Registration of ‘Vida’ Wheat

‘Vida’ (Reg. no. CV-996, PI 642366) is a hard red spring wheat (Triticum aestivum L.) developed by the Montana Agricultural Experiment Station and released in 2006. Vida is targeted for production in dryland areas of Montana.

Vida was derived from an F₄ plant selection from the cross ‘Scholar’ (Lanning et al., 2000)/‘Reeder’ (PI 613586). Scholar is a normal height cultivar with semisolid stems and good dryland yield potential. Reeder is a semidwarff cultivar, and is notable for maintaining green leaf color later in the summer than other wheat lines grown in Montana. Reeder has high yield potential in dryland environments. The breeding procedure for Vida included single seed descent without selection in the F₂ and F₃ generations, followed by subsequent selection for height, heading date, delayed flag leaf senescence, and vigor in space-planted F₄ head rows. F₅ head rows were evaluated for height, heading date, time of flag leaf maturity, uniformity, grain protein, and apparent yield potential. Selected rows were entered into a single row replicated yield trial at Bozeman, MT, and evaluated for grain yield, grain protein, and dough mixing properties. Superior lines from this nursery, including Vida, were entered into a replicated yield trial planted at four dryland Montana locations. The best lines from this nursery were tested with currently grown cultivars and additional experimental lines in a yield trial conducted at ten Montana locations from 2003–2005. In addition, Vida was tested in the Uniform Regional Hard Red Spring Wheat Nursery at 18 locations per year in 2004 and 2005 under the experimental number MT0245.

Vida has middened and tapering heads with white awns and glumes. Glumes are acuminate and shoulders are elevated. Kernels are red, ovate, and have a medium brush. Kernels have a medium crease with rounded cheeks. Anthocyanin is absent in the coleoptile and the flag leaf is erect. Mature plant color is light tan.

Vida has semisolid stems because of the presence of a major gene for stem solidness (Cook et al., 2004) on chromosome 3B. On a scale of 5 to 25, where 5 is hollow and 25 is solid, Vida has a score of 12. This compares with 7 for hollow-stemmed ‘McNeal’ (Lanning et al., 1995) and 21 for solid-stemmed Choteau (Lanning et al., 2004). Wheat stem sawfly (Cephus cinctus Nort.) resistance shown by Vida is intermediate to the Choteau and McNeal as expected, with average cutting of 59, 51, and 13%, respectively, for McNeal, Vida and Choteau based on three sawfly-infested sites. Vida is moderately susceptible to stem rust caused by Puccinia graminis Pers.:Pers based on artificial inoculation in the field at Bozeman using a mixture of spores collected from natural infestations in eastern Montana. Vida is moderately resistant to stripe rust caused by Puccinia striiformis Westend. based on natural infestations at Kalispell and Huntley, MT. Vida showed moderate resistance to Septoria glume blotch (caused by Stagonosporum nodorum Burk.) at dryland nurseries in Sidney, Havre, and Conrad in 2005. Reaction of Vida to leaf rust infection caused by Puccinia triticina Eriks. has not been observed.

Grain protein of Vida over 30 locations was 147 g kg⁻¹ as compared with 149 and 150 g kg⁻¹ for McNeal and Reeder, respectively. Flour yield for Vida was 1126 kg m⁻² as compared with 65.1 and 67 kg m⁻² for McNeal and Reeder, respectively. Water absorption was 226.4 and 226.5 g kg⁻¹ for Vida, McNeal, and Reeder, respectively. Vida is moderately resistant to stripe rust caused by Puccinia striiformis Westend. based on yield trials at Bozeman in 2004 and 2005. Vida is moderately resistant to lodging.

Breeder seed was developed by selection among 400 head rows. Approximately 350 selected plants were subsequently grown as six row plots to form breeder seed. Breeder, Foundation, and Certified classes of seed are all recognized. Breeder seed will be maintained by the Department of Plants and Range Sciences and Plant Pathology, Montana Agricultural Experiment Station, Bozeman, MT 59717. Applications are made for U.S. Plant Variety Protection with an option. Contact the corresponding author for requests. No seed will be distributed without a fee for 20 yr from date of publication in Crop Science. Montana Agricultural Experiment Station, and will also be available from the National Plant Germplasm System (NPGS).


References


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