Registration of ‘AC Alta’ Spring Triticale

‘AC Alta’ spring triticale (\textit{xTriticosecale} Wittmack) (Reg. no. CV-14, PI 590945) was developed at the Semiarid Prairie Agricultural Research Centre, Research Branch, Agriculture and Agri-Food Canada, Swift Current, SK, as part of the Triticale Breeding Project. Canadian Reg. no. 4133 was issued for AC Alta in May 1995 by the Plant Health and Plant Products Directorate, Food Production and Inspection Branch, Agriculture and Agri-Food Canada. AC Alta is well adapted to the soils of the Canadian Prairies, with shorter and stronger straw than the best check cultivars. AC Alta has a large kernel that meets the criteria of the Canada Triticale class.

AC Alta was derived from a cross made at the University of Manitoba between CIN/CNO/3/BGL/‘Merino’ S’ and Entry no. 169 (W74.103-ADX/BGL’S’-M2A/IRA) obtained from the International Maize and Wheat Improvement Centre (CIMMYT) via the 12th International Triticale Screening Nursery (ITSN).

AC Alta was developed using modified pedigree and early generation yield testing procedures. In 1984, when the triticale breeding program was terminated at the University of Manitoba, F3 head rows were introduced and selection was continued at Swift Current. The F3, F5, and F7 generations were grown in a winter nursery near Brawley, CA, to multiply seed for early generation yield tests. The F4, F6, and F8 generations were grown as replicated yield trials at Swift Current and Indian Head in Saskatchewan to evaluate agronomic performance. The line designated UM8401A-29E1 was evaluated in pre-cooperative tests in 1988 and entered into the Western Spring Triticale Cooperative Test in 1989 as T103. In 1990, the breeder lines were observed to be segregating for anthesis date. Late heading lines were selected and entered into the Western Spring Triticale Cooperative Test in 1991 as T122 and it was evaluated at 11 or 12 locations from 1991 to 1993. The 42 breeder lines grown at Swift Current during 1990 in 3-m rows and at Brawley during 1993–1994 in 7-m rows derive from an F6–derived F10 single-plant progeny row.

In 33 performance trials grown on the Canadian Prairies, AC Alta outyielded the best triticale check, ‘Frank’, by 6.0% and outyielded ‘Biggar’ spring wheat (\textit{Triticum aestivum} L.) by 28.4%. The test weight of AC Alta (66.7 kg hL$^{-1}$) is equal to that of ‘Wapiti’, but significantly ($P < 0.05$) less than that of Frank and ‘AC Copia’. The kernel weight of AC Alta is 47.5 mg, 3.3 mg greater than that of the largest check cultivar, AC Copia. AC Alta is 7 cm shorter than the shortest check, Frank, and more resistant to lodging than the best check, Wapiti. AC Alta is 1 d later in maturity than the checks Frank, Wapiti, and AC Copia. More detailed information can be found elsewhere (1).

AC Alta is resistant to the prevalent races of stem rust (caused by \textit{Puccinia graminis} Pers.:Pers. f. sp. tritici Eriks. & E. Henn.), leaf rust (caused by \textit{P. recondita} Roberge ex Desmaz. f. sp. tritici), and common bunt (caused by \textit{Tilletia laevis} Kühn in Rabenh. and \textit{T. caries} (DC.) Tul. & C. Tul.) and is moderately resistant to common root rot (caused primarily by \textit{Bipolaris sorokiniana} (Sacc.) Shoemaker).

AC Alta has been released to Progressive Seeds Ltd., 155-4752 Ross St., Red Deer, AB T4N 1X2, Canada, for distribution. Breeder seed will be maintained by the Breeding Unit of the Research Farm, Indian Head, SK, by J. G. McLeod.* T. F. Townley-Smith, and R. M. DePauw.

References and Notes


Registration of ‘AC Certa’ Spring Triticale

‘AC Certa’ spring triticale (\textit{xTriticosecale} Wittmack) (Reg. no. CV-15, PI 590946) was developed by the International Maize and Wheat Improvement Centre (CIMMYT) and the Semiarid Prairie Agricultural Research Centre, Research Branch, Agriculture and Agri-Food Canada, Swift Current, SK, as part of the Triticale Breeding Project. Canadian Reg. no. 4153 was issued for AC Certa in June 1996. AC Certa was introduced in 1989 and designated 8930-020.

AC Certa was selected from the progeny of a cross made by CIMMYT at El Batan, Mexico, in 1982. AC Certa was developed using a modified pedigree system. The F2, FS, and Fg generations were grown as replicated yield testing procedures. The F4, F6, and F8 generations were grown as replicated yield trials at Swift Current and Indian Head in Saskatchewan to evaluate agronomic performance. The line designated UM8401A-29E1 was evaluated in pre-cooperative tests in 1988 and entered into the Western Spring Triticale Cooperative Test in 1989 as T103. In 1990, the breeder lines were observed to be segregating for anthesis date. Late heading lines were selected and entered into the Western Spring Triticale Cooperative Test in 1991 as T122 and it was evaluated at 11 or 12 locations from 1991 to 1993. The 42 breeder lines grown at Swift Current during 1990 in 3-m rows and at Brawley during 1993–1994 in 7-m rows derive from an F6–derived F10 single-plant progeny row.

In 33 performance trials grown on the Canadian Prairies, AC Alta outyielded the best triticale check, ‘Frank’, by 6.0% and outyielded ‘Biggar’ spring wheat (\textit{Triticum aestivum} L.) by 28.4%. The test weight of AC Alta (66.7 kg hL$^{-1}$) is equal to that of ‘Wapiti’, but significantly ($P < 0.05$) less than that of Frank and ‘AC Copia’. The kernel weight of AC Alta is 47.5 mg, 3.3 mg greater than that of the largest check cultivar, AC Copia. AC Alta is 7 cm shorter than the shortest check, Frank, and more resistant to lodging than the best check, Wapiti. AC Alta is 1 d later in maturity than the checks Frank, Wapiti, and AC Copia. More detailed information can be found elsewhere (1).

AC Certa is well adapted to the soils of the Southern Canadian Prairies with an average grain yield equal to the best check cultivars. AC Certa was released to progressively Seeds Ltd., 155-4752 Ross St., Red Deer, AB T4N 1X2, Canada, for distribution. Breeder seed will be maintained by the Breeding Unit of the Research Farm, Indian Head, SK, by J. G. McLeod.* T. F. Townley-Smith, and R. M. DePauw.

The test weight of AC Certa (74 kg hL$^{-1}$) is equal to that of 'Wapiti'. AC Certa has a large kernel that meets the criteria of the Canada Triticale class.

AC Certa is resistant to the prevalent races of stem rust (caused by \textit{Puccinia graminis} Pers.:Pers. f. sp. tritici Eriks. & E. Henn.), leaf rust (caused by \textit{P. recondita} Roberge ex Desmaz. f. sp. tritici), and common bunt (caused by \textit{Tilletia laevis} Kühn in Rabenh. and \textit{T. caries} (DC.) Tul. & C. Tul.) and is moderately resistant to common root rot (caused primarily by \textit{Bipolaris sorokiniana} (Sacc.) Shoemaker).

AC Certa was subsequently evaluated in the International Triticale Cooperative Test from 1992 to 1994 at 12 locations in the southern Canadian Prairies each year.

AC Certa is well adapted to the soils of the Southern Canadian Prairies with an overall grain yield equal to the best check cultivars. AC Certa was significantly greater ($P < 0.05$) than ‘AC Copia’ and ‘Banjo’ triticale and the Canadian Prairie Spring (CPS) wheat (\textit{Triticum aestivum} L.) check. AC Certa was not significantly different from ‘Wapiti’, ‘Frank’ triticale.

The test weight of AC Certa (74 kg hL$^{-1}$) is equal to that of 'Wapiti'. AC Certa has a large kernel that meets the criteria of the Canada Triticale class.

AC Certa is resistant to the prevalent races of stem rust (caused by \textit{Puccinia graminis} Pers.:Pers. f. sp. tritici Eriks. & E. Henn.), leaf rust (caused by \textit{P. recondita} Roberge ex Desmaz. f. sp. tritici), and common bunt (caused by \textit{Tilletia laevis} Kühn in Rabenh. and \textit{T. caries} (DC.) Tul. & C. Tul.) and is moderately resistance to common root rot (caused primarily by \textit{Bipolaris sorokiniana} (Sacc.) Shoemaker).