Wheat Leaf Rust in 2016

Wheat leaf rust (caused by *Puccinia triticina*) was at low to moderate levels throughout much of the hard red winter, soft red winter wheat, and hard red spring wheat growing regions of the U.S. in 2016. Moisture and temperature conditions throughout much of the southern Great Plains region allowed stripe rust (caused by *P. striiformis*) to spread and increase rapidly, which reduced the available leaf tissue for *P. triticina* to infect. Dry periods in April in the southern plains also reduced the amount of leaf rust. The early and widespread stripe rust infections caused many wheat fields to be sprayed with fungicide, which also reduced the spread and increase of *P. triticina*. The reduced levels of leaf rust in the southern plains resulted in lower amounts of *P. triticina* being carried in the southerly winds to the northern hard red spring wheat region, which resulted in lower severity levels in this region. In the southeast region leaf rust was commonly found at low to moderate levels in the spring. In the coastal plain of North Carolina leaf rust was widespread and at high levels due to the mild winter that likely allowed the rust to overwinter.

Leaf rust caused an estimated 5% loss in wheat in Oklahoma, 3% estimated loss in Virginia, and 2% estimated losses in Texas and Wisconsin. Estimated losses in other state were less than 1%.

Virulence phenotype (or race) MBTNB with virulence to *Lr1, Lr3a, Lr3ka, Lr11, Lr17, Lr30, LrB,* and *Lr14a* was the most common phenotype overall the U.S. at 17.7% of isolates. This race was predominant in the soft red winter wheat regions of the southeast and Ohio Valley states. In the Great Plains region, race MBDSD at 13.7% overall the U.S., with virulence to *Lr1, Lr3a, Lr17, LrB, Lr10*, *Lr14a,* and *Lr39*, was the most common race in both the hard red winter and hard red spring wheat regions. In the southeast and Ohio Valley states, races with virulence to *Lr11* were predominant, while in the Great Plains region races with virulence to *Lr39* were predominant.