REGISTRATION OF ‘KY 180’ TOBACCO

‘KY 180’ tobacco (Nicotiana tabacum L.) (Reg. no. 98) was developed and released by the University of Kentucky Agricultural Experiment Station in 1988. KY 180 is a dark air-cured (Type 35) cultivar and was released because of its overall superiority in disease resistance, cured-leaf quality, and yield compared with other cultivars. The cultivar was developed from a cross between ‘KY 165’ and ‘Burley 49’. The initial cross was followed by three crosses to ‘KY 160’ and respective crosses to the dark air-cured lines, OS 15 and OS 17. KY 180 was released in the F6 generation after the final cross.

The new cultivar is highly resistant to the tobacco mosaic virus (TMV), wildfire (Pseudomonas tabaci (Wolf and Foster) Stevens), and black root rot (Thielaviopsis basicola (Berk. and Br.) Ferr.). It carries medium resistance to fusarium wilt (Fusarium oxysporum Schlecht. f. sp. nicotianae (W.) Johnson). Resistances to TMV, wildfire, and black root rot are controlled by different single dominant genes originally transferred from N. glutinosa L., N. longiflora Cav., and N. debneyi Domin., respectively. Fusarium wilt resistance is multigenic and was derived from a N. tabacum source (flue-cured cultivar, ‘McCuller 27’).

KY 180 was evaluated in replicated tests for 4 yr at the West Kentucky Research Station and for 2 yr in on-farm tests. Comparisons were made to KY 160, a good quality, high-yielding cultivar and KY 165, which has high resistance to TMV and wildfire and medium resistance to black root rot and fusarium wilt. Cured leaf yield of KY 180 was greater than KY 165 and not different from KY 160. Quality ratings for cured leaves by two tobacco companies also showed KY 180 to be superior to KY 165 and comparable to KY 160. Chemical composition of cured leaves from the three cultivars was comparable and within acceptable ranges. For agronomic traits other than yield, KY 180 was comparable to KY 160 for days to flower and leaf size. KY 180 plants averaged 5.5 cm taller and 1.4 more leaves per plant than KY 160.

Breeder seed of KY 180 will be maintained at the West Kentucky Research and Education Center, Princeton, KY. Foundation Seed will be distributed by the Foundation Seed Project, Agronomy Department, University of Kentucky, Lexington, KY.

References and Notes

1. Paul D. Legg, West Kentucky Res. and Education Ctr., Princeton, KY 42445; and Eric Tedford, Dep. of Agronomy, University of Kentucky, Lexington, KY 40546. Journal Article No. 88-3-212 of the Kentucky Agric. Exp. Stn., published with approval of the Director. Registration by the CSSA. *Corresponding author. Accepted 30 Dec. 88.

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REGISTRATION OF CENTURY WHEAT

‘CENTURY’, (Reg. no. 744), PI 502912, is a hard red winter wheat (Triticum aestivum L.) developed cooperatively by the Oklahoma Agricultural Experiment Station and the USDA-ARS at Stillwater, OK. It was released to growers as ‘Century’.

Century is derived from the cross ‘Payne’// ‘TAM W-101’. TAM W-101 is a well-adapted, widely grown hard wheat released by the USDA-ARS at Stillwater, OK. ‘Payne’ is a hard red winter wheat developed at Stillwater, OK, by the use of pollen irradiation techniques. TAM W-101 is derived from the cross ‘Payne’// ‘TAM W-101’.

Century is highly resistant to most races of stem rust [caused by Puccinia recondita Rob. ex Desm. f. sp. tritici], to stripe rust [caused by Puccinia striiformis (Fries) Eriks. and P. graminis] and to some races of leaf rust [caused by Puccinia graminis Tode]. Century is moderately resistant to powdery mildew [caused by Erysiphe graminis (DC.) Takeuchi分期] and yellow rust [caused by Puccinia striiformis (Fries) Eriks. and P. graminis]. Century is moderately susceptible to some races of black shank [caused by Phytophthora parasitica (Freyer) E.F. Schlecht. f. sp. nicotianae (Breda de Haan) Tucker], which was rated as ‘DF 485’. The original cross was followed by five backcrosses to ‘KY 171’ and TXF 811, a Tennessee breeding line, and six generations of self-pollination. Century is non-transgressive relative to the parental lines. Century has high resistance to tobacco mosaic virus, wildfire, and medium resistance to black root rot [incited by Thielaviopsis basicola (Berk. and Br.) Ferr.].

Century was evaluated in replicated trials at the West Kentucky Research Station for 3 yr and in on-farm trials for 1 yr. Under disease-free conditions, the average yield of Century was not significantly different from the yield of KY 171 and the high quality cultivar, ‘Narrow Leaf Madole’. In black shank-infested fields, KY 190 has been more resistant than Century, and susceptible cultivars like KY 171 and Narrow Leaf Madole have shown losses in excess of 40%. For morphological traits, Century is comparable to KY 171 for maturity date, plant height, number of leaves, leaf size, and leaf composition. The cured leaf has an average alkaloid content of 5.75%. Tobacco manufacturers have rated the cured leaf of Century as good to excellent with an acceptable leaf tip.

Breeder seed will be maintained at the West Kentucky Research and Education Center, Princeton, KY. Foundation seed will be distributed by the Foundation Seed Project, Agronomy Department, University of Kentucky, Lexington, KY.

References and Notes

1. Paul D. Legg, West Kentucky Res. and Education Ctr., Princeton, KY 42445; and Eric Tedford, Dep. of Agronomy, University of Kentucky, Lexington, KY 40546. Journal Article No. 88-3-212 of the Kentucky Agric. Exp. Stn., published with approval of the Director. Registration by the CSSA. *Corresponding author. Accepted 30 Dec. 88.

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