Table 4. *Field ratings for resistance to Virulent Blackleg, Plains, Ga.*[1]

	Percent[2]		
Variety	2009	2008	2007
Kiowa	7	23	2
Sumner	10	23	0
Wichita	7	30	2
Falcon[3]	20	47	7
Westar[3]	73	90	53

[1]Data collected by David Spradlin, University of Georgia
[2]Blackleg rated as total percentage of plants killed by blackleg or with severe basal stem canker.
[3]Included in test as a blackleg standard.

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Kiowa Canola

Kiowa is a new winter canola variety developed by the Kansas Agricultural Experiment Station and was released in 2008. Foundation and certified seed of Kiowa will be available for distribution for fall 2010 planting.

Origin and development. Kiowa winter canola (*Brassica napus* L.) is a selection from the cross PI470056 / KS3580, made in 1995 at Kansas State University, Manhattan, Kan. PI470056 is a high erucic acid rapeseed accession with an intermediate bloom date requested from the North Central Region Plant Introduction Station, Ames, Iowa. KS3580 is the experimental line designation for 'Wichita', which was released by the Kansas Agricultural Experiment Station in 1999.

F1 seeds of the cross were increased in the greenhouse in 1995-1996 and the F2 seeds were planted in the field in 1996-1997. Single-plant selections were grown in the vicinity of sister-lines through the F5 generation. Selection criteria and advancement decisions were based on visual observations of agronomic characteristics, reduced levels of winter injury, and low glucosinolate content determined by the glucose-sensitive Tes-tape procedure. In 1999-2000, the highest yielding plot among the related lines was bulk harvested and the seed was used for replicated yield trials in the following years.

Agronomic characteristics. Kiowa was field tested across the southern Great Plains and was an entry in the National Winter Canola Variety Trial (NWCVT) since 2004. Kiowa shows improved winter hardiness and yield potential compared to

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other commonly grown cultivars. Table 1 summarizes the yield percent of test averages for Kiowa, Sumner, and Wichita from the Kansas locations of the National Winter Canola Variety Trial from 2006 to 2009. Kiowa's relative yield performance was equal to or greater than Sumner and Wichita 6 out of the 9 site years reported. Kiowa has competed favorably with these cultivars in both high yielding and stressed environments.

Kiowa averages 2 percent better winter survival than Wichita and Sumner in the Great Plains (Table 2) and demonstrates widespread adaptability to environments where differential winterkill occurs. One of the greatest benefits of good winter survival is uniform stands. If stands are thinned over winter, then additional space between plants increases branching. The additional branches may be of differing maturity causing increased grain moisture and higher green seed count at harvest.

Kiowa is taller than Wichita and Sumner (Table 3). Tall varieties are ideal for swathing before harvest because the increased stubble height elevates the windrow well above the soil surface, allows "rolling" to prevent wind-blown windrows, and permits airflow beneath the windrow for proper ripening. Kiowa's height also benefits producers who use "pushing" as a harvest aid.

On average, Kiowa reaches 50 percent bloom 1 day later and reaches maturity 3 days later than Wichita. It appears that Kiowa has the ability to avoid the yield reducing effects of a hard spring freeze at flowering. In 2007, Kiowa outperformed other varieties with greater regrowth and pod development following the hard spring freeze. Kiowa's slightly later maturity allowed it to maintain yield potential in Hesston and Hutchinson (Table 1). In years where severe weather delayed harvest, a slightly later maturity aided Kiowa's performance by minimizing pod shatter. Planting varieties with different maturities allows producers to better manage some of the risks imposed by adverse weather.

Kiowa has equal total oil content to Wichita, about 37 percent, and its fatty acid profile is 4.3 percent (palmitic), 1.4 percent (stearic), 60.0 percent (oleic), 20.4 percent (linoleic), 9.8 percent (linolenic), and 0.5 percent (erucic). Kiowa has good standability and has average tolerance to shattering. Kiowa shows a similar infection response to the aggressive species of blackleg (*Leptosphaeria maculans*) compared to 'Falcon,' a resistant check, in the blackleg screening nurseries at the University of Georgia (Table 4).

Area of Adaptation. Kiowa is best adapted to areas south of I-70 in the southern Great Plains and to areas in the Midwest and Southeast. Kiowa complements other canola cultivars grown and should provide superior performance in many environments.

Table 1. *Yield percent of test averages for Kiowa at locations in Kansas, 2006-2009.*

	2006	2007				2008		2009	
Variety	Hutchinson	Garden City	Hesston[1]	Hutchinson[1]	Parsons[1]	Garden City[2]	Hesston	Hutchinson[2]	Manhattan
Kiowa	104	125	101	179	146	111	147	103	113
Sumner	72	93	104	115	115	56	78	87	56
Wichita	108	120	97	144	87	71	143	114	113

[1]Hard spring freeze caused moderate to severe damage.
[2]Severe thunderstorms caused shattering of varieties with early maturity.

Table 2. *Average winter survival of Kiowa and selected varieties in different regions of the country.*

	Winter Survival (%)		
Variety	Great Plains	Midwest	Southeast
Kiowa	90.3	84.5	88.1
Sumner	87.8	82.4	85.8
Wichita	88.1	83.5	87.2

Table 3. *Average height of Kiowa and selected varieties in different regions of the country.*

	Plant Height (inches)		
Variety	Great Plains	Midwest	Southeast
Kiowa	47.4	49.5	50.5
Sumner	42.9	46.2	47.2
Wichita	43.9	47.6	47.9