

Table 16. Reaction of entries in the 1992 SRPN to Tan Spot. Data provided by C. Kent Evans and Robert M. Hunger, Plant Pathology Department, Oklahoma State University, Stillwater, OK.

Rank ^w	Entry No.	Sel. No.	Mean Lesion Lengths (mm)		Mean ^z
			Test 1 ^x	Test 2 ^y	
1	Chk	Red Chief	0.65	1.49	1.21
2	10	TX88V5440	0.44	1.92	1.43
3	23	KS8313374-142	0.68	1.98	1.54
4	15	TX88V5433	1.19	1.76	1.57
5	24	KS84170E-8-3	1.07	2.12	1.77
6	42	T67	2.30	2.46	2.41
7	31	NE88427	1.75	2.75	2.42
8	22	KSSB-369-7	1.47	2.94	2.45
9	Chk	Agrotricum	1.92	2.74	2.46
10	34	XH1319	2.44	2.62	2.56
11	32	NE88584	2.69	2.54	2.59
12	19	C0860094	3.08	2.53	2.71
13	44	TH901	2.39	2.90	2.73
14	43	T21-3	2.40	2.92	2.75
15	38	W87-018	2.93	2.67	2.76
16	3	TAM-107	2.64	2.84	2.77
17	45	TH902	2.85	2.82	2.83
18	4	OK88W833	2.91	2.80	2.84
19	2	Scout 66	2.66	2.93	2.84
20	6	OK89399	2.96	2.83	2.87
21	40	WI88-028	3.05	2.80	2.89
22	25	HBC302E	3.09	2.85	2.93
23	39	WI88-181	2.98	2.94	2.95
24	37	XH1497	2.83	3.02	2.96
25	30	NE88595	3.81	2.56	2.98
26	26	KS87H325-2	2.11	3.42	2.99
27	8	TX88V4636	2.69	3.15	3.00
28	41	T13	2.67	3.23	3.05
29	35	XH1436	2.98	3.12	3.06
30	16	TX88A6480	3.20	3.00	3.07
31	13	TX88V4524	2.81	3.27	3.12
32	36	XH1437	3.16	3.11	3.12
33	7	OK89421	2.98	3.24	3.15
34	18	C0860086	2.86	3.31	3.17
35	5	OK89499	3.38	3.07	3.17
36	14	TX89V4138	2.68	3.45	3.20
37	9	TX84V1418HF	3.54	3.03	3.20
38	20	C0860236	3.23	3.19	3.20
39	33	NE88588	2.88	3.53	3.32
40	17	TX88A6533	2.98	3.52	3.34
41	27	KS89H48-1	3.13	3.49	3.37
42	28	HS89H50-4	3.24	3.49	3.41
43	Chk	TAM-105	3.34	3.75	3.61
44	12	TX87V1613	3.82	3.58	3.66
45	1	Kharkof	3.71	3.69	3.70
46	11	TX88V4635	3.36	3.89	3.72
47	29	N87V106	4.77	3.68	4.04
48	21	C0870449	4.22	4.06	4.11
Mean			2.73	2.99	2.90
LSD (0.05)			1.06	0.90	0.71
C.V.			19.30	21.80	21.40

^wRankings are from the combined analysis of the two tests.

^xMean lesion length values were computed over two replications.

^yMean lesion lengths were computed over four replications.

^zMean lesion length values from the combined analysis.

Table 16 - Methods: Seedling reaction to Tan Spot. C. K. Evans and R. M. Hunger, Oklahoma State University.

The reaction of the 1992 SRPN to tan spot of wheat caused by Pyrenophora tritici-repentis (PTR) was determined in two tests conducted in the greenhouse. Three genotypes were included to serve as resistant and susceptible checks. These were 'Red Chief' (resistant), 'Agroticum' (OK906, resistant), and 'TAM 105' (susceptible). Ten seeds of each entry were planted as a clump in soil contained in wooden flats. Flats were planted in a randomized complete block design with two replications in the first test and four replications in the second test. The inoculum consisted of equal amounts of conidia produced from three single ascospore isolates of PTR. These isolates were obtained from naturally infested straw collected in 1991 from different wheat producing regions of Oklahoma. Each isolate produces abundant quantities of conidia in vitro and causes the typical lesions associated with the tan spot disease. In the first test, seedlings were inoculated when the first leaf was fully expanded. In the second test, seedlings were inoculated when the third leaf was fully expanded. Seedlings were inoculated with a conidial suspension (1000 conidia/ml + 1 drop of Tween 20/100 ml) using a DeVilbiss sprayer (model # 5601D) until incipient runoff. Following inoculation, plants were allowed to dry for one hr and then placed in a mist chamber that provided near 100% relative humidity. After 24 hr in the mist chamber plants were placed on greenhouse benches. The length of the largest lesion that occurred in the middle 50% of the first leaf (first test) or third leaf (second test) was determined after eight days using a dial caliper with an accuracy range of ± 0.05 mm. One measurement was made on four separate leaves from each clump of plants. Measurements were made from the border of the visible edge of the chlorotic or necrotic lesions longest dimension which generally was oriented parallel with the leaf axis. Statistical analyses were conducted on the mean of the four measurements made per entry.