

Leaf Rust Detection in ND Wheat Surveys, 1999-2006

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The North Dakota State University (NDSU) Extension Service conducts a yearly growing-season survey of diseases and insects in commercial wheat fields. This survey is a cooperative effort among NDSU Extension state and area specialists, the ND Wheat Commission, the ND Dept. of Agriculture, and the APHIS/USDA Cooperative Agricultural Pest Survey program. The program began in 1988, with approximately 400 wheat fields surveyed that year, and expanded to an average of over 1000 commercial fields surveyed per year from 1999 to 2006. The incidence of tillers infected and percent leaf severity of wheat leaf rust (*Puccinia triticina*) are recorded in each field. In 1999, the survey recorded the highest percent of fields (62.5%) with leaf rust symptoms and the highest average severity (9.9%), indicating a shift in susceptibility to prevalent races among some major wheat cultivars grown. The lowest occurrence of fields infected (11%) and lowest severity (3.5%) recorded was in 2006, primarily in response to dry conditions. Although the areas of the state with the highest severities of leaf rust generally are in the south central, central and eastern crop reporting districts, wheat leaf rust was more common in 2001 in the northwestern and west central districts, indicating that all areas of the state are potentially at risk to wheat leaf rust infection.