Midsummer soybean disease scouting

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, and the Agronomy and Crop Sciences Commons

Recommended Citation
http://lib.dr.iastate.edu/cropnews/1315

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 Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user.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/.
Midsummer soybean disease scouting

Abstract
Cool weather this year has resulted in different soybean diseases than we have experienced in other years. Cool and wet conditions are favorable to the development of fungal disease. This year has been cool but not wet; therefore, the disease picture will be unique. This article discusses diseases that you are likely to find during summer disease scouting.

Keywords
Plant Pathology

Disciplines
Agricultural Science | Agriculture | Agronomy and Crop Sciences

This article is available at Iowa State University Digital Repository: http://lib.dr.iastate.edu/cropnews/1315
Plant Diseases
Midsummer soybean disease scouting
by X. B. Yang, Department of Plant Pathology

Cool weather this year has resulted in different soybean diseases than we have experienced in other years. Cool and wet conditions are favorable to the development of fungal disease. This year has been cool but not wet; therefore, the disease picture will be unique. This article discusses diseases that you are likely to find during summer disease scouting.

Sudden death syndrome. This year it appears that sudden death syndrome (SDS) was found earlier than in previous years. In 2000, SDS was found earlier in the summer season. Because this year has generally been cool, conditions are favorable for SDS fungus in fields having high moisture. This growing season has been dry in most areas of Iowa, but we would expect to find the disease in fields with high moisture in June. Eastern Iowa usually sees more SDS than central and western Iowa. Jim Fawcett, ISU field crops specialist for eastern-central Iowa, reported soybean plants with SDS-like foliar symptoms in Linn County, where the disease has been a problem for years. A sample is on its way to the ISU Plant Disease Clinic for confirmation.

Preventive measures, such as scouting, are key to reducing the risk of this disease. Pay attention to early-planted soybean fields when scouting. Symptoms of this disease are characterized by interveinal necrosis. A major management measure is to use tolerant varieties, which are available from most seed companies. Other management measures can be found in Soybean Sudden Death Syndrome (PM 1570), available by checking the ISU Extension online store at www.extension.iastate.edu/store or contacting your local ISU Extension office.

Phytophthora rot. At planting time, Phytophthora caused damping-off. There have been reports of Phytophthora in eastern and southern Iowa after planting. In midsummer, this fungus can continue to infect soybeans, causing stem and root rot. More often, infected plants have chocolate brown discoloration on the stem, especially in areas where plant stands are thin as a result of damping-off.

Management relies on the use of resistant varieties. The Rps-1k gene has been a major gene used in commercial varieties. There have been increased reports of the Phytophthora fungus overcoming this gene. If you find the fungus, be alerted for the next soybean crop.

White mold. Occurrence of white mold is unpredictable because the methodology to detect this disease is unavailable. Cool temperatures during flowering this summer provided ideal conditions for the occurrence of soybean white mold. However, soil moisture was low in many areas while soybeans were flowering. If fields where white mold occurred in the past have good soil moisture levels during flowering, we would expect this disease to occur.

During scouting, pay close attention to fields having good soil moisture levels and dense canopies. Also check production of white mold mushrooms. If mushroom production is abundant, apply a chemical treatment to control the development of this disease.

Other diseases. There have been many reports of yellowing soybean—patches with symptoms similar to potassium deficiency or iron chlorosis. They often occur in fields or areas with poor drainage and fungal root rots are often associated with the symptoms. The cause of this problem is complicated and affected soybean plants can generally survive. As the plants grow, the yellow patches disappear from soybean fields. The effects on yield, however, have not been determined.

Viral diseases were a concern early in the season. Since the weather has been cool, the population of bean leaf beetles, vectors of the bean pod mottle virus, have been lower than years when the disease was prevalent. A cool summer will not favor the disease; however, the level of this disease in the next two months is yet to be determined. This disease is likely to be in fields near woody areas where the beetles overwinter and in earlier planted soybean fields. In areas where severe disease is observed, take good notes for future management. Soybean variety makes a difference in disease severity.

---

X. B. Yang is a professor of plant pathology with research and extension responsibilities in crop diseases.