



TRITICALE
(×*Triticosecale*)

Proposed denomination: 'Luoma'
Application number: 08-6359
Application date: 2008/06/03
Applicant: Alberta Agriculture and Rural Development, Lacombe, Alberta
Breeder: Donald F. Salmon, Alberta Agriculture and Rural Development, Lacombe, Alberta

Varieties used for comparison: 'Bobcat' and 'Pika'

Summary: 'Luoma' is a hexaploid, winter triticale variety which has similar height to the reference variety 'Pika', but taller height than the reference variety 'Bobcat'. The growth habit of 'Luoma' is semi-erect whereas it is prostrate in 'Pika'. The flag leaf sheaths of 'Luoma' have weaker glaucosity than 'Bobcat'. The culm of 'Luoma' has no pubescence on the neck, whereas it is sparse in 'Pika'. 'Luoma' has weaker curvature of the culm at maturity than 'Bobcat'. 'Luoma' is an awnless variety, whereas 'Pika' is fully awned.

Description:

COLEOPTILE: no anthocyanin colouration
PLANT AT BOOTING: semi-erect growth habit

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

SPIKE: medium density, medium glaucosity, white coloured, medium width in profile view
AWNS: reduced (at tip only), weak anthocyanin colouration
LOWER GLUME: medium length first beak, medium length second beak, no hair on external surface
ANTHERS: weak anthocyanin colouration

KERNEL: tan colour, medium size, medium length, midbroad, ovate to elliptical shape, dark phenol reaction

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

REACTION TO DISEASE: resistant to powdery mildew (*Erysiphe graminis* f.sp. *tritici*), common bunt (*Tilletia caries*, *Tilletia foetida*), loose smut (*Ustilago tritici*), stem rust (*Puccinia graminis* f.sp. *tritici*), and stripe rust (*Puccinia striiformis*), moderately resistant to common root rot (*Fusarium species*), tan spot (*Pyrenophora tritici repentis*), leaf rust (*Puccinia triticina*), and ergot (*Claviceps purpurea*), susceptible to snow mold (*Typhula species*, *Monographella nivalis*, *Coprinus psychromorbidus*, *Myriosclerotinia borealis*), Septoria tritici blotch (*Septoria tritici*), and Septoria nodorum blotch (*Septoria nodorum*).

Origin and Breeding: 'Luoma' [which was tested in coop trials as 94D024001 (WT004)] is derived from the cross 92A003/2/81DE01012/87A076/3/Pika/4/88DL01 produced at the Field Crop Development Centre, Lacombe in 1994. The cross consists of '29A003' and '87A076' which were winter triticale germplasm introductions from Oregon. '81DE01012' is a sister line to the winter triticale 'Pika' and '88DL01' is the original reduced awn (awnletted) winter triticale population from which the winter triticale 'Bobcat' was selected. The awnletted characteristic in '88DL01' came from a triticale x spring wheat cross ('RL4137') back-crossed several times to spring and winter triticale. The F2 was grown in the field in 1996 and subjected to selection for degree of awn reduction and winter hardiness. The F3-F4 generations were handled in a classical pedigree (ear to Row) fashion using plant type, degree of awn reduction and winter hardiness as the primary selection criteria. The F6-F9 were subsequently evaluated in winter hardiness and yield trial nurseries at Lacombe, Olds, Trochu, and Stettler AB. The awnletted characteristic in 'Luoma' comes from the same source as the triticale variety 'Bobcat', and the spring triticale varieties 'Bunker' and 'Tyndal'.

Tests and Trials: Trials for 'Luoma' were conducted during the summers of 2006, 2007, and 2008 at Lacombe and Olds, Alberta. Each plot was replicated 4 times and seeded at a rate of 24 seeds per square foot. Plots consisted of 8 rows, planted of a length of 2.5 metres. The rows were 14 cm apart.

Comparison table for 'Luoma'

	'Luoma'	'Bobcat'*	'Pika'*
<i>Plant height, including awns (cm)</i>			
mean	123	97	122

*reference varieties



Triticale: 'Luoma' (94D024001) (right) with reference varieties 'Bobcat' (left) and 'Pika' (centre)