



T317

Spring triticale

- Best suited for forage, while retaining the option for feed usage
- Superior forage yields, 110% of Pronghorn and 115% of Brevis
- Improved forage qualities: low lignin, high starch content, and improved digestibility compared to all checks

Description

T317 is a reduced-awn, dual-purpose spring triticale line, best suited for forage while retaining the option for feed applications. T317 demonstrated superior yields, surpassing Pronghorn by 110% and Bunker by 115%. Additionally, forage quality assessments indicate improved digestibility, elevated starch content, and reduced lignin levels. Its grain yield performance is comparable to Pronghorn at 100% and exceeds Brevis by 102%. T317 offers a robust agronomic package, featuring improved standability and early maturity, with test and kernel weight values within the range of checks.

T317 exhibits strong disease resistance, being resistant to leaf rust, stem rust, yellow rust, and common bunt. It has also demonstrated an acceptable level of resistance to ergot. Fusarium head blight (FHB) evaluations indicate an intermediate visual rating index and moderate susceptibility to Deoxynivalenol (DON) accumulation.

Developed by Western Crop Innovations in Lacombe, T317 originates from a 2012 cross between Brevis (female) and 09P150 (male). 09P150, a reduced-awn germplasm introduction, was sourced from the International Maize and Wheat Improvement Center (CIMMYT) triticale breeding program. Brevis, introduced by the Semiarid Prairie Agricultural Research Centre (SPARC) of Agriculture and Agri-Food Canada (AAFC) in Swift Current, SK, received restricted registration No. 7024 from the Variety Registration Office of the Canadian Food Inspection Agency in 2011.

T317 underwent extensive yield trials (Y1–Y3) across multiple locations in Western Canada from 2019 to 2021 to evaluate grain yield and forage quality. Based on its strong performance, it was advanced to the Western Spring Triticale Cooperative Test in 2022.

Strengths of T317

- High Forage Yield: Produces 110% of Pronghorn and 115% of Bunker.
- Lodging Resistance: Shorter stature than Pronghorn enhancing standability.
- Improved 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.
- Ergot Susceptibility: Better than AC Ultima and Pronghorn checks.

Neutral Traits

- Grain Yield: Within the range of checks.
- Maturity: like Pronghorn, maturing one day earlier than Brevis.
- Kernel Size: Falls within the range of check varieties.
- Test Weight: Consistent with triticale check varieties.

Approximately 300kg of Breeder Seed will be available for T317 in spring of 2026.

Table 1. Grain yield and agronomic traits performance of T317 compared to check cultivars based on the Western Triticale Coop Tests, 2022-2024.

Entry	Yield (kg/ha ¹)				Agronomic Data							
	2022	2023	2024	Mean	Pronghorn (%)	Brevis (%)	Heading (days)	Maturity (days)	Height (cm)	TestWt (kg/hl ¹)	KernWt (g)	Lodg. (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
T317	5927	6335	5563	5942	100	102	53	96	98	72.1	42.0	2.4
Mean	5763	6406	5520	5896			53	95	95	72.9	41.7	2.1
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
Stn. 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 T317 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	R	NA	MS	MS	R	R	R	NA	R	R
BREVIS	R	R	R	R	R	R	R	R	R	R	R	R
AC ULTIMA	R	R	R	R	R	R	R	R	R	R	NA	R
AC ANDREW	MS	MS	MS	NA	R	MR	MR	R	R	R	I	S
T317	R	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 T317 compared to check cultivars based on the Western Triticale Coop Tests 2022-2024.

Entry	Ergot (%)			Mean
	2022	2023	2024	
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
T317	0.11	0.16	0.07	0.11

Table 4. FHB reactions of T317 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
T317	I	MS	I	MR	I	S	MS	MS	MS	I	I	MS

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

Table 5. Dry matter yield and forage quality data of T317 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	12698	8778	10738	92	26	43	69	11.8	11.3	3.3	152
CDC HAYMAKER (Oat)	15863	7519	11691	100	31	50	64	11.8	9.7	4.5	122
AC ANDREW (Wheat)	12988	7848	10418	90	28	46	68	12.0	12.9	3.5	136
T317	15295	10376	12835	110	28	42	70	11.0	12.9	3.3	150
Mean	14062	8757	11410		28	46	67	11.8	11.0	3.8	139
CV%	9.8	12.0	8.8								
LSD _{0.05}	2430	1724	1006.2								
Stn. 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