Phytophthora* is to blame increases. *Phytophthora* has stem rot symptom after seedling stage, which is unique to this disease (see other issues of ICM Newsletter). If you want a firm confirmation, test kits are available from the Iowa State University Plant Clinic, to identify *Phytophthora* in less than half day, once samples are received.

This crop season, several weather-related factors have contributed to soybean stand reduction besides fungal diseases. Hail injuries are one of most common. Hail not only kills plants directly, it also increases susceptibility of soybean seedlings to fungal infections by creating wounds. Plants infected by fungi after hail injury are less like to recover and these plants normally start to die a few weeks after hail damage.

Occurrence of damping-off indicates high population of the pathogen in soil. In other words, there is a high risk to replanted soybean. When replanting, consider using seed treatments containing fungicides that can control both *Pythium* and *Phytophthora* to prevent the re-occurrence of the disease. Because the chemicals used as seed treatments to control both diseases are the same, it may not be important to determine the causal agent if replanting decision needs to be made in a short period of time.

This article originally appeared on pages 68-69 of the IC-492(11) -- June 14, 2004 issue.

Source URL:

<http://www.ipm.iastate.edu/ipm/icm//ipm/icm/2004/6-14-2004/dampoff.html>

Links:

[1] <http://www.ent.iastate.edu/imagegal/plantpath/soybean/dampoff/1303.84xbdampoff.html>

IOWA STATE UNIVERSITY
University Extension