SPELT	
(Triticum aestivum L. subsp. spelta)	

Proposed denomination: **'Comburger'**
Application number: 20-10189
Application date: 2020/05/04
Applicant: PZO Pflanzenzucht Oberlimpurg, Schwäebisch Hall, Germany
Agent in Canada: La Coop fédérée, Saint-Hyacinthe, Quebec
Breeder: Stephanie Franck, PZO-Pflanzenzucht Oberlimpurg, Schwäbisch Hall, Germany

Variety used for comparison: 'Cosmos'

Summary: *At tillering, the growth habit of 'Comburger' is semi-erect whereas the growth habit of 'Cosmos' is semi-prostrate. At booting, the frequency of plants with recurved flag leaves is medium for 'Comburger' whereas it is low for 'Cosmos'. After heading, the glaucosity of the culm for 'Comburger' is of a medium degree whereas the glaucosity is strong for 'Cosmos'. At maturity, the anthocyanin colouration of the straw of 'Comburger' is present whereas it is absent for 'Cosmos'. Including the awnlets, the plants of 'Comburger' are taller than the plants of 'Cosmos'. Excluding the awnlets, the spike of 'Comburger' is longer than that of 'Cosmos'. The spike of 'Comburger' is lax whereas it is of medium density for 'Cosmos'. The kernel is light red for 'Comburger' whereas it is medium red for 'Cosmos'. The shape of the kernel is elliptical for 'Comburger' whereas it is oval for 'Cosmos'. The kernel crease is narrow and of medium depth for 'Comburger' whereas it is of medium width and deep for 'Cosmos'.*

Description:
SEEDLING (4-LEAF STAGE): glabrous sheath and blade of lower leaves

PLANT: fall type spelt, semi-erect growth habit at the 5 to 9 tiller stage, medium frequency of plants with recurved flag leaves, heads mid to late season, matures mid-season

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

CULM: medium glaucosity, straight neck
STRAW (AT MATURITY): thin pith in cross-section, anthocyanin colouration present

SPIKE: strong glaucosity at heading, tapering shape in profile, lax, reddish brown at maturity, erect, absent or very sparse hairiness of convex surface of the apical rachis segment
AWNLETS: present at spike tip
LOWER GLUME: glabrous
LOWER GLUME SHOULDER: wide, elevated
LOWER GLUME BEAK: very short, straight

KERNEL: light red, large, elliptical shape, long brush hairs, narrow crease, medium depth of crease
GERM: elliptical

Origin & Breeding History: 'Comburger' (experimental designations CFEA1716, Fr 220/12 and C0M18238) originated from a cross made between 'Franckenkorn' and Fr 140/92/01 in 2004 in Oberlimpurg, Germany. One plant was selected from the F3 generation, then further selections were made from the F4 to F10 generations. Breeder seed was obtained from the F10 generation in 2014. Selection criteria were based on grain yield, grain quality, lodging resistance and disease resistance.

Tests & Trials: The comparative trials of 'Comburger' were conducted at La Coop fédérée crop production research farm in Saint-Hyacinthe, Quebec, in 2021 and at a farm 13 km away in Saint-Simon, Quebec, in 2022 with the seeds sown in the previous autumn. The trial had 4 replicates in 2021 and 3 replicates in 2022 arranged in a RCB design. Each plot measured 5 square metres and consisted of seven rows that were 4.5 metres in length with spacing of 0.18 metres between rows. The

seeding density was approximately 480 seeds per square metre, resulting in a minimum of 8640 plants per variety in 2021 and 6480 plants per variety in 2022. Measured plant characteristics were based on a minimum of 20 measurements per variety per year. Mean differences are significant at the 5% probability level based on a paired Student's t-test.
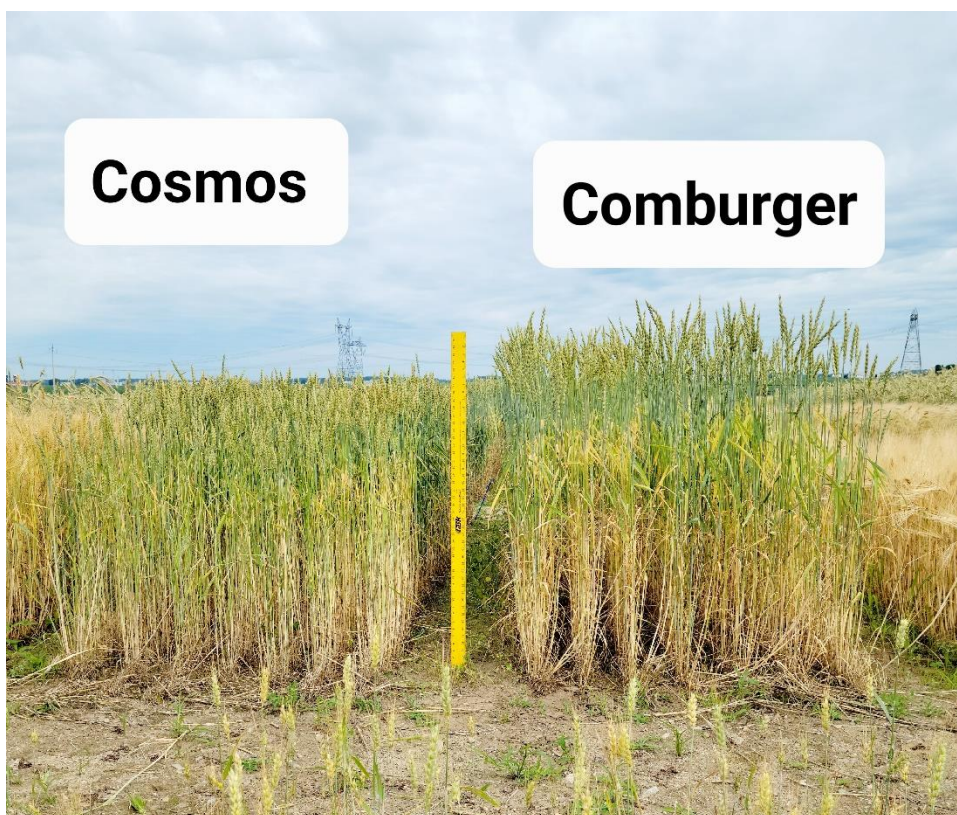
Comparison tables for 'Comburger'

	'Comburger'	'Cosmos'*
Plant height at maturity (including awnlets) (cm)		
mean (2021)	100	89
std. deviation (2021)	4.3	3.4
mean (2022)	106	93
std. deviation (2022)	4.2	3.3
Spike length (excluding the awnlets) (cm)		
mean (2021)	18.4	13.9
std. deviation (2021)	2.1	1.6
mean (2022)	14.2	10.0
std. deviation (2022)	1.4	1.1

*reference variety

Spelt: 'Comburger' (left) with reference variety 'Cosmos' (right)

Spelt: 'Comburger' (right) with reference variety 'Cosmos' (left)

Spelt: 'Comburger' (right) with reference variety 'Cosmos' (left)