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EC03-1889 Wheat Disease Profiles II

John E. Watkins

University of Nebraska - Lincoln, jwatkins1@unl.edu

Robert M. Harveson

University of Nebraska - Lincoln, rharveson2@unl.edu

Loren J. Giesler

University of Nebraska - Lincoln, lgiesler1@unl.edu

Jennifer L. Chaky

University of Nebraska - Lincoln

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Wheat Disease Profiles II



NU Extension Plant Pathology Team
John E. Watkins, Robert M. Harveson,
Loren J. Giesler, and Jennifer L. Chaky



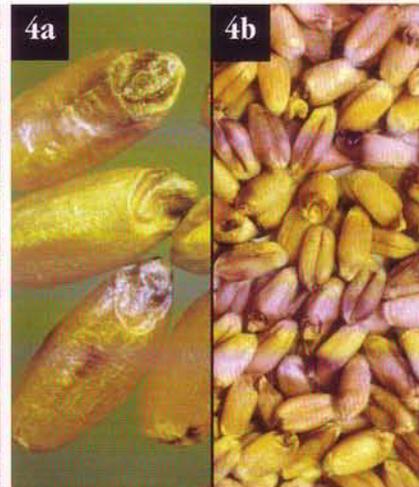
1. Loose Smut



2. Common Bunt / Stinking Smut



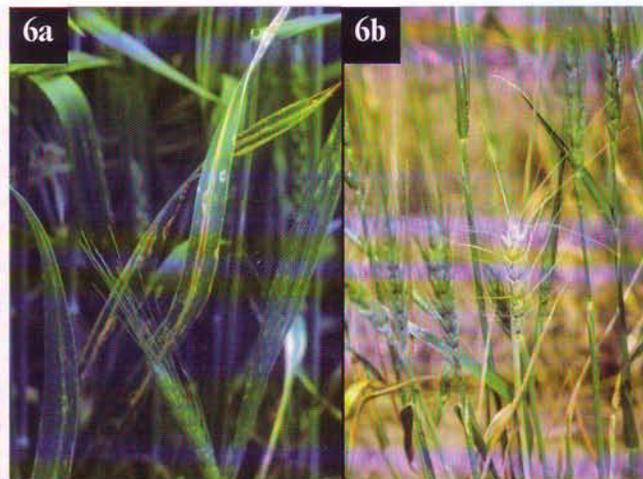
3. Ergot



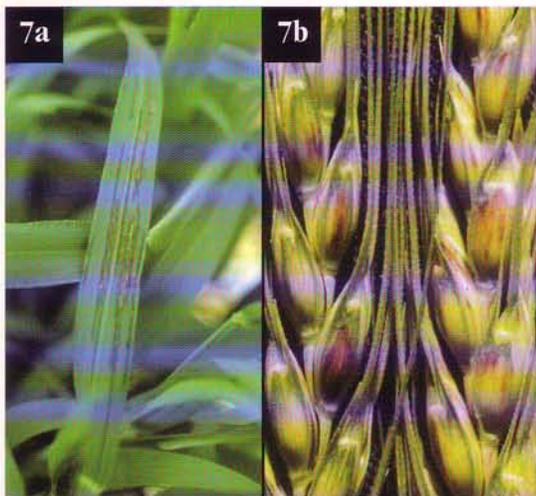
4. Black Point



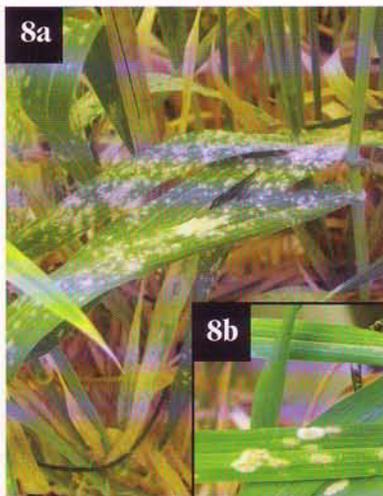
5. Take-all



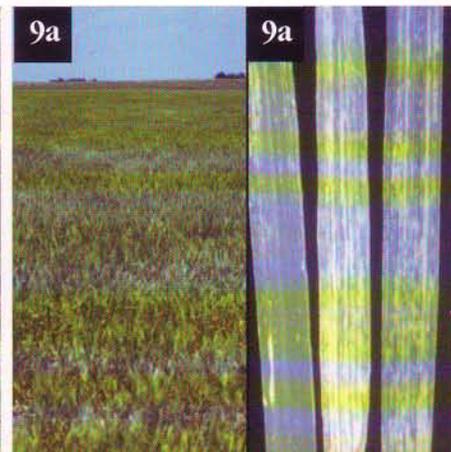
6. Cephalosporium Stripe



7. Black Chaff



8. Powdery Mildew



9. High Plains

Courtesy Kansas State University

Disease	Symptoms
1. Loose Smut <i>Ustilago tritici</i>	Symptoms visible at heading where black smutted spore masses replace both the grain and chaff (Fig. 1a). At flowering wind carries smut spores to healthy heads, producing a "naked rachis" (Fig. 1b) where they germinate and infect the developing kernel. Smut fungus is carried internally within the seed.
2. Common Bunt/Stinking Smut <i>Tilletia tritici</i>	Symptoms visible at harvest (Fig. 2a) where infected kernels are replaced by black powdery spore masses (Fig. 2b). Smutted grain gives off an offensive fishy odor. Smut balls break during combining and spores collect on seed coats of healthy kernels.
3. Ergot <i>Claviceps purpurea</i>	Symptoms become visible after flowering as amber-colored droplets oozing from infected florets (Fig. 3a). These soon develop into hard black sclerotia that replace seed and appear in harvested grain (Fig. 3b). Ergot sclerotia are highly toxic to animals. Do not feed ergot contaminated grain to livestock.
4. Black Point <i>Alternaria</i> spp. <i>Bipolaris</i> spp.	Black point is visible as a brown to black discoloration of the embryo end of the seed (Fig. 4a and 4b). <i>Bipolaris</i> spp. also causes common root rot.
5. Take-All <i>Gaeumannomyces graminis</i>	Stunted, prematurely ripened plants become evident during heading in more or less circular patches in fields (Fig. 5a). Plants take on a bleached, dead straw color and heads are sterile (Fig. 5b). The lower stem, crown and roots turn a shiny black (Fig. 5c). Most evident in wetter sites.
6. Cephalosporium stripe <i>Cephalosporium gramineum</i>	During heading, infected plants develop yellow stripes that run the entire length of the leaves (Fig. 6a). The center of these stripes often turns necrotic brown. Infected plants are yellowed, stunted and produce sterile, prematurely ripened heads (Fig. 6b).
7. Black Chaff (Bacterial Leaf Streak) <i>Xanthomonas campestris</i> pv. <i>translucens</i>	Translucent water-soaked streaks and spots occur on leaves (Fig. 7a). Infected glumes show dark brown streaks with alternating dark brown and green bands on the awns (Fig. 7b).
8. Powdery Mildew <i>Erysiphe graminis tritici</i>	Grayish-white, fluffy mildew growth present on leaves, stems and heads (Fig. 8a and 8b).
9. High Plains Disease <i>High plains virus</i>	Yellow areas develop in fields in early spring and summer (Fig. 9a). Infected leaves show a mosaic pattern of yellow spots and streaks (Fig. 9b). Infected plants may die prematurely. This disease is vectored by the wheat curl mite and sometimes occurs with wheat streak mosaic.

Photo Credits: All photos courtesy of faculty in the NU Institute of Agriculture and Natural Resources and Kansas State University (High Plains Disease photos, Figures 9a and 9b).

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