

METZGER (WT005)

Winter Triticale

Field Crop Development Centre, May 2008



Metzger (WT005) is adapted to the brown and black soils of the Canadian Prairie Provinces.

Metzger was tested in the winter rye and triticale coop trial as WT005 and in the FCDC trials as 94D036011. WT005 is derived from the cross 93A055/Pika /2/88DL01 produced at the Field Crop Development Centre, Lacombe in 1994. 93A055 is a Musketeer fall rye cytoplasm winter triticale germplasm introduction 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.

Metzger is an awnletted (reduced awn expression) standard height winter triticale line intended for use as a feed grain conserved forage, grazing and potentially for industrial use. Metzger is equivalent in yield to Pika and superior to Bobcat. This line is shorter statured (13cm) than Pika and has improved lodging resistance. This line also has a higher falling number than the check varieties. Metzger has similar low levels of ergot infection as the check varieties. Non-Coop data indicates that Metzger has adequate resistance to leaf and stem rust. Biomass yields indicates that this line was higher yielding for biomass production than the awnletted check Bobcat but about 7% lower yielding on average than Pika during 2005-2007.

End Use	<ul style="list-style-type: none"> Metzger is an awnletted (reduced awn expression) standard height winter triticale line intended for use as a feed grain conserved forage, grazing and potentially for industrial use.
Strengths	<ul style="list-style-type: none"> Metzger yields equivalent to Pika with reduced awn expression similar to Bob cat and superior winter hardiness to Bobcat. Metzger has a falling number equal to or greater than Bobcat. Metzger is unique from previously released winter triticale varieties since it contains a known adapted fall rye background.
Neutral Traits	<ul style="list-style-type: none"> Metzger is similar to current varieties of winter triticale for ergot infestation.
Weaknesses	<ul style="list-style-type: none"> Metzger has a slightly lower winter hardiness than Pika and smaller kernel weight.

Table 1. Summary of Agronomic data for WT005 (94D036011) 2005-2007

Line	Yield kg/ha-1	Surv. (%)	Heading (days)	Maturity (days)	Test Wt (kg/hl-1)	Kernel Wt (mg)	Height (cm)	Lodge
Pika	4120	93	177	224	67.1	34.7	124	4.7
Bobcat	3704	72	173	227	65.6	31.2	99	2.6
94D024001	4058	86	178	227	66.8	35	124	3.8
94D036011 (Metzger)	4058	85	175	223	66.4	31	109	2.7
Station Years	22	10	14	10	20	20	20	12

Yields (Kg/ha ⁻¹ and Rank) by year and location for WT005 (94D036011) 2005-2007										
	Year	Wpg	SwCu	InHd	UofS	MeI	Leth	Laco	Bvlg	Brok
Pika	2005		3557	2162	4238	1678	4489	7781	3704	3252
	2006	7729	2508	3427		3628	2876	5071	4051	
	2007	4825		5277	2874	2006	5399	7017	3098	
	Mean	6277	3032	3622	3556	2437	4254	6623	3618	3252
	Rank	3	1	1	3	2	4	1	3	1
Bobcat	2005		2419	1839	4484	1689	4766	8244	3430	1091
	2006		2180	3287		3149	3241	5899	3398	
	2007	3353		3530	2633	1514	4837	5142	3854	
	Mean	3353	2299	2885	3558	2117	4281	6428	3561	1091
	Rank	-	4	4	2	4	3	3	4	4
94D024001	2005		2651	2091	4735	1643	4641	7993	4268	2440
	2006	7849	2636	3444		3327	3199	4654	4458	
	2007	4712		4196	2577	1870	5575	6988	3320	
	Mean	6280	2643	3243	3656	2280	4472	6545	4015	2440
	Rank	2	2	3	1	3	1	2	2	3
94D036011 (Metzger)	2005		2382	1772	4427	1764	4065	7750	4367	3034
	2006	7538	2431	2914		3821	3213	4791	4469	
	2007	5522		5230	2684	1845	5587	6343	3332	
	Mean	6530	2406	3305	3556	2477	4288	6294	4056	3034
	Rank	1	3	2	3	1	2	4	1	2

Summary for Falling Number of WT005 (94D036011) 2005-2007				
Line	2005	2006	2007	Mean
Pika	142	200	190	179
Bobcat	171	255	231	221
94D024001	186	219	192	200
94D036011 (Metzger)	222	294	256	259
Station Years	6	7	7	20

Summary of Ergot data of WT005 (94D36011) 2005-2007				
Line	2005	2006	2007	Mean
Pika	0	0	0.1	0.03
Bobcat	0.2	0.1	0.8	0.36
94D024001	0.1	0.1	0.4	0.2
94D036011 (Metzger)	0	0	0.2	0.06
Station Years	5	5	5	15

Leaf and Stem Rust data for WT005 (94D36011) 2005-2007						
Line	Leaf Rust			Stem Rust		
	2004	2005	2007	2004	2005	2007
Pika	-	5R-MR	1R	-	1R	1R
Bobcat	1R	1R	1R	5R	1R	1MR-MS
93D009011	1R	1R	1R	5R	5R-MR	1R
94D024001	0	1R	1R	5R	1R	5R-MR
94D036011 (Metzger)	1R	1R-MR	2R	5R	1R	2R
Stations	1	1	1	1	1	1

Leaf and stem rust evaluation was conducted at the University of Manitoba, Plant Science Department (Dr. Anita Brule-Babel). The lines were planted in the same nursery using the same inoculation and rating protocols as in the Central and Western Winter Wheat Coops.