

Table 3. Mean yield and test weight for Lakin and selected varieties at western Kansas locations (excluding southwest Kansas locations in Table 2) of the Kansas Performance Tests with Winter Wheat Varieties (KWPT) and the Kansas Intra-State Nursery (KIN).

Entry	KWPT (1999-2000)*		KIN (1998-2000)**	
	(bu/a)	(lbs/bu)	(bu/a)	(lbs/bu)
Lakin	69	59	60	60
Trego	76	60	67	61
Vista	69	58	63	58
Ike	68	59	63	60
2137	67	58	61	59
Jagger	65	58	59	59
TAM 107	69	58	—	—
Betty	65	58	—	—
Heyne	59	58	—	—

*KWPT locations include Thomas, Smith, and Ellis counties.

**KIN locations include Thomas, Ness, Graham, Osborne, Ellis, and Barton counties.

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Lakin is a new, hard white winter wheat variety developed cooperatively by the Kansas Agricultural Experiment Station and the USDA Agricultural Research Service. Agricultural experiment stations in Nebraska and Colorado joined in the release of Lakin. Seed was distributed in these states for fall planting in 2000. Foundation and Registered seed will be available to producers for planting in 2001 and Certified seed should be available in 2002.

Origin and Development. Lakin was selected from the cross Arlin/KS89H130, made at the KSU Agricultural Research Center-Hays in 1989. KS89H130 was an unreleased Kansas experimental line selected from a random mating population after two cycles of recurrent selection for tolerance to wheat streak mosaic virus. Lakin has been tested statewide in Kansas replicated breeding nurseries since 1997 and was tested in the 1999 and 2000 USDA Southern Regional Performance Nursery. Lakin has been tested in Kansas Performance Tests with Winter Wheat Varieties since 1999. The development of Lakin was supported by Kansas wheat producers' check-off dollars administered by the Kansas Wheat Commission. The Kansas Crop Improvement Association also provided partial support for the operation of disease screening nurseries during the development of Lakin.

Agronomic Characteristics. Lakin is an awned, white-chaffed, hard white seeded wheat variety. It is medium in maturity (equal to Ike) and has good straw strength (supe-

rior to Trego). Lakin's height and coleoptile length are average for a semi-dwarf variety, and it has good winter hardiness. Fall and winter grazing potential for Lakin is average to below average, and it does not break dormancy early in the spring like its parent, Arlin. Lakin's resistance to shattering is slightly lower than Trego, but better than Jagger and 2137. Ratings for agronomic characteristics of Lakin compared to other varieties are given in Table 1.

Resistance to Pests. Lakin's pest resistance includes resistance to soilborne mosaic virus, and moderate levels of resistance or tolerance to wheat spindle streak mosaic virus, barley yellow dwarf mosaic virus, and wheat streak mosaic virus. Lakin is moderately susceptible to stem rust and susceptible to leaf rust, Hessian fly and Russian wheat aphid. A summary of Lakin's pest resistance is presented in Table 1.

Area of Adaptation. Lakin is being recommended for production on dryland and irrigated acreage in southwest Kansas. In that area Lakin's yield has been comparable to that of Trego and equal or better than most popular red wheats (Table 2). In other areas of western Kansas, Lakin has not competed well with Trego. From 1998 to 2000, the yield of Trego has averaged 7 bushels per acre greater than that of

Lakin in both the Kansas Performance Tests with Winter Wheat Varieties and the Kansas Intra-state Nursery (Table 3). Production of Lakin in central or eastern Kansas is not recommended due to its susceptibility to leaf rust and pre-harvest sprouting.

Milling and Baking Characteristics. The overall bread wheat milling and baking quality of Lakin has been good. Test weights have averaged better than those of Jagger and 2137, but less than the test weight of Trego. Lakin's kernel weight has been greater than Trego's, resulting in improved flour yields over Trego at comparable ash contents. Based on the mixograph, Lakin's mix time is usually one-half minute longer than Trego's mix time. Water absorption for Lakin also has averaged about 1 percent higher than Trego. Protein content, loaf volume, and internal loaf characteristics have been similar to Trego's.

Lakin also has been evaluated for use in Asian noodle products. It was evaluated at the Wheat Marketing Center, Portland, Ore., in 1996 and 1998. In both years, it was judged to have acceptable noodle quality. Its noodle color stability ratings were good, which are most likely the result of Lakin's low level of the noodle-browning enzyme, polyphenol oxi-

dase (PPO). The PPO level in Lakin is comparable to that of ID377S and Platte and significantly lower than the high level of PPO present in Lakin's parent variety, Arlin. The good noodle production quality of Lakin may provide additional value to grain of Lakin produced and marketed on an identity preserved basis.

Table 2. Yield and test weight summary for Lakin and selected varieties tested at southwest Kansas locations of the Kansas Performance Tests with Winter Wheat Varieties and the Kansas Intra-State Nursery. Data presented are means of all tests conducted in Stevens, Finney, and Greeley counties from 1998 to 2000.

Entry	Dryland		Irrigated	
	(bu/a)	(lbs/bu)	(bu/a)	(lbs/bu)
Lakin	71	60	78	59
Trego	73	61	75	59
Ike	67	60	72	59
Vista	67	58	—	—
2137	65	59	76	58
Jagger	65	59	76	58

Table 1. Agronomic and pest resistance characteristics for Lakin and other varieties.

Class	Coleoptile		Winter		Lodging resistance	Shatter resistance	Sprouting tolerance	Test weight	SBMV ²	SSMV ³	WSMV ⁴	BYDV ⁵	Leaf rust	Stem Rust	Speckled leaf blotch	Glume blotch	Tan spot	Powdery mildew	Hessian fly
	rating	hardiness	Maturity	rating															
Lakin	HDWH ⁶	7 ¹	3	2	2	4	7	3	1	5	5	6	9	7	8	8	8	8	9
Trego	HDWH	6	3	3	5	3	5	2	2	4	5	6	2	2	7	5	7	8	5
Betty	HDWH	7	5	4	2	4	7	3	1	2	6	6	7	6	3	5	3	4	9
Heyne	HDWH	6	6	3	2	4	7	4	1	2	4	7	5	2	4	5	4	5	9
Arlin	HDWH	6	7	0	1	4	8	2	5	5	6	8	7	2	9	9	7	8	9
Oro Blanco	HDWH	8	3	3	1	5	6	3	2	5	7	7	8	7	7	7	6	7	7
Vista	HRW ⁷	8	2	3	4	4	5	5	8	7	9	7	7	6	5	6	8	4	1
2137	HRW	7	3	3	1	5	2	4	1	5	4	6	6	6	4	7	4	4	2
Jagger	HRW	6	6	1	5	5	3	4	1	2	4	6	7	3	3	6	3	7	9
Ike	HRW	7	3	2	4	3	2	3	1	5	9	6	9	3	8	6	7	6	1
TAM107	HRW	5	2	1	3	3	2	4	8	7	5	8	9	3	6	6	7	1	9

¹ Ratings based on 1-9 scale where 1=resistance or the best and 9=susceptible or poorest, except for maturity where 0=earliest and 9=latest.

² SBMV—Soilborne mosaic virus.

³ SSMV—Wheat spindle streak mosaic virus.

⁴ WSMV—Wheat streak mosaic virus.

⁵ BYDV—Barley yellow dwarf mosaic virus.

⁶ HDWH—Hard White Wheat.

⁷ HRW—Hard Red Winter Wheat.