Barley Yellow Dwarf Could Cause Serious Yield Loss

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The current and projected high price of wheat is predicted to encourage a significant increase in wheat production in Kentucky next spring. It is always important to maximize economic yield, but this is especially true when each bushel of wheat has a high value, and input costs are also high. Barley yellow dwarf (BYD) is a virus disease that can cause serious yield loss when stunted and discolored plants are widely distributed in a field. Severe losses due to BYD, state-wide, occur about every five years or so, but individual fields are impacted to varying degrees each year. There are many diseases that can reduce wheat yields, but much of the BYD management program is in place by the time seed is sown in the fall. Thus, we thought it was important to highlight BYD and control measures at this time.

SYMPTOMS

The primary symptoms of BYD include plant stunting, reduced tillering, and a yellow to red-purple discoloration of leaf margins. Affected plants may have an unusually erect “spiked” appearance. Symptoms can occur in the fall or spring, but they more commonly occur in the spring on the top two leaves of plants. Foliar symptoms are frequently accompanied by secondary bacterial infections. Bacterial infections are visible as brown spots and streaks on BYD-symptomatic leaves. Virus-infected plants frequently occur in random, small groups and along the edges of fields; however, large portions of fields, even entire fields, can be affected in severe cases. Δ

Typical yellowing of wheat leaves of plants infected by Barley Yellow Dwarf Virus. Note the erect appearance of discolored leaves compared to non-symptomatic leaves, which tend to "flop" over.

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