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Early Planting and Soybean Disease Considerations

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Abstract

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Keywords

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Early Planting and Soybean Disease Considerations

by XB Yang, Department of Plant Pathology

Blessed by good weather, crop planting in Iowa has begun smoothly. During the April 20 crop teleconference, Extension field agronomists reported good progress of corn planting and some soybean plantings before April 20 around Iowa. With the current weather outlook favorable for spring planting, many soybean fields are likely to be planted early (before the end of the first week of May).

While early planting increases our chance for maximum yield, we should also keep in mind that the risk of some soybean diseases is associated with early planting. Sudden death syndrome is one of them.

Sudden Death Syndrome

In 2007, sudden death syndrome was wide spread in Iowa. Many of those infested fields will return to soybean after being rotated with corn last year. Early planting in these fields will likely have a higher risk of SDS.

New research data suggests that the critical stage for the SDS pathogen to infect soybean plants is before emergence of the germinated seed. Infections occurring at early growth stages are more likely to produce foliar symptoms late in the summer. Soybeans planted early in cool soil have slow germination and emergence, which prolongs the contact period between pathogen and soybean, promoting infection.

Plant pathology literature and our experience suggest that in a growing season with regular levels of soil moisture, the earlier the planting the higher the disease risk. Research in Missouri proved that the disease is more severe in fields planted in early spring.

My experience in Iowa is that soybean fields showing severe defoliation in summer and early fall were likely planted before the end of the first week of May. Rarely, there are cases of severe SDS in fields planted after May 15. If you have fields with a high SDS risk, consider making a planting route in which fields that had SDS in 2007 would be planted last. Such a plan will avoid very early planting and reduce the risk of disease re-occurrence.

White Mold

White mold is another disease that should be kept in mind when moving soybean fields for an early planting – although white mold is more prevalent in even years. Early planted soybean fields tend to have a denser canopy, which encourages white mold occurrence, especially in fields that have had white mold in the past.

White mold management to a large degree is canopy management. Besides managing canopy density, one could also use varieties resistant to white mold. Over the years there have been many varieties developed with good resistance to white mold. If you plan to plant early in a field that has had white mold within the last four years (even if it hasn't been in soybeans every year) use a seed variety that is resistant to this disease.

XB Yang is a professor of plant pathology with responsibility in research and extension. Yang can be contacted by email at xbyang@iastate.edu or by phone at (515) 294-8826.

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