CEREAL RUST BULLETIN

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From:
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The winter-sown small grain crop is generally in good condition. In Kansas, wheat development is near normal and the majority of the crop is in good shape except for some freeze damage in western Kansas. In the southeastern soft red winter wheat area, the crop is in good shape and near normal maturity. Throughout the spring grain growing area, the cool temperatures and scattered precipitation have delayed field work and planting progress is behind normal.

Wheat stem rust. There have been no new reports of wheat stem rust since the last bulletin when wheat stem rust was observed in south Texas in late March.

Wheat leaf rust. During the second week in April moderate rust severities (1-20 %) were reported in fields west of the Mississippi from southeastern Arkansas to north central Texas (Fig. 1). By late March, severe rust was found on the lower wheat leaves in some north central Texas fields. Lack of moisture delayed further leaf rust development but by mid April the rains have returned. Leaf rust was generally light in Kansas in mid-April but more significant amounts were observed in a few locations. With return of warm moist weather, the rust will increase rapidly. In some areas of western Kansas, the freezing temperatures in early April killed some of the infected leaf tissue, which will delay local rust build up.

Leaf rust severities are generally light to moderate on susceptible southern soft red winter wheat in plots and fields from northern Mississippi to southern South Carolina. Leaf rust overwintered in eastern North Carolina and as of mid-April it was light in nurseries. This year throughout the southern soft red winter wheat there has been a increase of rust on Northrup King/Coker 9835 which is grown on significant acreage. This may signify a change in the race population in this area. Coker 9835 has *Lr* 9 as part of it's leaf rust resistance. In 1994, only 13% of the isolates were virulent to *Lr* 9 gene in this area.

Race MBG-10, which is virulent to *Lr* 1, 3, 10, 11, was identified from collections made during the winter in nurseries in eastern Arkansas, southern Georgia and southern Alabama. In the same nurseries in southern Georgia and Alabama, races TLG-18 (virulent to *Lr* 1, 2a, 2c, 3, 9, 11, 18) and PNR-10 (virulent to *Lr* 1, 2c, 3, 3ka, 9, 10. 11. 24, 30) were identified.

Wheat stripe rust. During mid-April, stripe rust was observed in northwestern Washington wheat fields and nurseries. The first report of wheat stripe rust this year in the central U.S. was in early April in southeastern Arkansas on soft red winter wheats. This disease is inhibited at temperatures above 70 F, so the disease should stop developing and not become a serious problem when the temperatures start to increase.

Oat stem rust. There have been no new reports of oat stem rust in south Texas since the last bulletin. During mid-April oat stem rust was light to moderate in southern Louisiana oat nurseries. Races NA-27 and 16 were identified from oat collections made in the Beeville, Texas nursery in early February. In 1994, these two races comprised 97% of the U.S. race population.

Oat crown rust. In mid-April, crown rust is severe and widespread from the southeastern U.S. to southern Texas. In southeastern U.S. varietal plots crown rust was severe (>80%), while in oat fields severities were moderate (1-20%). The widespread crown rust development is comparable to last year in the southern U.S. By mid-April, 74 oat crown rust isolates from Florida, Alabama, Louisiana, and Texas have been tested for virulence (Table 1).

Barley stem rust. As of April 18, no stem rust has been reported on barley in the United States. Limited amounts of barley are grown commercially in the southern states. Stem rust on barley often is not found in this area.

Barley leaf rust. There have been no new reports of barley leaf rust development since the last bulletin.

Barley stripe rust. There have been no new reports of barley stripe rust since the last bulletin.

Rye rusts. There have been no new reports of rye rust since the last bulletin.

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 yes, please send Internet address to : markh@puccini.crl.umn.edu. Thank you for your assistance.

Table 1. Incidence of virulence in 1995 oat crown rust isolates tested to date (4-18-95)

Differential	Percent of isolates virulent		
	AL, FL	LA	TX
Pc 14	75	71	54
Pc 35	83	76	23
Pc 36	0	2	8
Pc 38	8	18	15
Pc 39	0	4	15
Pc 40	92	78	100
Pc 45	0	6	0
Pc 46	25	35	69
Pc 48	0	0	0
Pc 50	25	22	62
Pc 51	92	82	100
Pc 52	0	0	0
Pc 53	0	0	0
Pc 54	8	20	8
Pc 56	0	0	15
Pc 57	0	0	0
Pc 58 TAM-O-301	40	38	0
Pc 59 TAM-O-312	83	82	8
Pc 60 Coker 227	92	92	77
Pc 61 Coker 234	92	82	77
Pc 62	0	0	0
Pc 63	0	4	8
Pc 64	0	12	0
Pc 67	8	16	62
Pc 68	0	4	0
Pc 70	0	6	15
Pc 71	0	4	15
H548	0	0	0
Dane	0	0	0
WI X4361-9	0	0	0
TAM-O-386R	0	0	15
TAM-O-393	0	8	0
Mitchell	100	72	92
No. of isolates	12	49	13

Fig. 1. Leaf rust severities in wheat fields on April 18, 1995