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xTSE CA Bunker Cultivar Source: Alberta Agriculture, Food and Rural Development, Lacombe (Alberta) CA CID:_ SID:_

Donald F Salmon (breeder). Triticale (xTriticosecale): 'Bunker'. *Plant Varieties J. (CA, online)* no.63: 2p (2007) Plant breeders' rights were subsequently granted to Alberta Agriculture and Food, see *Plant Varieties J (CA, online)* no.66: 3p (2008) See also xTSE US Bunker.

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Bunker

Triticale

Denomination:	'Bunker'
Botanical Name:	× <i>Triticosecale</i>
Applicant/Holder:	Alberta Agriculture and Food Field Crop Development Centre 5030-50'th Street Lacombe, Alberta T4L 1W8 Canada Tel: 403-782-4641 Fax: 403-782-5514
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Variety Description

Varieties used for comparison: 'Tyndal' and 'Pronghorn'

Summary: *'Bunker' is a hexaploid, spring triticale variety that has taller plants than both the reference variety 'Pronghorn' and the other candidate variety 'Tyndal'. 'Bunker' has a longer and wider flag leaf than 'Pronghorn' and the flag leaf of 'Bunker' is drooping, whereas in 'Pronghorn' it is erect. 'Bunker' has a wider and slightly shorter spike than 'Pronghorn'. 'Bunker' has an awnletted spike while 'Pronghorn' is fully awned.*

Description:

COLEOPTILE: weak anthocyanin colouration
PLANT AT BOOTING: semi-erect growth habit

FLAG LEAF: drooping, very weak or no anthocyanin colouration on auricles, medium glaucosity
PLANT AFTER HEADING: very tall, mid season maturity, moderately thick pith of straw
NECK OF CULM: moderately curved, dense pubescence

SPIKE: medium density, weak glaucosity, slightly coloured, broad

AWNS: reduced (at tip only), very weak anthocyanin colouration
 LOWER GLUME: medium length first beak, small second beak, hairy on external surface
 ANTHERS: medium intensity anthocyanin colouration

KERNEL: red colour, large size, medium length, broad, elliptical shape, dark phenol reaction

AGRONOMIC TRAITS: good resistance to shattering, good tolerance to drought, medium pre-harvest sprouting tendency

REACTION TO DISEASE: resistant to powdery mildew (*Erysiphe graminis* f.sp. *tritici*), common bunt (*Tilletia caries*, *Tilletia foetida*), dwarf bunt (*Tilletia controversa*), loose smut (*Ustilago tritici*), leaf rust (*Puccinia triticina*), stem rust (*Puccinia graminis* f.sp. *tritici*) and stripe rust (*Puccinia striiformis*), moderately resistant to *Septoria nodorum* blotch (*Septoria nodorum*), *Fusarium* head blight (*Fusarium graminearum*), susceptible to spot blotch (*Cochliobolus sativus*), tan spot (*Pyrenophora tritici-repentis*), *Septoria tritici* blotch (*Septoria tritici*)

Origin & Breeding History: 'Bunker' (which was tested in Coop trials as T181) is derived from the cross Pika-5/Yogui-1//85L012006, produced at the Field Crop Development Centre, Lacombe, Alberta in 1993. The germplasm line Pika-5/Yogui-1 was an introduction from the Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT) and 85L012006 was an awnleted triticale developed at the Field Crop Development Centre. The awnleted characteristic in 85L012006 came from a triticale × spring wheat cross (RL4137) backcrossed several times to spring triticale. The F2 was grown in the field in 1994 and subjected to selection for degree of awn reduction. The F3 - F5 generations were handled in a modified bulk using plant type and degree of awn reduction as the primary selection criteria. The F6 - F7 were subsequently evaluated for agronomic type as headrows at Lacombe. T181 (93L016002) was evaluated in preliminary trials from 1997 to 2001 and in the Western Spring Triticale Coop Test from 2002-2004. The awnleted characteristic in T181 ('Bunker') comes from the same source as the winter triticale variety 'Bobcat'. Selection criteria for this line included plant type, awn expression, grain and forage yield, as well as disease resistance, lodging resistance and seed quality.

Tests & Trials: Trials for 'Bunker' were conducted during the summers of 2005 and 2006 at the Field Crop Development Centre, Lacombe, Alberta. Each plot was replicated 3 times and seeded at a rate of 30 seeds/square foot. Plots consisted of 8 rows, planted to a length of 4.5 metres and cut back to 2.5 metres. The rows were 14cm apart and plots were 45 cm apart. Measured characteristics were based on a minimum of 30 measurements.

Comparison table for 'Bunker'

	'Bunker'	'Tyndal'*	'Pronghorn'*
Flag leaf length (cm)			
mean	21.1	16.8	17.3
std. deviation	2.03	2.8	2.12
Flag leaf width (mm)			
mean	17.7	14.85	14.7
std. deviation	1.6	2.4	1.69
Plant height, including awns (cm)			
mean	132.6	118.0	121.4
std. deviation	5.4	4.9	6.0
Spike length, excluding awns (cm)			

mean	9.74	9.46	11.32
std. deviation	0.77	0.75	0.96
Kernel weight			
grams per 1000 kernels	45.7	42.2	42.3
*reference varieties			

Triticale: 'Bunker' (left) with reference varieties 'Pranghorn' (centre) and 'Tyndal' (right)



Date modified: 2008-09-03