

INTEGRATED CROP MANAGEMENT

IC-496 (18)

193

July 3, 2006



Plant Diseases

Assessing the risk of soybean white mold in 2006

by X. B. Yang, Department of Plant Pathology

Soybean white mold was prevalent during the 2004 season in eastern Iowa. Many of the infested fields were replanted with soybean this year. Some farmers, especially those in eastern Iowa, have questioned the risk of soybean white mold this year. White mold management measures are preventative and include the application of chemicals. This means that correctly assessing the risk of this disease helps guide our decisions on chemical controls. This article discusses the risk factors to help you assess the risk for this season.

Severe white mold outbreaks in 2004 built up the inoculum and increased the risk for future outbreaks. The first major outbreak of white mold in Iowa occurred in 2004. Since then, the disease has been severe every other year. There were severe outbreaks in 1996 and 1998. However, due to dry weather, the disease was not a problem again until 2004.

The flowering stage is a critical period for the initiation of white fungus, as it enters soybean plants from senescing flowers. With the high level of pathogens built up in 2004, weather conditions from now until mid-July are the sole factor in determining the potential outbreak of this disease. The white mold fungus requires cool air temperature and moist soil to produce spores. A period of cool, wet conditions during flowering will promote an outbreak.

A comparison with 2004 will help us to assess the risk. In 2004, the growing season was cool and rainy and soil was saturated. This year the weather has been cool, a factor that favors the occurrence of white mold. However, the general weather pattern has been dry, and the focus has been on insect control. Dry soil resulting from dry weather prevents the production of white mold mushrooms. According to the National Oceanic and Atmospheric Administration's climate outlook, the month of July should have normal precipitation and higher than



Soybean white mold
(X. B. Yang)

In this issue:

- Assessing the risk of soybean white mold in 2006 _____ 193-194
- Fungicides: Safety and restrictions _____ 194-195
- Rain, rain, come again! _____ 196

IOWA STATE UNIVERSITY
University Extension

normal temperatures, which are unfavorable for the disease. If this prediction is correct, it is safe to say that this year's risk will be lower than 2004. Listen to local weather forecasts in the next two weeks to assess the risk of white mold in your field.

The risk of white mold varies from field to field. In general, narrow row soybean fields have a higher risk than wide row soybean fields. Soybean fields planted early have a higher risk than those planted later. In narrow row or early-planted soybean fields, the canopy closes earlier, which helps the soil retain moisture, a factor favoring white mold mushroom production. River-bottom fields, fields with long hours of shade in the morning, fields applied with manure, and fields with a dense canopy all carry a higher risk of white mold due to the higher moisture content in the soil as well. If the soil is dry, though, the disease should not be a problem.

In summary, the risk of white mold this season should be lower than in 2004. A regional outbreak as severe as the one in 2004 is unlikely; however, we cannot rule out another outbreak this season just now. The weather in the coming two weeks will be the determining factor for the recurrence of white mold in soybean fields that had the disease in 2004.

Besides an assessment, you should make efforts to scout for white mold mushrooms from now until mid-July. If you find a surge of white mold mushrooms in your fields, a chemical application should be considered to contain the outbreak and minimize damage to your crop.

X. B. Yang is professor of plant pathology at Iowa State University.



Plant Diseases

Fungicides: Safety and restrictions

by Daren Mueller, Department of Plant Pathology, and
Joyce Hornstein, Department of Entomology

Reading through a pesticide label will give you most of the needed information concerning safety for both yourself and others while spraying field crops. Below is a synopsis of some of the dangers and restrictions for some common fungicides. For details on a specific fungicide, please follow the label's directions for mixing and application along with the instructions for safe use.

*Eighth
in a
series*

Personal protective equipment

Fungicides labeled for use on field crops have minimal requirements for personal protective equipment, with a few exceptions:

- long-sleeved shirt and pants,
- shoes plus socks, and
- chemical-resistant gloves.

Some fungicides require coveralls over regular work clothing, and some fungicides only require waterproof gloves. Also, nearly half of the available fungicides require protective eyewear.

Other requirements include chemical-resistant footwear, chemical-resistant headgear for overhead exposure, and a chemical-resistant apron when cleaning, mixing, or loading (Headline[®], Headline[®] SBR, and



Nearly half of the available fungicides require protective eyewear. (Joyce Hornstein)

Laredo[®] 25EC). A few fungicides may require the use of a respirator. The details about the specific type of respirator will be listed on the label.

The Worker Protection Standard (WPS)

The WPS is a federal regulation designed to protect agricultural workers and handlers. It covers pesticides that are used in the production of agricultural plants on farms, forests, nurseries, and in greenhouses. If the pesticide that you are using has an "Agricultural use requirement" statement in the "Directions for Use"