KANSAS

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Winter cover crops for the Great Plains.

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Little information exists concerning the appropriate cover crop to grow during the winter in the Great Plains. Therefore, this study compared legume and non-legume winter cover crops grown for 3 years (2009–10, 2010–11, and 2011–12) at two locations in Kansas: Manhattan, in the northeastern part of the state, and Hutchinson, in the south-central part of the state. Six cover crops were studied, which included three legumes or alfalfa (*Medicago sativa* L.), Austrian winter pea (*Pisum sativum* var. *arvense* Poir.), and red clover (*Trifolium pratense* L.), and three non-legumes, which were triticale (*X Triticosecale*; *Triticum* x *Secale*), winter oats (*Avena sativa* L.), and winter wheat. There were four replications. The cover crops were planted at times that they might be used in a corn (*Zea mays* L.) or a forage sorghum (*Sorghum bicolor* (L.) Moench) rotation. However, the cover crops were not in rotation with these crops, but were planted at times to match corn and forage sorghum harvest times and sampled for dry matter at times to match corn and forage sorghum planting times. Table 1 gives the average dry matter of the four replications.

Cover crops grown in a forage-sorghum rotation had a higher dry weight than cover crops grown in a corn rotation (Table 1), which was probably due to the fact that the cover crops in a forage sorghum rotation had more time to grow in the spring, because forage sorghum is planted about three weeks after corn. Cold temperatures resulted in killing of the legumes, especially during the winter of 2011–12, when there was no dry matter production from the legumes at either location (Table 1). Winter oats also was winter killed at Manhattan during the winter of 2011–12. Triticale and winter wheat were the only cover crops that did not die during the winter at either location during all three years of the study. The results indicated that non-legume winter cover crops are better adapted to Kansas than legume winter cover crops and that triticale and winter wheat should be grown because they do not winter kill.

Table 1. Dry matter (kg/ha) of six winter cover crops grown at two locations in Kansas for three years ([1] Cover crops harvested before time of planting of corn, [2] cover crops harvested before time of planting forage sorghum, and [3] winter killed

Location	Year of harvest	Rotation	Alfalfa	Winter pea	Red clover	Triticale	Winter oats	Winter wheat
Manhattan	2010	Corn [1]	1,763	865	2,074	1,969	1,813	2,569
		Forage sorghum [2]	7,150	3,800	8,050	12,488	8,800	7,138
	2011	Corn	— [3]	1,561	—	654	836	2,118
		Forage sorghum	913	1,251	771	3,303	2,674	2,519
	2012	Corn	—	—	—	1670	—	1,119
		Forage sorghum	—	—	—	3,916	—	2,291
Hutchinson	2010	Corn	1,181	1,443	858	1,769	1,611	1,236
		Forage sorghum	1,421	2,594	1,375	2,995	3,106	2,171
	2011	Corn	—	696	—	935	910	1,120
		Forage sorghum	1,083	1,074	1,153	3,124	2,364	3,888
	2012	Corn	—	—	—	1,491	1,475	829
		Forage sorghum	—	—	—	2,313	2,470	1,271

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Notice of release of KS14WGRC61 Fusarium head blight-resistant wheat germplasm.

Bernd Friebe, William W. Bockus, Joey Cainong, Duane L. Wilson, W. John Raupp, and Bikram S. Gill; Peidu Chen, Nanjing Agricultural University, Cytogenetics Institute, Nanjing, Jiangsu, PR China; Lili Qi, USDA–ARS, Fargo, ND; Jesse Poland and Robert L. Bowden, USDA–ARS, Manhattan, KS; and Alan K. Fritz, Department of Agronomy, Kansas State University

The Agricultural Research Service, the U.S. Department of Agriculture, and the Kansas Agricultural Experiment Station announce the release of KS14WGRC61, a hard red winter wheat germplasm resistant to Fusarium head blight, caused by the fungus *Fusarium graminearum* Schwabe.

KS14WGRC61 is derived from the cross 'TA5655/TA3809*2//Everest (TA9121)*2', where TA5655 is a wheat–*Elymus tsuksusiensis* Honda Robertsonian translocation TW·$1E^{ts}$#1S and TA3809 is a Chinese Spring stock homozygous for the *ph1* mutant allele. KS14WGRC61 is homozygous for the distal wheat–*E. tsuksuiensis* recombinant chromosome TWL·WS-$1E^{ts}$#1S consisting of the complete long arm and most of the short arm of a wheat chromosome and a distal segment drived from $1E^{ts}$#1S. The $1E^{ts}$#1S segment has a gene that confers type-2 resistance to Fusarium head blight. The TWL·WS-$1E^{ts}$#1S stock is a novel source of Fusarium head blight resistance and may be useful in wheat improvement.

Small quantities of seed (3 grams) are available upon written request. We request that the appropriate source be given when this germplasm contributes to the development of a new cultivar. Seed stocks are maintained by the Wheat Genetics Resource Center, Kansas State University, Manhattan.

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MINNESOTA

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Wheat leaf rust caused by Puccinia triticina in the United States in 2013.

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Summary. Wheat leaf rust (*Puccinia triticina*) was widely distributed across the U.S. from the Great Plains to the east coast but was generally found at low levels. Cool spring weather in the Great Plains and eastern states delayed small grain development, planting and field work. In late May, wheat leaf rust was at atypically low levels for the time of year, particularly in the southern and central Great Plains. Inoculum levels from Texas into the central and northern Great Plains were low, due to cooler spring temperatures, dry conditions, and the application of fungicides. Races with virulence to both *Lr39*/*Lr41* that is present in many hard red winter wheat cultivars grown from Texas to Kansas, and *Lr21* that is in many hard red spring wheat cultivars, were present in Texas and Minnesota. Races with virulence to *Lr3ka*, *Lr11*, *Lr26*, and *Lr18* were most common in the soft red winter wheat areas of the southeastern states and Ohio Valley. In the hard red wheat area of the southern and northern Great Plains, races with virulence to *Lr24*, *Lr17*, *Lr21*, and *Lr39*/*Lr41* were the most common.

Estimated losses in wheat due to leaf rust of 1–2% occurred in North Carolina, South Carolina, Mississippi, Missouri, Wisconsin, Illinois, Indiana, and Lousiana with trace level of losses in other states.

Texas. Wheat leaf rust severity was high in plots (up to 80S) at Pearsall and uniform in the lower canopy of plots at Uvalde in south Texas in early February. Leaf rust continued to develop at Uvalde and susceptible cultivars at Feekes 4–5 growth stage had high leaf rust severity by late February. Leaf rust was at trace levels and was uniformly distributed through the spreader rows in plots at Castroville in south central Texas in early February and continued to develop in the spreader rows and lower to mid-canopy of the cultivar TAM 110 reaching 50S in early March. By mid-April, high levels of leaf rust were observed in plots at Castroville. Generally, leaf rust was at low levels in commercial fields in the state due to cool spring temperatures, dry conditions, and the application of fungicides.

Oklahoma. Low levels of wheat leaf rust were found on the winter wheat cultivar Overley (boot to head emergence) near Devol in south-central Oklahoma the second week of April. This was the first cereal rust report in Oklahoma in 2013. No leaf rust was found in plots and fields (at boot stage) in central Oklahoma on 26 April. By the second week of May, there appeared to be very little wheat leaf rust in the state. Leaf rust was found in plots at Perkins (5–20S) and Stillwater in north-central Oklahoma the fourth week of May. Drought and late season freezes severely impacted wheat