2008 Wheat Leaf Rust (*Puccinia triticina*) Virulence Survey

In 2008 52 races of wheat leaf rust were described in the United States (Table 1). Races TDBGH (20.3%), TCRKG (16.7%), MLDSD (11.0%), TDBJH (7.1%) and TBRKB (6.7%) were the five most common races. Races TDBGH and TDBJH with virulence to *Lr24* were most common in the Great Plains region. Races TCRKG (*Lr26*, *Lr11*, and *Lr18* virulence) and TBRKB (*Lr11*, and *Lr18* virulence) increased in 2008 and were found mostly in the southeastern states. Race MLDSD (*Lr9*, *Lr17*, *Lr41*/*Lr39* virulence) was found mostly in the Great Plains region.

Races with virulence to genes *Lr24*, *Lr26*, *Lr17*, and *Lr41*/*Lr39* that are present in the hard red winter wheats were common in the Great Plains region (Table 2). Races with virulence to *Lr24*, *Lr26*, *Lr17*, and *Lr18* that are present in the soft red winter wheats were common in the southeastern states. Races with virulence to *Lr16* that is present in the hard red spring wheats were at low frequencies in the Great Plains region. Races with virulence to *Lr21* that is present in hard red spring wheats were not detected.

Table 1. Number and frequency (%) of virulence phenotypes of *Puccinia triticina* in the United States in 2008 identified by virulence to 20° lines of wheat with single genes for leaf rust resistance.

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* Lines tested were Thatcher lines with genes Lr1, Lr2a, Lr2c, Lr3a, Lr9, Lr16, Lr24, Lr26, Lr3ka, Lr11, Lr17, Lr30, LrB, Lr10, Lr14a, Lr18, Lr21, Lr28, and winter wheat lines with genes Lr41, and Lr42.
Table 2. Number and frequency (%) of isolates of *Puccinia triticina* in the United States in 2008 virulent to 20 lines of wheat with single resistance genes for leaf rust resistance.

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<sup>a</sup> States of AL, AR, FL, GA, LA, MS, SC
<sup>b</sup> States of NY, PA, VA
<sup>c</sup> States of IL, IN, KY, OH, WI
<sup>d</sup> States of OK, TX
<sup>e</sup> States of KS, NE
<sup>f</sup> States of MN, ND, SD
<sup>g</sup> State of WA