Registration of ‘Antelope’ Hard White Winter Wheat

‘Antelope’ (Reg. no. CV-968, PI 633910) is a hard white winter wheat (Triticum aestivum L.) cultivar developed cooperatively by USDA-ARS, the Nebraska Agricultural Experiment Station, and the Wyoming Agricultural Experiment Station. Antelope has shown exceptional productivity under irrigated trials in western Nebraska, eastern Wyoming, and eastern Colorado. It combines high grain yield under irrigation with excellent lodging resistance.

Antelope was derived from the cross ‘Pronghorn’/Arlin’. Pronghorn (PI 593047, Baenziger et al., 1997) is a strong gluten hard red winter wheat developed by the University of Nebraska. Arlin (PI 564246, Sears et al., 1997) is a hard white winter wheat developed by Kansas State University. Antelope was produced from a cross made in 1993. F3 through F9 generations were advanced by the bulk pedigree method. From the F9 generation, 100 single-plant-progeny rows were planted. Antelope subsequently was selected from one of these rows as a single F9-derived F1 line and assigned the experimental number NW97S278. Breeder seed originated from a composite of 30 F9-derived headrows which were selected for uniformity in plant type and grain color.

Antelope is awned and white-glummed. The glume beak is awned, and the shoulder is elevated to apiculate. Kernels are elliptical, with a narrow, mid-deep crease, rounded beak, and mid-sized brush. Grain samples provided to USDA-GIPSA were classified as hard white, with color characteristics acceptable for this class. Antelope contains approximately 0.1% hard red grain and also contains tall off-types at a frequency of approximately 0.5%. Coleoptile length (37 mm) is shorter than that of Pronghorn (66 mm), and similar to that of ‘Nuplains’ (36 mm). Average plant height (81 cm) is shorter than that of Pronghorn. NE 68583. Other recognized seed classes are Foundation, Recommended, and Certified. Antelope has shown exceptional productivity under Alliance, Millennium, Nuplains, and Trego, with respective hard red winter wheat’ ‘Lakin’ (PI 617032, 0.29).

The milling and baking properties of Antelope were determined by the USDA-ARS Grain Marketing and Production Research Center at Manhattan, KS. Antelope is a strong gluten wheat, and carries the high molecular weight glutenin subunit combination of 2*, 7+9, 5+10. Mean loaf volume of Antelope (825 mL) was similar to that of Nuplains (828 mL). Respective mean bake mix times, mixograph mix times, and mixograph tolerance scores of Antelope were 6.2 min, 4.8 min, and 5 (0–7 scale) while those of Nuplains were 3.8 min, 2.8 min, and 3. Antelope has shown exceptional productivity under Alliance, Millennium, Nuplains, and Trego, with respective hard red winter wheat’ ‘Lakin’ (PI 617032, 0.29).

The Breeder seed class of Antelope will be maintained by the Nebraska Foundation Seed Division, Department of Agronomy & Horticulture, University of Nebraska, Lincoln, NE 68583. Other recognized seed classes are Foundation, Registered, and Certified, as per AOSCA standards. Small quantities of seed for research purposes may be obtained from the corresponding author for at least 5 yr from the date of this publication. Seed of Antelope also has been deposited in the USDA National Small Grains Collection, Aberdeen, ID, where it will be available for research purposes, including development and commercialization of new varieties/cultivars.

It is requested that the source of this material be acknowledged in future usage by wheat breeding and genetics programs.


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References
