

CEREAL RUST BULLETIN

Report No. 1

April 4, 1995

From:
CEREAL RUST LABORATORY
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Issued by:
AGRICULTURAL RESEARCH SERVICE
U.S. DEPARTMENT OF AGRICULTURE
(In cooperation with the Minnesota
Agricultural Experiment Station)

The mild winter and ample moisture in most of the U.S. small grain cereal region have created optimism for a good crop in 1995. Wheat in southern Texas is in good condition and about one week later than normal in maturity. In the southeastern soft red winter wheat area the crop is in good shape and near normal maturity.

Wheat stem rust. During the last week in March, wheat stem rust overwintering centers were observed in three locations in Texas. In the centers located in winter wheat fields in Wharton county (65 miles southwest of Houston), Wilson county (30 miles southeast of San Antonio), and in a nursery at Beeville, the rust severities ranged from trace to five percent at late flowering. This amount of rust is normal for late March. This year, moisture conditions (less rainfall and dews) and cool nighttime temperatures (less than 40 F) were not as favorable for rust development as they were in 1993 when rust was more severe in this area.

Wheat leaf rust. During the last week in March, leaf rust was widespread throughout southern and central Texas winter and spring wheat fields. Rust severities ranged from 0 to 20% in fields and from 0 to 60% in nurseries on the lower leaves, which is normal for this date (Fig. 1). Generally, leaf rust overwinters throughout southern Texas. In late March, in northern Texas fields and nurseries leaf rust was more severe than 1994.

During the 1994-95 winter, leaf rust survived in much of Oklahoma and Kansas. Last year very little leaf rust overwintered in Kansas, but this year normal amounts of rust overwintered in eastern and central Kansas, while overwintering was greater than normal in western Kansas. In some fields, scattered volunteer plants showed significantly higher incidences of rust than the majority of the field. Because volunteer winter wheat plants normally emerge before the crop is planted, they tend to be more heavily rusted in the fall. Generally, however, the infections on the volunteer plants do not survive the winter. As of the end of March, leaf rust was light in Kansas but the rust could increase rapidly if there is a period of warm moist weather.

Leaf rust severities are generally light to moderate 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, cool temperatures in January

and February slowed rust development. Since then, warm temperatures and moist conditions have been favorable for rust buildup.

Wheat stripe rust. As of the end of March there have been no reports of wheat stripe rust in the U.S. We would appreciate any reports of stripe rust occurrence. NOTE: Stripe rust is vulnerable to heat and does 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.

Oat stem rust. During the last week in March, oat stem rust overwintering sites (trace to 20% severities) were found in varietal plots in nurseries at Beeville and Temple, Texas and in a field 50 miles southwest of San Antonio in Frio county. The amount of rust in this area is greater than in 1994, but within the normal range for stem rust development on oats in Texas at this time of the year. In severe rust years, oat stem rust can be widespread along the Gulf Coast from Texas to Florida. The relative lack of oat acreage in the central Great Plains tends to interrupt potential epidemics of oat stem rust unless stem rust is extremely severe in southern Texas. Therefore, this disease is not likely to be important this year in the spring oat areas.

Oat stem rust was observed on varietal plots in southern Louisiana in late February and conditions during the past few weeks have been favorable for rust development.

Oat crown rust. During the last week in March, severe crown rust was observed in many southern Texas nurseries and fields at the heading to milk growth stages. In some fields south of San Antonio 40% severities were common, while in late maturing cultivars in southern Texas nurseries the rust was so severe that it had stunted the plants. The severe and widespread crown rust is comparable to last year's severe rust development 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. In the northern states, aeciospores from infected buckthorn are also important as a source of inoculum for oat crown rust epidemics.

In late March, crown rust levels were much higher than normal in the southeastern U.S. oat-growing area. In varietal plots crown rust was severe (>40%) while in oat fields, severities were moderate (1-20%).

Barley stem rust. As of March 31, no stem rust has been reported on barley in the United States this year. Limited amounts of barley are grown commercially in the southern states. Stem rust on barley rarely occurs 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 south Texas. Leaf rust is generally a minor barley disease in the northern plains.

Stripe rust on barley. Traces of stripe rust on barley have been reported in nursery plots in Uvalde and Beeville, Texas and in a field 30 miles southwest of Texas. For race identifications please send barley

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.

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

NOTE. On the Internet? If so, we would like to send you your copy of the Cereal Rust Bulletin via the Internet. Do you 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.

Fig. 1. Leaf rust severities in wheat fields on April 4, 1995

