



APPLICATIONS UNDER EXAMINATION

TRITICALE

TRITICALE (×*Triticosecale*)

Proposed denomination: 'Metzger'
Application number: 08-6474
Application date: 2008/12/19
Applicant: Alberta Agriculture and Rural Development, Lacombe, Alberta
Breeder: Donald F. Salmon, Alberta Agriculture and Rural Development, Lacombe, Alberta

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

Summary: 'Metzger' is a hexaploid, winter triticale variety which is taller than 'Bobcat' and shorter than 'Luoma' and 'Pika'. 'Metzger' has medium glaucosity of the spike whereas 'Bobcat' has strong glaucosity. 'Metzger' is tip awned whereas 'Pika' is fully awned. The awns above the tip of the spike of 'Metzger' are longer than those of 'Luoma' and shorter than those of 'Pika'.

Description:

COLEOPTILE: no anthocyanin colouration

PLANT AT BOOTING: semi-erect growth habit

FLAG LEAF: erect attitude, medium frequency of plants with recurved/drooping flag leaves, absent or very weak anthocyanin colouration on auricles, medium glaucosity

PLANT AFTER HEADING: early to mid season maturity, medium thickness of pith in cross section

NECK OF CULM: weak curvature, absent or very sparse pubescence

SPIKE: medium density, medium glaucosity, white coloured at maturity, medium width in profile view

AWNS: at tip only, weak anthocyanin colouration

LOWER GLUME: short to 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 elliptic 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: moderately resistant to common root rot (*Cochliobolus sativus*, *Fusarium* species), tan spot (*Pyrenophora tritici repentis*) and ergot (*Claviceps purpurea*), moderately susceptible to snow mold (*Typhula* species, *Monographella nivalis*, *Coprinus psychromorbidus*, *Myriosclerotinia borealis*), Septoria tritici blotch (*Septoria tritici*) and Septoria nodorum blotch (*Septoria nodorum*), 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*) and resistant to moderately resistant to leaf rust (*Puccinia triticina*).

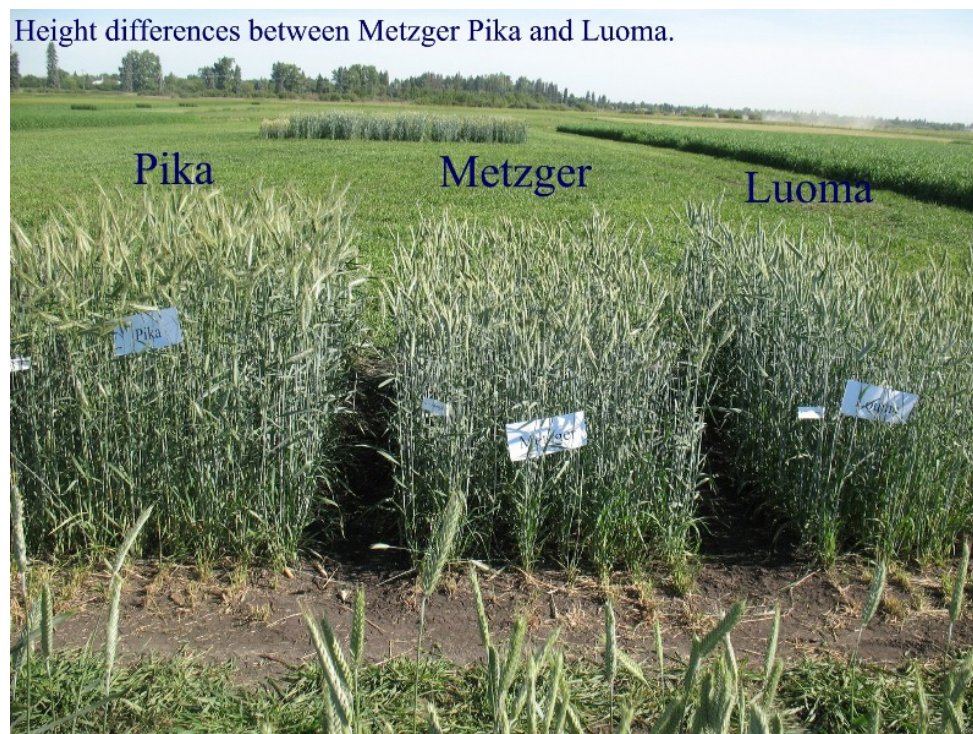
Origin and Breeding: 'Metzger' [(which was tested in coop trials as 94D036011 (WT005))] is derived from the cross 93A055/Pika/2/88DL01 conducted at the Field Crop Development Centre, Lacombe in 1994. '93A055' is a Musketeer fall rye cytoplasm winter triticale germplasm introductions from Oregon. '88DL01' 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. 'Metzger' was evaluated in the Winter Triticale Coop Trial from 2004-2007.

Tests and Trials: Trials for ‘Metzger’ were conducted during the summers of 2008 and 2009 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 2.5 metres in length and spaced 14 cm apart.

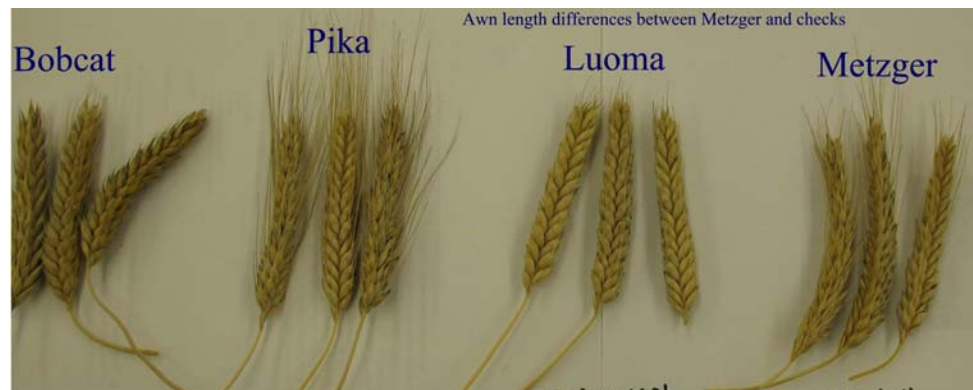
Comparison table for ‘Metzger’

	‘Metzger’	‘Luoma’*	‘Bobcat’*	‘Pika’*
<i>Plant height (cm)</i>				
mean	112	123	97	128
std. deviation	8	4	7	6
<i>Length of awns above tip of spike (mm)</i>				
mean	10	n/a	n/a	40
std. deviation	5	n/a	n/a	5

*reference varieties



Triticale: ‘Metzger’ (centre) with reference varieties ‘Pika’ (left) and ‘Luoma’ (right)



Triticale: ‘Metzger’ (right) with reference varieties ‘Pika’ (centre, left) and ‘Luoma’ (centre, right)