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xTSE AU Tobruk Cultivar Source: CIMMYT, Mexico (DF) MX; University of Sydney, Cobbitty (New South Wales) AU CID:_ SID:_

Jeremy Roake (author). Variety descriptions: triticale (xTriticosecale): 'Tobruk'. *Plant Varieties J. (AU, online)* 21 (4): 157-158, 474-477 (2008)

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Triticale (*xTriticosecale*)

Variety: 'Tobruk'

Synonym: N/A

Application no: 2008/044

Current status: ACCEPTED

Certificate no: N/A

Received: 21-Feb-2008

Refused: N/A

Accepted: 11-Mar-2008

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Granted: N/A

Terminated: N/A

Description published in Plant Varieties Journal:

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Title Holder: University of Sydney

Agent: N/A

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Fax: N/A



[full image and caption](#)
(click to enlarge)

[The detailed description](#) of this variety is available in [Word](#) format.



Triticale - 'Tobruk' with comparator varieties showing differences ear glaucosity.

Details of Application

Application Number	2008/044
Variety Name	'Tobruk'
Genus Species	<i>xTriticosecale</i>
Common Name	Triticale
Synonym	Nil
Accepted Date	11 Mar 2008
Applicant	University of Sydney
Agent	N/A
Qualified Person	Jeremy Roake

Details of Comparative Trial

Location	Plant Breeding Institute, Cobbitty, NSW
Descriptor	Triticale (<i>xTriticosecale</i>) TG/121/3.
Period	Winter – spring 2008.
Conditions	The trial was grown at Cobbitty, NSW, under irrigation. It was sown the first week of May in 2008. Granulock 15 was applied at sowing at 120 kg/ha. Urea was applied by hand to the plots at GS41.
Trial Design	3 replicates, 5 m x 5 rows per plot.
Measurements	Measurements were taken on plant height, spike length, length and width of the flag leaf, and on the head colour at GS 71.
RHS Chart - edition	3 rd

Origin and Breeding

The line was identified from the 8th FWTCL Nursery from CIMMYT in 2000 at PBI, Cobbitty, in which it was resistant to stem, leaf, and stripe rust. Yield testing in a non-replicated trial at Cowra Agricultural Research Centre in 2001 revealed that it was the top yielding line in the trial. This was further confirmed by yield trials in 2002 to 2006 at Cowra and Cootamundra, and in NSW Department of Primary Industry multi-site mixed cereal trials from 2003-2006, in which it was 20% and 30% higher yielding than 'Breakwell' and 'Jackie', respectively. During this time, selections were made from 50 head rows, from which 8 head rows were selected based on their agronomic appearance. 50 single head selections were made within each line and were grown at PBI, Cobbitty, in 2005. Selected rows from each population were harvested grown at Narrabri in 2006, from which lines that had a high proportion of plants with an erect growth habit and were of a spring seasonal type were culled from the population, and those lines with a low proportion of plants with an erect growth habit and spring seasonal type were rogued. The lines were then bulked to produce the variety, as the winter seasonal type is genetically recessive and therefore will remain true to type. Propagation was by seed.

Choice of Comparators Characteristics used for grouping varieties to identify the most similar Variety of Common Knowledge

Organ/Plant Part	Context	State of Expression in Group of Varieties
Plant	ploidy	hexaploid
Flag leaf	anthocyanin colouration of auricles	absent or very weak
Ear	distribution of awns	fully awned
Awns above the tip of ear length		medium
Lower glume	length of first beak	medium
Lower glume	hairiness on external surface	absent
Straw	pith in cross section	thin

Most Similar Varieties of Common Knowledge identified (VCK)

Name	Comments
'Breakwell'	
'Endeavour'	

Varieties of Common Knowledge identified and subsequently excluded

Variety	Distinguishing Characteristics	State of Expression in Candidate Variety	State of Expression in Comparator Variety
'Jackie'	Flag leaf stripe rust, Jackie pathotype	resistant	very susceptible
'Forerunner'	Plant length	medium	tall
'Pacific Falcon'	Ear emergence	early to medium	very late
'Maiden'	Seedling stripe rust	resistant	very susceptible
'Hillary'	Seedling stripe rust	resistant	very susceptible

Organ/Plant Part: Context	'Tobruk'	'Breakwell'	'Endeavour'
<input type="checkbox"/> *Ploidy:	hexaploid	hexaploid	hexaploid
<input checked="" type="checkbox"/> *Plant: growth habit	prostrate	intermediate	semi-erect to intermediate
<input type="checkbox"/> Plant: frequency of plants with recurved flag leaves	high	high to very high	high
<input type="checkbox"/> Flag leaf: anthocyanin colouration of auricles	absent or very weak	absent or very weak	absent or very weak
<input checked="" type="checkbox"/> *Time of: ear emergence	early	medium to late	early to medium
<input checked="" type="checkbox"/> *Flag leaf: glaucosity of sheath	absent or very weak	medium	weak
<input checked="" type="checkbox"/> Awn: anthocyanin colouration	absent or very weak	weak to medium	medium
<input type="checkbox"/> Anthers: anthocyanin colouration	absent or very weak	absent or very weak	absent or very weak
<input checked="" type="checkbox"/> Flag leaf: length of blade	medium	medium	long

<input checked="" type="checkbox"/>	Flag leaf: width of blade	narrow	medium	medium
<input checked="" type="checkbox"/>	Ear: glaucosity	absent or very weak	weak to medium	weak
<input checked="" type="checkbox"/>	*Stem: density of hairiness of neck	weak to medium	very strong	very strong
<input checked="" type="checkbox"/>	*Plant: length	short to medium	medium to long	medium
<input type="checkbox"/>	*Ear: distribution of awns	fully awned	fully awned	fully awned
<input type="checkbox"/>	*Awns above the tip of ear: length	medium	medium	medium
<input type="checkbox"/>	*Lower glume: length of first beak	medium	medium	medium
<input type="checkbox"/>	Lower glume: size of second beak	absent or very small	absent or very small	absent or very small
<input type="checkbox"/>	*Lower glume: hairiness on external surface	absent	absent	absent
<input type="checkbox"/>	Straw: pith in cross section	thin	thin	thin
<input checked="" type="checkbox"/>	Ear: density	very dense	dense	very dense
<input checked="" type="checkbox"/>	Ear: length excluding awns	short to medium	medium	medium
<input type="checkbox"/>	Ear: width in profile view	medium	medium	medium
<input type="checkbox"/>	*Grain: colouration with phenol	light	light	light
<input checked="" type="checkbox"/>	*Seasonal type:	winter type	alternative type	alternative type

Characteristics Additional to the Descriptor/TG

Organ/Plant Part: Context	'Tobruk'	'Breakwell'	'Endeavour'
<input checked="" type="checkbox"/> Flag leaf: Stripe rust - Pathotype 134 E16A+	R	MS-S	R
<input checked="" type="checkbox"/> Flag Leaf: Stripe Rust - 13E16A+J+ (Jackie pathotype)	R	S	R
<input checked="" type="checkbox"/> Seedling Leaf: Stripe Rust - 13E16A+J+ (Jackie pathotype)	3-c	3+	;cn
<input checked="" type="checkbox"/> Ear : colour (at GS71)-RHS	Green139D	Green 133C	Green137C

Statistical Table

Organ/Plant Part: Context	'Tobruk'	'Breakwell'	'Endeavour'
<input checked="" type="checkbox"/> Flag Leaf Blade: Width			
Mean	1.29	1.57	1.45
Std. Deviation	0.10	0.20	0.16
LSD/sig	0.15	P<0.01	P<0.01
<input checked="" type="checkbox"/> Plant : Height			
Mean	101.80	115.23	116.85
Std. Deviation	5.56	5.52	4.91

LSD/sig	5.27	P≤0.01	P≤0.01
<input checked="" type="checkbox"/> Ear: Length			
Mean	10.90	13.02	12.91
Std. Deviation	0.69	0.77	1.11
LSD/sig	0.94	P≤0.01	P≤0.01
<input checked="" type="checkbox"/> Flag Leaf Blade: Length			
Mean	15.56	16.53	20.24
Std. Deviation	2.98	3.14	3.06
LSD/sig	3.06	ns	P≤0.01

Prior Applications and Sales

Nil.

Description: **Jeremy Roake**, University of Sydney, Plant Breeding Institute, Cobbitty, NSW.