

New winter wheat variety offers high yields, disease resistance

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This stand of Oahe, the newly released winter wheat variety, is in Onida, South Dakota. Credit: South Dakota State University

High yields and an excellent disease resistance package—these are qualities producers can expect from Oahe, the new winter wheat cultivar released by the South Dakota Agricultural Experiment Station, according to South Dakota State University assistant professor Sunish Sehgal. Bill Gibbons, SDAES interim associate director, said, "Oahe represents the latest in a long line of wheat releases that our researchers have developed to support the wheat industry in South Dakota and the region." From 2013 to 2015, Oahe ranked No. 1 in mean grain yield among hard red winter wheat trials in the North Regional Performance Nurseries, which has test plots from northern Kansas through Montana and into Canada. Sehgal, who is the SDAES winter wheat breeder, estimated that Oahe yields are 1 to 2 bushels more per acre than the average performance of other SDSU varieties. The new variety also has good resistance to stripe rust, leaf rust and wheat streak mosaic virus, along with resistance to fusarium head blight that is comparable to other popular varieties. The new variety is available to certified seed growers.

This year South Dakota farmers harvested an estimated 57.8 million bushels of [winter wheat](#), up 35 percent from last year, according to the U.S. Department of Agriculture National Agricultural Statistics Service. The winter wheat breeding program is supported by the South Dakota Wheat Commission through checkoff funding, the USDA National Institute of Food and Agriculture and the U.S. Wheat Barley Scab Initiative.

Because new cultivars take 10 to 12 years to develop, these funding sources are crucial to maintaining the continuity necessary to develop new varieties, according to Sehgal.

"Research in the development of new wheat varieties is a key priority of the South Dakota Wheat Commission. The release of Oahe represents a tremendous return on investment for our wheat producers," noted Reid Christopherson, executive director of the S.D. Wheat Commission. "The

release of Oahe is an important contribution of the South Dakota Agricultural Experiment Station to wheat profitability," according to Daniel Scholl, interim dean of the SDSU College of Agriculture and Biological Sciences and SDAES director. Winter wheat is the only food crop planted in the fall and has advantages in addition to higher yields, Sehgal explained. "It uses fall moisture and reduces runoff and soil erosion and can provide vital spring habitat for wildlife." Oahe also has excellent winter hardiness, Sehgal pointed out. The longer length of the coleoptile—the sheath that protects the seed—results in less winter kill along with better drought tolerance.

During four years of testing in crop performance trials at 14 South Dakota locations, Oahe showed above average test weights, at 58 pounds per bushel East River and 58.6 pounds per bushel West River. The grain protein concentration was average, ranging from 13.4 to 12.9, and similar to other popular varieties, Sehgal explained. The new variety also has excellent milling quality with fair baking quality.

Foundation seed for the new variety is available through the SDSU Foundation Seed stock division. The South Dakota Crop Improvement Association markets SDSU varieties and also oversees certified seed production, according to Neal Foster, manager of the Seed Certification Division.

"It has to meet minimum requirements before we put our label on it," Foster explained. By 2017, producers should be able to purchase it through the dealers listed in the South Dakota Certified Seed Grower Directory.

"We are working for the benefit of producers," Sehgal said. "Our purpose is to solve the challenges of South Dakota Wheat growers and help them get an extra buck out of the hard work they do to feed the rest of the world."

Provided by South Dakota State University

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