White Mold Control in a Flood Year

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Abstract
Since the first outbreak of white mold in 2004, white mold has been an even year disease in Iowa. In eastern Iowa, some producers regularly use fungicides or herbicide to control this disease, especially in even years. In a wet season like this, many people will think that this is a year for white mold occurrence. However, this is not true. For many soybean fields in Iowa, this year is a low risk year. One should assess the risk before spraying for white mold control. This article will discuss how to assess the risk in your soybean field.

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White Mold Control in a Flood Year

By XB Yang, Plant Pathology Department

Since the first outbreak of white mold in 2004, white mold has been an even year disease in Iowa. In eastern Iowa, some producers regularly use fungicides or herbicide to control this disease, especially in even years. In a wet season like this, many people will think that this is a year for white mold occurrence. However, this is not true. For many soybean fields in Iowa, this year is a low risk year. One should assess the risk before spraying for white mold control. This article will discuss how to assess the risk in your soybean field.

Assessing the risk of soybean white mold
The key is knowing that white mold outbreak needs dense canopy. As Dr. Grau at the University of Wisconsin puts it, white mold management is canopy management. White mold outbreaks need inoculum, favorable environments, and just the right flowering time. Missing any one of these three, the disease will not occur. In fields that historically have white mold problems, inoculum is not a limiting factor, which should be true for many soybean fields in eastern and central Iowa.

As for the environment, white mold development needs a lot of moisture and this year is good. However, wet weather does not necessarily mean the conditions are good for white mold if the soybean canopy is wide open during soybean flowering time. White mold fungus produces spores via its mushrooms. The mushroom growth is light sensitive. No or very few mushrooms can grow when soybean canopy is wide open.

The last critical factor is flowering. White mold spores attach soybean plants via dead flowers. When soybeans pass over the flowering period, no infections can occur even after canopy is closed. In Iowa, most infection occurs in the second or third weeks of July, and this year may be late due to cooler climate.

This year, high risk fields are the fields that meet the following two conditions 1) had white mold problems in previous season, 2) have closed canopy during the soybean flowering period. Fields planted earlier or in narrow rows may meet the conditions.

In soybean fields with a wide open canopy during soybean flowering time, the disease should not be a concern. If the canopy is more or less closed during the flowering period, there may be some level of infection. The denser the canopy is during the flowering time, the higher the risk.

When to spray fungicide/herbicide
In eastern Iowa, some producers regularly use fungicides or herbicide to control this disease. In a year like this, unless fields are in the category of high risk, there is no need to spray for white mold control, as risk in this year is low because of poor crop growth. We can recall that whenever a season has had a wide spread of white mold in Iowa, we have had a bumper crop.
Soybean white mold mushrooms.

*XB Yang is a professor Plant Pathology with research and extension responsibilities on soybean diseases.*