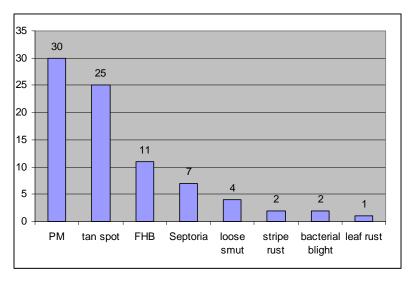
Wisconsin Department of Agriculture, Trade and Consumer Protection

Wisconsin Pest Survey Report

2010 WINTER WHEAT SURVEY FOR FOLIAR DISEASES

http://pestsurvey.wi.gov/



Between May 5th and June 17th, 70 wheat fields in 16 Wisconsin counties were surveyed for disease presence. Wheat fields ranged in maturity from Feekes Stage 5 (leaf sheath strongly erected) to Feekes 10.5.3 (flowering complete to base of spike). Powdery mildew (*Blumeria graminis*) was the most commonly observed

disease, detected in 30 fields. Symptoms of tan spot (caused by *Pyrenophora tritici-repentis*) were found in 25 fields; Fusarium head blight (*Fusarium graminearum*) was detected in 11 fields. Stripe rust, (*Puccinia striiformis*), was found in two fields. Traces of leaf rust (*Puccinia triticina*) were found in one field. Wheat stem rust (*P. graminis*) was not detected.

Other diseases observed included loose smut (*Ustilago tritici*) in two fields, and bacterial blight, caused by *Pseudomonas syringae*, in two fields. Damaging populations of the cereal leaf beetle, *Oulema melanopus* (L.) were found in two fields.

Historic Barberry Survey

From 1918 to 1980 the USDA and Midwestern states conducted a far reaching barberry eradication program in an attempt to stabilize the race structure of the population of stem rust (*Puccinia graminis*) in North America. The common barberry, *Berberis vulgaris* is the alternate host of the stem rust. An estimated one million barberry bushes were destroyed on some 8000 sites over 62 years, employing 350 workers in Wisconsin at the height of the Great Depression. Races of stem rust have remained reasonably stable over the years, allowing plant breeders to utilize resistance genes effectively over a long period of time.

The recent emergence of the Ug99 race of stem rust in the Middle East has raised concerns about new races of stem rust, either introduced or arising endogenously. To assess the effectiveness of the 62-year-long eradication effort,

DATCP staff drew samples from the USDA records for revisiting, as time allows. To date, 117 former barberry sites have been located and resurveyed; common barberry has been found at only three sites. This would suggest that the threat to wheat from recombination of rust virulence on barberries is currently minimal.

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Figure 1 Historical USDA survey form

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