



T318

Spring triticale

- Reduced-awn, dual-purpose variety well suited for feed and forage uses
- Grain yield 7% higher than Pronghorn and 8% higher than Brevis
- Excellent forage type: low lignin, high starch content, and improved digestibility vs. checks

Description

T318 is a reduced-awn, dual-purpose spring triticale line well-suited for feed and forage. It out-yielded Pronghorn and Brevis, producing 107% and 108% of their grain yield, respectively. T318 offers an excellent agronomic package, featuring outstanding standability and a unique combination of higher test weight than Pronghorn and AC Ultima (Table 1). For forage production, T318 delivers dry matter yields within the range of check varieties while offering improved digestibility and high starch content (Table 5).

T318 is resistant to leaf, stem, and yellow rusts, as well as common bunt, and has shown an acceptable reaction level to ergot (Tables 2 and 3). Fusarium head blight (FHB) ratings from Morden and Carman indicate an intermediate visual rating index and moderate susceptibility to DON (Deoxynivalenol) accumulation (Table 4).

T318 has been made a check in the Western Spring Triticale Coop Test starting in 2025.

Developed at Western Crop Innovations in Lacombe, T318 originates from a 2014 cross between 09P161 (female) and 12P375 (male), both germplasm introductions from the International Maize and Wheat Improvement Center (CIMMYT).

The line was evaluated in yield trials (Y_1 – Y_3) across multiple locations in Western Canada from 2019 to 2021, assessing grain yield and forage quality. Based on its strong performance, T318 was advanced to the Western Spring Triticale Coop test in 2022.

Strengths of T318

- High Grain Yield: Produces 107% of Pronghorn and 108% of Brevis.
- High yield stability across locations and years compared to checks.
- Lodging Resistance: Shorter stature than Pronghorn and Brevis, enhancing standability and improving suitability for irrigated and high fertility areas.
- Superior Forage Quality: Low lignin, high starch content, and improved digestibility compared to all checks.
- Disease Resistance: Resistant to stem rust, leaf rust, yellow rust, and bunt.

Neutral Traits

- Maturity: Similar to Brevis, maturing one day later than Pronghorn.
- Kernel Size: Falls within the range of check varieties.
- Ergot Susceptibility: Comparable to check varieties.
- Dry Matter Yield: Within the range of forage checks.
- Test Weight: Consistent with triticales check varieties.

Approximately 300kg of Breeder Seed will be available for T318 in spring of 2026.

Table 1. Grain yield and agronomic traits performance of T318 compared to check cultivars based on the Western Triticale Coop Tests, 2022-2024.

Entry	Yield (kg/ha ⁻¹)						Agronomic Data					
					Pronghorn	Brevis	Heading	Maturity	Height	TestWt	KernWt	Lodg
	2022	2023	2024	Mean	(%)	(%)	(days)	(days)	(cm)	(kg/ha ⁻¹)	(g)	(1-9)
PRONGHORN	5701	6689	5444	5944	100	102	53	96	105	69.9	43.2	2.9
BREVIS	5535	6487	5534	5852	98	100	53	97	91	74.0	41.9	1.3
AC ULTIMA	5767	6031	5191	5663	95	97	52	95	98	71.3	45.6	2.2
AC ANDREW	5884	6486	5868	6079	102	104	56	94	83	77.1	35.9	1.8
T318	6109	6829	6093	6344	107	108	52	97	87	72.2	43.3	1.7
Mean	5799	6504	5626	5977			53	96	93	73	42	2.0
CV%	6.6	8.4	8.6	5.8			0.8	0.5	2.6	1.9	3.6	20.4
LSD _{0.05}	425.0	278.3	224.4	449.1			0.8	0.9	4.1	2.7	3.4	1.6
Station Years	10	10	12	32			19	27	29	26	26	26

KernWt = thousand kernel weight, Lodg. = lodging, 9 being up to 100% lodged.

Table 2. Leaf, stem, stripe rust and bunt reaction of T318 compared to check cultivars based on the Western Triticale Coop Tests 2022-2024.

Entry	Leaf Rust			Stem Rust			Stripe Rust			Bunt		
	2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024
PRONGHORN	R	R		NA	MS	MS	R	R	R	NA	R	R
BREVIS	R	R		R	R	R	R	R	R	R	R	R
AC ULTIMA	R	R		R	R	R	R	R	R	R	NA	R
AC ANDREW	MS	MS		NA	R	MR	MR	R	R	R	I	S
T318	R	R		R	R	R	R	R	R	R	R	R

S – susceptible, MS – moderately susceptible, I – intermediate, MR – moderately resistant, R – resistant

Table 3. Ergot reactions of T318 compared to check cultivars based on the Western Triticale Coop Tests 2022-2024.

Entry	Ergot (%)			
	2022	2023	2024	Mean
PRONGHORN	0.16	0.30	0.09	0.18
BREVIS	0.07	0.14	0.03	0.08
AC ULTIMA	0.28	0.38	0.09	0.25
AC ANDREW	0.00	0.02	0.00	0.01
T318	0.24	0.26	0.07	0.19

Table 4. FHB reactions of T318 compared to check cultivars based on the Western Triticale Coop Tests 2022-2024.

Entry	Visual Rating Index						DON Rating					
	2022		2023		2024		2022		2023		2024	
	Carman	Morden	Carman	Morden	Carman	Morden	Carman	Morden	Carman	Morden	Carman	Morden
PRONGHORN	R	I	R	MR	MR	MR	I	MS	I	I	I	I
BREVIS	MR	I	MR	I	I	I	I	MS	MS	I	I	I
AC ULTIMA	I	S	MR	I	MS	S	S	S	MS	S	S	S
AC ANDREW	I	MS	I	MS	MR	S	S	MS	S	S	I	S
T318	MR	I	MR	I	MS	MS	MS	MS	MS	I	MS	S

S – susceptible, MS – moderately susceptible, I – intermediate, MR – moderately resistant, R – resistant. DON = deoxynivalenol

Table 5. Dry matter yield and forage quality data of T318 compared to check cultivars based on Spring Triticale Forage Coop Tests 2023-2024.

Entry	DMY (kg/ha ⁻¹)			Pronghorn (%)	Forage Quality Data						
	2023	2024	Mean		ADF (%)	NDF (%)	TDN (%)	PROT (%)	STRC (%)	LIGN (%)	RFV (%)
PRONGHORN	14587	8690	11639	100	28	45	67	12.4	10.3	4.0	140
BUNKER	12939	9333	11136	96	28	46	67	11.9	9.1	4.1	137
AAC DELIGHT	14330	8722	11526	99	27	45	68	11.4	12.0	3.8	143
AC ANDREW (Wheat)	12988	7848	10418	90	28	46	68	12.0	12.9	3.5	136
T318	13610	8977	11294	97	24	40	71	11.4	13.7	3.0	165
Mean	13691	8714	11202		27	45	68	11.8	11.6	3.7	144
CV%	9.8	12.0	8.8								
LSD _{0.05}	2430	1724	1006								
Station Years	2	1	3		3	3	3	3	3	3	3

DMY = Dry Matter Yield, ADF= Acid Detergent Fiber, NDF= Neutral Detergent Fiber, TDN= Total Digestible Nutrients, PROT= Crude Protein content, STRC= Starch content, LIGN = Lignin Content, RFV = Relative Feed Value