

CEREAL RUST BULLETIN

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From:
CEREAL RUST LABORATORY
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The mild winter, with ample moisture in much of the U.S. small grain cereal area, has created optimism for a good crop in 1994. Wheat in southern Texas is in fair to good condition and about one week later than normal maturity. In the southeastern soft red winter wheat area, the crop is in good shape and one week earlier than normal maturity. A cool and wet spring will delay spring planting in the northern regions.

Wheat stem rust. During the last week in March, traces of stem rust were found in a field of Mit wheat in Wharton county, Texas (65 miles southwest of Houston) at the early berry stage. In 1993, in this southern Texas location, stem rust was more severe. However, this year, moisture conditions (less rainfall and fewer dews) and cool nighttime temperatures (less than 40 F) were not favorable for rust development. Also, cultivars that were planted last fall were more stem rust resistant.

Wheat leaf rust. Leaf rust severities are generally light on susceptible southern soft red winter wheat in plots and fields from southern Louisiana to southern Georgia. The winter rainfall in these areas was above normal creating favorable conditions for rust infection, however, cooler than normal temperatures in November slowed rust establishment and very little development occurred in the coldest months of December and January. Since then drier than normal conditions and cool temperatures have slowed leaf rust spore production and movement in much of this area.

Even though leaf rust is widespread across southern Texas, it is less severe than normal. In a field of Coker 9877 in Wharton County, Texas, a 20% severity was observed at early berry, however, in most of the winter and spring wheat fields in southern Texas only light amounts of rust were found the last week of March. The main cultivar grown in this area is Mit which was resistant to leaf rust. Generally, leaf rust overwinters throughout southern Texas. Later planting (December), lack of moisture, and cool temperatures are factors other than resistance which restrict rust development. In northern Texas, leaf rust severities were light on susceptible lines in nurseries in late March.

During the 1993-94 winter, leaf rust survived in much of Kansas, but in lighter amounts than during the 1992-93 winter. The cool weather has not been conducive for rust development.

Wheat stripe rust. At the Uvalde nursery in southern Texas, 5% severities were observed on March 30 on the soft red winter wheat cultivar Coker 9835. Stripe rust is retarded by high temperatures. **NOTE:** Stripe rust urediniospores are vulnerable to heat and do not survive long at warm temperatures, therefore, if shipment of

collections for race identification is delayed their viability will be poor. Please send wheat stripe collections
(10

or more rusted green leaves) as soon as possible after collecting to: Dr. Roland Line, USDA-ARS, 361 Johnson Hall, Washington State University, Pullman, WA 99164-6430. Barley stripe rust collections should be sent to the Cereal Rust Laboratory, St. Paul, MN or to Dave Marshall, Texas A&M Univ. Res. & Ext. Center, 17360 Coit Rd, Dallas, TX 75252.

Oat stem rust. During the last week in March, no oat stem rust was observed in southern Texas. Usually, light rust infection can be seen at this time of year. In severe rust years, oat stem rust can be widespread along the Gulf Coast from Texas to Florida. Late planting and perhaps less inoculum in the fall were the main factors in the low level of disease. Little winter oats are grown north of this area, thus this disease will likely not be important in 1994.

Oat crown rust. During the last week in March, severe crown rust was observed in southern Texas nurseries while less severe rust was observed in fields at the heading through milk growth stage. During the last week in March, traces of crown rust were observed in plots at Temple, Texas in the central part of the state. This severe and widespread crown rust is comparable to the rust development of last year in the southern area of the U.S. South Texas could directly provide inoculum for the northern oats emerged by early May. Otherwise, crown rust would need to increase in central and northern Texas to infect the northern crop. Another important northern inoculum source is aeciospores from buckthorn bushes.

Barley stem rust. As of March 31, no stem rust has been reported on barley in the U. S. in 1994. Limited amounts of barley are grown commercially in the southern states. Stem rust on barley is rare in this area.

Barley leaf rust. By the last week in March, severe leaf rust caused by *Puccinia hordei*, was observed on barley plots in southern Texas. Leaf rust is generally a minor barley disease in the Northern Plains. There have been no reports of barley leaf rust overwintering in Virginia and North Carolina where there were severe losses to the rust last year.

Stripe rust on barley. As of March 31, no barley stripe rust has been reported in the U.S. in 1994.

Rye rusts. During the last week in March, 40% rye leaf rust severities were observed in plots and fields in Lee County, Texas. No rye stem rust has been reported in 1994 in the U. S. as of this date. Due to the winter hardiness of rye tissue this disease can survive much farther north, so rust may still appear.

Other rusts. *Hordeum pusillum* growing in roadside ditches throughout southern Texas had 1% severities. This leaf rust, which is caused by *Uromyces hordeinus* does not attack commercial barley cultivars.

SPECIAL NOTE. On the Internet? If so, we would like to send you your copy of the Cereal Rust Bulletin via the Internet. Know of others who would like to receive the Cereal Rust Bulletin in this manner? If so, please

send Internet address to: markh@puccini.crl.umn.edu. Thanks for your help in cutting our costs while improving the timeliness of the Cereal Rust Bulletin.