Barley yellow dwarf is a viral disease that attacks a wide range of grasses, including wheat, oats, and barley. Barley yellow dwarf is most frequently a serious problem in southeastern and central Kansas. The occurrence of barley yellow dwarf is sporadic in other areas of the state.

**Symptoms**

The primary symptoms of barley yellow dwarf are stunting and yellow or red discoloration of the leaf tips (Figure 1).

The color of the symptoms depends on the variety. In most cases, the discoloration of the leaf tips increases over time and eventually the entire leaf is discolored. The midrib of the leaf often remains green longer than the edges of the leaf.

Typically, there is no mosaic pattern on the leaf, but sometimes there is some striping at the border between the discolored leaf tip and the green leaf base. In addition, leaves affected with barley yellow dwarf often have small black spots or streaks randomly spaced over the discolored portion of the leaf tip. These are presumably opportunistic infections by bacteria.

The disease can be uniformly distributed in fields, but it is most commonly found in patches that are 1 to 5 feet in diameter (Figure 2). Stunting is typically most severe near the center of a patch. At harvest, the heads of the diseased plants may be darkly discolored and have shriveled grain.

**Quick Facts**

- Symptoms of barley yellow dwarf include stunting and yellow or red discoloration of the leaf tips. The discolored leaves often have dark flecks within the affected area. The disease usually occurs in patches that are 1 to 5 feet in diameter with stunting most severe near the center of the patch.
- Selecting wheat varieties with moderate levels of resistance to barley yellow dwarf is the most effective way to manage the disease.
- Aphids spread the virus that causes barley yellow dwarf, and control of the disease is strongly associated with the biology of these insects. Planting wheat after the Hessian fly free date or using systemic insecticide seed treatments can reduce the risk of severe barley yellow dwarf. These control strategies may produce inconsistent results when weather conditions remain conducive for aphid populations in the fall.

Barley yellow dwarf can be confused with other production problems such as wheat streak mosaic or nutrient deficiency. A lab test is often required to distinguish the disease from these other problems. Contact the K-State Plant Disease Diagnostic Lab.
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