

T293

Variety Information Sheet for T293

Spring Triticale



Description

T293 is an awned spring triticale, suitable for feed and forage uses. It out yielded Pronghorn and Brevis with 110% and 106% respectively. T293 has a good package of agronomic traits, excellent standability, early maturity and high test-weight.

T293 is resistant to common bunt, stem, stripe rusts and moderately resistant to leaf rust and FHB and has low ergot severity. The dry matter yield is 105% of Taza, similar to Pronghorn checks, with improved forage digestibility.

The line was developed at Field Crop Development Centre at Olds College of Agriculture and Technology (FCDC) from a cross made in 2009 between 08P182 (female) and Tyndal (male).

T293 was evaluated in yield trials (Y1- Y3) under multiple locations in western Canada for grain yield and forage quality during 2016-2018 and in the Spring Triticale Coop B level in 2019. Based on grain yield, agronomic, and forage quality data the line was advanced to the Western Triticale Coop test in 2020.

It is anticipated that up to 150 kg of Breeder Seed will be available in spring 2023.

Strengths

- High grain yield, 110% of Pronghorn and 106% of Brevis.
- Dry matter yield is 105% of Taza, similar to Pronghorn.
- Test weight is higher than Pronghorn and AC Ultima, similar to Brevis.
- Maturity is three days earlier than Brevis and one day earlier than Pronghorn.
- Lodging resistant, it is shorter than Pronghorn but taller than Brevis.
- High resistance to ergot, better than AC Ultima and Pronghorn checks.
- Intermediate resistance to FHB.

Table 1. Grain yield and agronomic traits performance of T293 compared to check cultivars based on the Western Triticale Coop Tests, 2020-2022

| Name | Yield (kg ha ⁻¹) | | | | % Pronghorn | % Brevis | Agronomic Data | | | | | |
|---------------------|------------------------------|-------------|-------------|-------------|-------------|------------|----------------|-----------------|-------------|---------------|----------------|-----------------|
| | 2020 | 2021 | 2022 | Mean | | | Heading (days) | Maturity (days) | Height (cm) | Lodging (1-9) | TestWT (kg/hl) | KernWT (g/1000) |
| AC ULTIMA | 6226 | 3089 | 5767 | 5027 | 100 | 97 | 56 | 96 | 96 | 1.5 | 71.2 | 46.7 |
| BREVIS | 6681 | 3407 | 5535 | 5208 | 103 | 100 | 57 | 99 | 87 | 1.0 | 74.4 | 44.1 |
| PRONGHORN | 6657 | 2765 | 5701 | 5041 | 100 | 97 | 56 | 97 | 100 | 1.7 | 69.6 | 44.7 |
| AC ANDREW | 6344 | 3596 | 5884 | 5275 | 105 | 101 | 61 | 96 | 80 | 1.3 | 77.4 | 37.5 |
| T293 | 7004 | 3942 | 5629 | 5525 | 110 | 106 | 56 | 96 | 91 | 1.1 | 73.5 | 44.5 |
| CV (%) | 8.2 | 12.2 | 6.6 | 10.1 | - | - | 1.3 | 1.4 | 4.1 | 35.9 | - | - |
| LSD _{0.05} | 298 | 262 | 425 | 145 | - | - | 0.3 | 0.4 | 1.1 | 0.2 | - | - |
| Site -Years | 9 | 6 | 10 | 25 | - | - | 5 | 24 | 25 | 7 | 22 | 22 |

Table 2a. Leaf, stem and stripe rust reaction of T293 compared to check cultivars based on the Western Triticale Coop Tests 2020-2022

| Name | Leaf Rust | | | Stem Rust | | | Stripe Rust | | |
|-------------|-----------|-----------|----------|-----------|-------------------|----------|-------------------|-------------------|----------|
| | 2020 | 2021 | 2022 | 2020 | 2021 ^y | 2022 | 2020 ^z | 2021 ^y | 2022 |
| AC ULTIMA | R | R | R | R | na | R | na | na | R |
| BREVIS | R | R | R | R | na | R | na | na | R |
| PRONGHORN | R | R | R | MS | na | S | na | na | R |
| AC ANDREW | S | MR | MS | MR | na | MR | na | na | MR |
| T293 | MS | MR | I | R | na | R | na | na | R |

Table 2b. Bunt, FHB and ergot reactions of T293 compared to check cultivars based on the Western Triticale Coop Tests 2020-2022

| Name | Bunt | | | FHB Rating | | | Ergot (%) | | | |
|-------------|-------------------|----------|----------|------------|-----------|----------|-------------|-------------|-------------|-------------|
| | 2020 ^z | 2021 | 2022 | 2020 | 2021 | 2022 | 2020 | 2021 | 2022 | Mean |
| AC ULTIMA | na | R | R | MS | I | S | 0.39 | 0.32 | 0.28 | 0.33 |
| BREVIS | na | R | R | I | R | I | 0.19 | 0.33 | 0.07 | 0.20 |
| PRONGHORN | na | R | R | I | R | I | 0.20 | 1.08 | 0.16 | 0.48 |
| AC ANDREW | na | MS | R | MS | MS | MS | 0.01 | 0.01 | 0.00 | 0.01 |
| T293 | na | R | R | I | MR | I | 0.18 | 0.26 | 0.14 | 0.19 |

^z : Due to covid-19 restrictions at AAFC-Lethbridge, stripe rust and bunt nurseries were not planted

^y : Due to severe drought, stripe and stem rust nurseries were not successful

R= Resistant, MR= Moderate Resistant, I= Intermediate, MS= Moderate Susceptible and, S= Susceptible

Table 3. Dry matter yield and forage quality data of T293 compared to check cultivars based on Spring Triticale Forage Coop Tests 2021-2022

| Name | DMY (kg ha^{-1}) | | | % Pronghorn | % Taza | Forage Quality Data | | | | | |
|---------------------|---------------------|--------------|--------------|-------------|------------|---------------------|-------------|-------------|-------------|------------|-------------|
| | 2021 | 2022 | Mean | | | ADF | NDF | TDN | INVTD | PROT | STRC |
| | | | | | | (%) | (%) | (%) | (%) | (%) | (%) |
| AC ULTIMA | 7287 | 13623 | 10455 | 98 | 104 | 30.8 | 50.3 | 60.0 | 70.5 | 9.1 | 11.2 |
| BREVIS | 9085 | 12998 | 11042 | 103 | 110 | 29.8 | 49.0 | 62.4 | 71.5 | 9.5 | 13.0 |
| PRONGHORN | 7997 | 13387 | 10692 | 100 | 106 | 30.5 | 48.6 | 60.4 | 71.4 | 9.7 | 11.7 |
| BUNKER | 5929 | 12163 | 9046 | 85 | 90 | 32.1 | 49.9 | 60.4 | 69.7 | 9.8 | 9.7 |
| TAZA | 6196 | 13939 | 10067 | 94 | 100 | 31.5 | 51.9 | 60.6 | 68.1 | 9.3 | 9.0 |
| T293 | 7820 | 13352 | 10586 | 99 | 105 | 29.9 | 50.9 | 60.9 | 69.9 | 9.3 | 13.0 |
| CV (%) | 15.5 | 8.8 | 11.2 | - | - | - | - | - | - | - | - |
| LSD _{0.05} | 1287 | 1553 | 906.4 | - | - | - | - | - | - | - | - |
| Site -Years | 2 | 2 | 4 | - | - | 4 | 4 | 2 | 4 | 4 | 4 |

ADF= Acid Detergent Fiber

NDF= Neutral Detergent Fiber

TDN= Total Digestible Nutrients

INVTD= In Vitro True Digestibility

PROT= Crude Protein content

STRC= Starch content