REGISTRATION OF 'ARAPAHOE' WHEAT

'ARAPAHOE' (Reg. no. 743, PI 518591, NE82656) is a hard red winter wheat (*Triticum aestivum* L.) developed cooperatively by the Nebraska Agricultural Experiment Station and the USDA-ARS. It was jointly released to seed producers in 1988 by the developing institutions and the South Dakota Agricultural Experiment Station. Arapahoe was selected from the cross 'Brule'/'Parker*4/'Agent'/'Beloterkovskyia 198'/'Lancer' made in 1976 by J.W. Schmidt. Arapahoe is an increase of a *F*$_1$-derived *F*$_2$ line that was identified in 1982 and tested as NE82656.

Arapahoe is an awned, white-glumed cultivar. The spike is mid-dense, tapering, and erect to slightly inclined at maturity. The beaks are acuminate and narrow. When compared to Brule and 'Redland', Arapahoe is 1% percent higher in flour protein content, slightly more winter-hardy, heavier in grain volume wt., and has a slightly longer coleoptile. Arapahoe is similar to Brule and Redland in flowering date, kernel wt., and plant height. Arapahoe has moderately strong straw, but not as strong as Brule or Redland. The kernel is red colored, hard textured, elliptical to ovate, not collared, and midlong with rounded cheeks, midsized germ, midsized brush, and a shallow crease.

Arapahoe has been tested in Nebraska yield nurseries starting in 1983, in the Northern Regional Performance Nursery from 1986 to 1988, and in the Southern Regional Performance Nursery in 1988. Based upon 23 location-years of testing in the Nebraska Varietal Tests (1986 and 1987), the yield of Arapahoe was 108% of Brule and 106% of 'Siouxland'. Based upon 14 location-years of testing in the Nebraska Intrastate Nursery (1985-1987), the yield of Arapahoe was 114% of Brule and 106% of Siouxland.

Arapahoe is moderately resistant to the currently prevalent races of leaf rust (incited by *Puccinia recondita* Rob. ex. Desm. f. sp. *tritici* Erkis.) and stem rust (incited by *P. graminis* Pers. f. sp. *tritici* Erkis.) and is believed to be more resistant to the Great Plains biotype of Hessian fly (*Mayetiola destructor* Say.), which is believed to indicate 'Kawvale' type of resistance. It is susceptible to mosaic and wheat streak mosaic virus.

The overall bread making properties of Arapahoe are similar to Scout 66. Arapahoe has medium dough characteristics and is slightly lower in flour yield than Scout 66. The kernels of Arapahoe have been classified, using the existing standards, by the Federal Grain Inspection Service as being hard red winter wheat.

Breeder seed of Arapahoe will be maintained by the Nebraska Agricultural Experiment Station submitted for registration and plant variety protection under P.L. 91-577 with the certification option.


References and Notes


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REGISTRATION OF P-3 ALFALFA GERMLASM

P-3 alfalfa (*Medicago sativa* L.) germplasm (Reg. no. GP-213) (PI 525455) was released by the New Mexico Agricultural Experiment Station in April 1988. P-3 is recommended as a genetic source to increase phosphorus concentration in forage of alfalfa cultivars. P-3 was developed from 'Wilson' forage alfalfa germplasm by increasing water soluble phosphorus, the percentage of water soluble phosphorus, the water insoluble phosphorus, and a higher uptake ($V_{max}$) than the check populations.

Selection for increased phosphorus concentration affected nontarget mineral concentrations, a higher zinc concentration, a lower calcium concentration, a higher copper concentration, a lower calcium/phosphorus ratio, and a lower calcium/magnesium ratio.

Five grams of P-3 seed will be provided to each applicant upon written request, and agreement to make appropriate arrangement for distribution. (2)

Arapahoe was developed cooperatively by the Nebraska Agricultural Experiment Station and the South Dakota Agricultural Experiment Station. Arapahoe will be distributed as NE82656. Arapahoe will be further evaluated and tested in Nebraska yield nurseries.