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Hybrid reactions to gray leaf spot

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Abstract
Gray leaf spot continues to be the most bothersome leaf disease in Iowa. In our research plots, susceptible check hybrids were noticeably more diseased this year than they have been during the past couple of years. But it also was very noticeable how much better the majority of hybrids in the Iowa Crop Performance Test looked compared with the check hybrids.

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In fall 1995, the Des Moines Register farm section ran the headline "Fungus, fears spread across the Corn Belt." The article described the rapid increase in the severity of gray leaf spot during the 1990s and made comparisons to the southern corn leaf blight epidemic of the early 1970s. Gray leaf spot certainly was not as devastating as that disease, but in 1995 it did seem that economic losses to gray leaf spot would continue to be considerable.

But during the past 7 years, selection for resistance to gray leaf spot has paid off. In 1996, the annual gray leaf spot ratings for the southern Iowa Crop Performance Test plots show that most hybrids were not much better than the susceptible check. In 2001, however, the difference between the same susceptible check and the rest of the hybrids was twice as big as it was in 1996 (see graph). This is one reason why gray leaf spot has been out of the headlines.

Comparison of gray leaf spot ratings for susceptible check hybrid and average of other hybrids in the Iowa Crop Performance Test in 1996 and 2001. Ratings are on a 1-9 scale with 1, little or no disease and 9, almost all leaf tissue killed. Ratings are late-season disease severity in the Crop Performance Test plots and may not correspond to seed company ratings.

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