

Registration of 'Gene' Wheat

'Gene' (Reg. no. CV-792, PI 560129) is a soft white winter wheat (*Triticum aestivum* L.) cultivar developed by the Oregon Agricultural Experiment Station and released in February 1992. It is an F_2 -derived selection from the three-way cross Cleo/Pichon//Zenzontli made in 1982. Gene is an early-maturing semidwarf wheat with white grain and stiff straw. The spike is awnleted, fusiform, mid-dense, and nodding. Glumes are glabrous, white, short to mid-long, shoulder mid-long, square, beaks narrow, acute, and 2 to 3 mm. The kernels are white, mid-long, soft, ovate with a small to mid-sized germ, and a mid-wide, deep crease. The brush is small.

Gene is widely adapted to most wheat growing areas of Oregon. In five years of yield trials, it averaged 8137 kg ha^{-1} , and ranked first compared with commercial cultivars when grown in western Oregon. During that same period, it exceeded currently prevalent commercial cultivars (e.g., 'Stephens', 'Madsen') in yield in dryland areas of north central Oregon with an average yield of 4999 kg ha^{-1} . In northeastern Oregon near Pendleton, Gene has averaged 7283 kg ha^{-1} in yield trials over five years, similar to yields of Stephens and Madsen.

Gene is shorter than currently grown cultivars, which have one *Rht* dwarfing gene, and is very resistant to lodging. It is less winter hardy than Stephens and should not be planted in areas subject to extremely low winter temperatures.

Gene is resistant to prevalent northwestern U.S. biotypes of stripe rust (caused by *Puccinia striiformis* Westend.), leaf rust (caused by *P. recondita* Roberge ex Desmaz.), and leaf blotch (caused by *Septoria tritici* Roberge in Desmaz.). It is moderately resistant to powdery mildew (caused by *Erysiphe graminis* DC. f. sp. *tritici* Ém. Marchal), and susceptible to septoria glume blotch [caused by *Phaeosphaeria nodorum* (E. Müller) Hedjaroude; syn. *S. nodorum* (Berk.) Berk. in Berk. & Broome], flag smut [caused by *Urocystis agropyri* (G. Preuss) Schröt.], cephalosporium stripe (caused by *Hymenula cerealis* Ellis & Everh.; syn. *Cephalosporium gramineum* Nisikado & Ikata in Nisikado et al.), and most races of common and dwarf bunt [caused by *Tilletia caries* (DC.) Tul. & C. Tul., syn. *T. tritici* (Bjerk.) G. Wint. in Rabenh.; *T. laevis* Kühn in Rabenh.; and *T. controversa* Kühn in Rabenh.].

The USDA-ARS Western Wheat Quality Laboratory has rated Gene as satisfactory to very satisfactory for overall soft white winter wheat quality traits. Gene is similar to Stephens for most quality traits. It exceeds commercial club wheat cultivars for cake volume and cake score. Breeder and foundation seed of Gene is maintained by the Foundation Seed Project under the auspices of the Crop and Soil Science Department, Oregon Agricultural Experiment Station, Oregon State University, Corvallis, OR 97331-3002.

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References and Notes

1. Karow, R.S., W.E. Kronstad, M.F. Kolding, and P.K. Zwer. 1992. New Winter Wheat Varieties—Gene—A Soft, White, Winter Wheat. Oregon State University Agric. Ext. Service E.M. 8508.
2. W.E. Kronstad and R.S. Karow. Crop and Soil Sci. Dep., M.F. Kolding, Hermiston Agric. Res. and Ext. Ctr., and P.K. Zwer, Columbia Basin Agric. Res. Ctr., Oregon State Univ., Corvallis, OR 97331-3002. Registration by CSSA. Accepted 31 Aug. 1993. *Corresponding author.