



## APPLICATIONS UNDER EXAMINATION

## WHEAT

### WHEAT (*Triticum aestivum*)

**Proposed denomination:** 'Starlite'  
**Application number:** 20-10396  
**Application date:** 2020/12/10  
**Applicant:** Céréla inc., St-Hugues, Quebec  
**Breeder:** Annie Archambault, Céréla inc., St-Hugues, Quebec

**Varieties used for comparison:** 'Major', 'AC Brio', 'Furano' and 'Fuzion'

**Summary:** *At booting, the frequency of plants with recurved flag leaves is high for 'Starlite' whereas it is low for 'AC Brio' and low to medium for 'Major', 'Furano' and 'Fuzion'. The plants of 'Starlite' head earlier than the plants of 'Major' and 'Furano'. At heading, the spike of 'Starlite' has a medium to strong degree of glaucosity whereas the glaucosity is weak to medium on the spikes of 'AC Brio' and 'Fuzion'. At maturity, the plants of 'Starlite' are shorter than the plants of 'Major' and 'Fuzion'. Excluding the awns, the spike of 'Starlite' is shorter than that of 'Major', 'Furano' and 'Fuzion'.*

#### **Description:**

**PLANT:** spring type, common wheat, semi-erect growth habit at 5 to 9 tiller stage, heads mid-season, matures mid-season

**SEEDLING (4-leaf stage):** absent or very weak to weak intensity of anthocyanin colouration of coleoptile, glabrous sheath and blade of lower leaves

**FLAG LEAF:** absent or very weak to weak intensity of anthocyanin colouration of auricles, strong glaucosity of sheath, glabrous blade and sheath

**CULM:** straight neck

**STRAW:** thin pith in cross-section, no anthocyanin colouration

**SPIKE:** medium to strong degree of glaucosity at heading, fusiform shape in profile, medium density, white at maturity, erect to inclined attitude

**AWNLETS:** shorter than spike, white at maturity

**LOWER GLUME:** medium to long, medium width, glabrous, absent to very sparse extent of internal hairs

**LOWER GLUME SHOULDER:** broad, slightly sloping to straight

**LOWER GLUME BEAK:** short, straight

**KERNEL:** medium red

**Origin and Breeding:** 'Starlite' (experimental designations BS15-912 and SB07-13) originated from a controlled cross conducted in Sainte-Rosalie, Quebec between the varieties 'AC Barrie' (female parent) and 'Major' (male parent) in 2007, the F1 progeny coded as SB07-13. The F1 to F5 generations were mass cultivated in Sainte-Rosalie, Quebec from 2008 to 2012 where seed selections were made based on grain density at each generation. Spikes were selected from the F5 plants in 2012 and planted in single rows. F6 individual rows were selected using a pedigree selection method based on the grain yield, the volumetric grain weight and thousand kernel weight. Additional controlled inoculation trials with *Fusarium* sp. were also conducted in 2015 and 2016 to assess *Fusarium* head blight resistance. One line was designated as BS15-912 and initially evaluated in screening trials from 2013 to 2016 and further evaluated in registration trials conducted by the Réseau des Grandes Cultures du Québec from 2017 to 2019.

**Tests and Trials:** The comparative trials for 'Starlite' were conducted at Céréla Inc. in St-Hugues, Quebec, during the 2020 and 2021 growing seasons. There were 2 replications per variety arranged in an RCB design. Plots consisted of 5 rows, each row was 5 metres long with an inter-row spacing of 0.19 metres. The seeding density was approximately 425 seeds per squared metre, resulting in at least 3825 plants in total per variety per year. Measured characteristics were based on 20

measurements per variety per year. Mean differences were significant at the 5% probability level based on paired Student's t-test.

**Comparison table for 'Starlite'**

	'Starlite'	'Major'*	'AC Brio'*	'Furano'*	'Fuzion'*
<i>Days to heading (days from planting to when 50% heads are fully emerged from boot)</i>					
mean 2020	59	63	60	62	60
mean 2021	50	56	50	55	50
<i>Plant height at maturity (including awns) (cm)</i>					
mean 2020	70.9	82.1	69.0	78.6	78.2
std. deviation 2020	3.2	4.0	4.7	3.5	5.1
mean 2021	78.9	85.2	80.7	81.85	87.4
std. deviation 2021	3.6	4.2	4.6	5.6	4.5
<i>Spike length (excluding awns) (cm)</i>					
mean 2020	7.47	9.05	7.16	9.21	9.25
std. deviation 2020	0.46	0.82	0.39	0.95	0.63
mean 2021	7.76	9.29	7.89	9.35	9.88
std. deviation 2021	0.89	1.17	0.91	0.61	0.77

\*reference varieties



**Starlite**

**Major**

**AC Brio**

**Furano**

**Fuzion**

Wheat: 'Starlite' (left) with reference varieties 'Major' (centre left), 'AC Brio' (centre), 'Furano' (centre right) and 'Fuzion' (right)