

CEREAL RUST BULLETIN

Report No. 5

June 6, 1995

From:
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(In cooperation with the Minnesota
Agricultural Experiment Station)

- Wheat stem rust found in southern Illinois and southeastern Indiana during the second week in June
- **Wheat leaf rust is severe from eastern Virginia to north central Kansas**
- **Barley stripe rust now seems firmly established in the Pacific Northwest, where the climate is most favorable for its development**

The small grain harvest is underway from southern North Carolina to northern Oklahoma. Spring-sown small grains are in good condition and moisture is adequate in most of the northern Great Plains.

Wheat stem rust. During the second week in June, wheat stem rust foci were observed in soft red winter wheat fields in southern Illinois and in southwestern Indiana plots at the soft dough stage. In the center of the foci 40% severities were common and eight feet from the center only trace severities were observed. After the initial rust developed from spores deposited 4-6 weeks ago the frequent wet weather did not allow a fast rust development because when leaves in the wheat canopy are wet only a few spores are released by wind currents.

Wheat leaf rust. During mid-June in central Kansas rust severities ranged from greater than 60% to less than 10% in some fields a short distance apart. Losses will vary with local conditions but some fields will suffer losses in yield. In a wheat field in Rooks Co., Kansas 80% severities were observed on goatgrass(*Aegilops cylindrica*) plants growing in a wheat fields. *During the third week in June, 1% severities in the susceptible cultivar Baart in southern Minnesota.*

In mid-June, in southern Illinois and southwestern Indiana soft red winter wheat fields and nurseries traces to 40% severities were observed at the soft dough stage (Fig. 1). Further north in the northern soft red winter wheat areas in northwestern Ohio fields and plots only traces of wheat leaf rust were found at the half-berry stage. By the second week in June, wheat leaf rust was severe in central Michigan suggesting that wheat leaf rust had overwintered in this area.

In mid-June, leaf rust was detected on flag leaves of wheat growing in winter wheat plots south of Winnipeg, Canada. The infections were heavier than normal for this early in the season.

No new leaf rust races have been identified since Cereal Rust Bulletin # 5.

Wheat stripe rust. There have been no new reports of wheat stripe rust being found in the central U.S. wheat growing area since the last bulletin. The increase in temperatures generally retards stripe rust development throughout this area.

Oat stem rust. There have been no new reports of oat stem rust since the last bulletin.

Oat crown rust. During the third week in June, trace to 10% crown rust severities were found on oat plots in southern Minnesota. Most of the infections were on the lower leaves. In Minnesota aelial development was heavy on buckthorn (alternate host). The spread from buckthorn to oats has been occurring the past two weeks.

Barley stem rust. There have been no new reports of barley stem rust since traces were found in a north central Texas plot in late April. Limited amounts of barley are grown commercially in the southern states and central plains state, and barley stem rust often is not found in this area which has been true the last two years.

Barley leaf rust. By the first week in June, barley leaf rust severities were greater than 5% in central Michigan field and in southeastern Nebraska plots.

Barley stripe rust. There have been no new reports of barley stripe rust since the Bulletin #5 when it was reported in western Washington and western Oregon. In late May the rust was scattered and with continued cool moist conditions the rust increased in severity. Barley stripe rust now seems firmly established in the Pacific Northwest, where the climate is most favorable for its development.

Rye leaf rust. During the second week in June severe leaf rust (20% severities on lower leaves) were observed in a winter rye field in southern Illinois.

Crown rust on Buckthorn. In mid-June, aelial development was heavy on buckthorn (alternate host) in Minnesota. The spread from buckthorn to oats has been occurring the past two weeks.

Stem rust on Barberry. During the first week in June, the aelial stage of stem rust was found on barberry bushes in southeastern Minnesota.

TABLE 3. Incidence of virulence in 1995 oat crown rust isolates tested to date (6-1-95)

Differential	Percent of isolates virulent		
	AL, FL, GA	LA	TX
Pc 14	78	71	80
Pc 35	78	76	42

Pc 36	22	2	41
Pc 38	17	18	24
Pc 39	11	4	23
Pc 40	83	78	92
Pc 45	6	6	6
Pc 46	33	35	56
Pc 48	11	0	0
Pc 50	28	22	42
Pc 51	83	82	77
Pc 52	11	0	0
Pc 53	0	0	0
Pc 54	6	20	8
Pc 56	11	0	36
Pc 57	0	0	15
Pc 58 TAM-O-301	27	38	13
Pc 59 TAM-O-312	56	82	16
Pc 60 Coker 227	89	92	82
Pc 61 Coker 234	89	82	79
Pc 62	0	0	0
Pc 63	11	4	21
Pc 64	0	12	3
Pc 67	17	16	76
Pc 68	0	4	0
Pc 70	12	6	20
Pc 71	11	4	23
H548	6	0	0
Dane	0	0	6
WI X4361-9	0	0	2
TAM-O-386R	0	0	17
TAM-O-393	0	8	3
Mitchell	86	72	82

No. of isolates	18	49	66
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Note: Thanks to those of you who took the time to contact Dr. Dunkle in support of the Cereal Rust Laboratory and the Cereal Rust Bulletin; we appreciate the support. If you missed the note in the last bulletin you will find it repeated in the next paragraph.

As you no doubt know, all Federal Government agencies are reviewing their program priorities. If you feel that this publication and the related activities of the Cereal Rust Lab are important to you, you can help us by calling the USDA, ARS Midwest Area Director, Dr. Richard Dunkle, 1815 N. University Street, Peoria, IL 61604, phone# 309-681-6602 (Internet address: !A03ADMWA@ATTMAIL.COM). Dr. Dunkle will be glad to discuss how you can make your feelings known in Washington.

Fig. 1. Leaf rust severities in wheat fields on June 6, 1995

