Registration of ‘AC Copia’ Spring Triticale

‘AC Copia’ spring triticale (xTriticosecale Wittmack) (Reg. no. CV-13, PI 590947) was developed at the Research Station, Research Branch, Agriculture and Agri-Food Canada, Swift Current, SK, by the Arid Prairie Wheat Program. Registration no. 3784 was issued for AC Copia in April 1993 by the Plant Health and Plant Products Directorate, Food Production and Inspection Branch of Agriculture and Agri-Food Canada.

AC Copia was selected from the progeny of a cross made in 1984 between T 33 (Juanillo’S’) and entry number 169 from the 12th International Triticale Screening Nursery (ITSN) (W74.103-ADX/BGL’S’-M2A//IRA) of the International Maize and Wheat Improvement Centre (CIMMYT), Mexico. It was tested under the experimental designation Till.

AC Copia was developed using modified pedigree and early-generation yield testing procedures. The F1, F3, F5, and F7 generations were grown in a winter nursery near Brawley, CA, to multiply seed for early-generation tests. The F2 generation was grown near Swift Current as individual plants in a leaf and stem rust disease nursery. The F4, F6, and F8 generations were evaluated for agronomic performance in replicated yield trials at two locations (Swift Current and Indian Head). An F8-derived F9 line, designated 8432-B1E, was evaluated for agronomic performance and end-use suitability in the Triticale Pre-Cooperative Test at four locations in 1989 (Swift Current, Stewart Valley, Regina, and Indian Head). From 1990 to 1992, it was assessed as T111 in the Western Spring Triticale Cooperative Tests at 11 locations in western Canada each year.

In 33 regional trials, AC Copia outyielded the triticale checks, ‘Wapiti’ and ‘Frank’, by 4%, and Canada Prairie Spring, ‘Biggar’ wheat (Triticum aestivum L.) by 25%. The test weight of AC Copia (73 kg hL−1) represents a 3 kg hL−1 improvement over Frank. The kernel weight of AC Copia (44.2 mg) is significantly (P < 0.05) greater than the check cultivars. Maturity of AC Copia is equal to Frank, 1 d later than Wapiti, and 5 d later than Biggar.

AC Copia is resistant to the prevalent races of stem rust (caused by Puccinia graminis Pers.:Pers.) and leaf rust (caused by P. recondita Roberge ex Desmaz.), highly resistant to common bunt (caused by Tilletia laevis Kühn in Rabenh. a. C. Tul.), and moderately resistant to common root rot (caused primarily by Bipolaris sorokiniana (Sacc.) Sacc.) and ergot (caused by Claviceps purpurea (Fr.:Fr.) Tul.).

AC Copia is 5 to 10 g kg−1 lower in protein concentration than Frank and Wapiti triticales and 24 g kg−1 lower in protein concentration than Biggar wheat. Grain hardness of AC Copia is similar to that of Frank and Wapiti but softer than Biggar. Flour yield of AC Copia is greater than Frank, and less than Wapiti. AC Copia is eligible for grades of Canada Triticale established by the Inspection Division of the Canadian Grain Commission. AC Copia will be used as a food and feed grain and an annual forage.

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References and Notes

9. Dep. of Agronomy, Univ. of Kentucky, Lexington, KY. Published as Paper no. 95-06-116 with the approval of the Director of Research. Accepted for publication by the Kentucky Agric. Exp. Stn. Registration by CSS.

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