WT0042

Variety Information Sheet for WT0042

Winter Triticale

Description

WT0042 is a reduced-awn winter triticale suitable for feed and forage uses, well adapted to the variable growing conditions in western Canada. It has a superior high grain yield of 115% of Metzger and 113% of Luoma. WT0042 has excellent standability and matures three days earlier than the checks.

WT0042 has a good level of resistance to ergot, similar to Luoma and Metzger but better than Bobcat. The dry matter yield is 106% of Luoma and 104% of Metzger, complimented with better digestibility.

The line was developed at Field Crop Development Centre at Olds College of Agriculture and Technology from a cross made in 2009 between 06A008 and Bobcat. 06A008 (KT941276PB016) is a reduced awn, forage type selection from a composite germplasm grown in Hermiston-USA.

The F_1 and segregating populations F_2 – F_5 were grown in Lacombe; in 2015 and 2016 the individual head rows were screened for winter hardiness. During 2017-2019 the line was evaluated for yield and agronomic traits under variable growing conditions in western Canada. Based on grain, forage yield, agronomic, and forage quality data in FCDC yield trials, WT0042 was advanced to the Western Winter Triticale Coop Test in 2020.

Breeder Seed will be available in Fall 2023.

Strengths

- Sustainable high grain yield, 115% and 113% higher than Metzger and Luoma.
- Dry matter yield is 106% and 104% higher than Luoma and Metzger with better digestibility.
- Early maturity, three days earlier than Metzger and Luoma checks.
- Medium plant height, resistant to lodging.
- Low ergot disease severity.

Table 1. Grain yield and agronomic traits performance of WT0042 compared to check cultivars based on the Winter Triticale Coop Tests, 2020-2022

Name	Yield (kgha⁻¹)				% Metzger	% Luoma	Agronomic Data						
	2020	2021	2022	Mean			Heading (days)	Maturity (days)	Height (cm)	Survival (%)	Lodging (1-9)	TestWT (kg/hl)	KernWT (g/1000)
LOUMA	5432	4794	5537	5254	102	100	173	215	119	91.5	3.5	70.1	36.4
BOBCAT	4763	4527	5287	4859	94	92	169	212	94	84.9	2.3	68.5	34.4
METZGER	5395	4747	5355	5166	100	98	173	215	119	90.4	3.3	70.4	36.1
HAZLET (Rye check)	5302	5774	6332	5802	112	110	164	211	102	94.4	1.8	73.9	35.4
PINTAIL (w.wheat check)	5422	4549	5725	5232	101	100	173	212	81	86.3	2.6	76.1	27.8
WT0042	**6387**	**5081**	**6297**	**5922**	**115**	**113**	**169**	**212**	**99**	**87.8**	**1.5**	**70.6**	**39.6**
CV (%)	9.9	11.4	10.2	13.3	-	-	2.3	1.0	4.9	10.5	-	-	-
LSD 0.05	283	262	328	516	-	-	1.3	0.7	1.5	2.9	-	-	-
Site -Years	10	7	8	25	-	-	23	24	19	21	21	23	23

Table 2. Ergot reaction of WT0042 compared to check cultivars based on the Winter Triticale Coop Tests 2020-2022

Name	Ergot (%)			
	2020	2021	2022	Mean
LOUMA	0.14	0.02	0.08	0.08
BOBCAT	0.41	0.07	0.55	0.34
METZGER	0.13	0.01	0.08	0.08
HAZLET (Rye check)	1.70	0.08	0.54	0.77
PINTAIL (w.wheat check)	0.01	0.04	0.01	0.02
WT0042	**0.11**	**0.00**	**0.12**	**0.08**
Mean	0.36	0.07	0.32	0.25
Site-Years	10	4	7	21

Table 3. Dry matter yield and forage quality data of WT0042 compared to check cultivars based on the Winter Triticale Forage Coop Tests 2021-2022

Name	Yield (kgha⁻¹)			% Metzger	% Luoma	Forage Quality Data					
	2021	2022	Mean			ADF	NDF	TDN	INVTD	PROT	STRC
						(%)	(%)	(%)	(%)	(%)	(%)
LOUMA	13533	16674	15103	98	100	34.4	55.0	59.5	66.4	9.0	6.8
BOBCAT	11638	14374	13006	85	86	32.3	52.6	60.2	69.2	10.1	10.1
METZGER	12838	17882	15360	100	102	34.1	54.6	58.5	66.8	9.2	6.8
HAZLET (Rye check)	14350	15918	15134	99	100	31.5	50.4	61.8	69.7	8.9	8.9
PINTAIL (w.wheat check)	11279	14443	12861	84	85	31.6	51.5	61.1	70.4	9.6	9.9
WT0042	**14474**	**17394**	**15934**	**104**	**106**	**31.4**	**50.5**	**62.5**	**70.3**	**9.5**	**9.7**
CV (%)	13.2	8.7	12.2	-	-	-	-	-	-	-	-
LSD $_{0.05}$	1820	1536	1630	-	-	-	-	-	-	-	-
Site -Years	2	2	4	-	-	4	4	2	4	4	4

ADF= Acid Detergent Fiber
NDF= Neutral Detergent Fiber
INVTD= In Vitro True Digestibility
TDN= Total Digestible Nutrients
PROT= Crude Protein content
STRC= Starch content