

## CDC Nexon Spring Spelt wheat

Formerly Interim-registered as CDC BAVARIA  
TEST NUMBER: SK0263

**PEDIGREE:** SK0263 was kindly provided by Dr. Karen Bailey of AAFC Saskatoon. Historically, the "SK" designation was used by the University of Saskatchewan's Field Husbandry Department to identify crop accessions which were maintained as part of a field-grown collection. SK0263 has awned spikes with grey-black, pubescent glumes. The degree of glume pigmentation intensifies with hot-dry conditions at crop maturity. Percival (1921) refers to an early 19th century land-race, *Triticum spelta* var. *coeruleum*, with similar characteristics to SK0263. This land-race is likely of German origin. The Percival wheat collection was grown for many years at the University of Saskatchewan. Records kept by Dr. J.B. Harrington indicate that during the period from 1934 to 1941 nine accessions of spelt wheat were grown in either the field or greenhouse. One of those accessions was identified as "Black bearded" (var. *coeruleum*).

**AREA OF ADAPTATION:** Dark Brown soil zone of Saskatchewan, excluding the rust-prone crop region.

**STRENGTHS:** Spring growth habit, true spelt, resistance to common bunt and loose smut.

**WEAKNESSES:** Late-maturing, tall, prone to lodging, susceptible to leaf and stem rust.

**DESCRIPTION:** CDC Nexon spring spelt wheat is a hulled, hexaploid, hollow-stemmed spelt wheat tested as part of the Alternative Wheat Project funded by the Saskatchewan Agriculture Development Fund. In the absence of a Registration Test, CDC Nexon was evaluated over a nine year period (1991-1999) in the University of Saskatchewan spring cereal testing system and by Cooperators at four sites. Averaged over 34 tests in western Canada, CDC Nexon was 13.7% higher yielding (hulled basis) than Katepwa (Table 1). CDC Nexon was 9 days later heading and 7.4 days later maturing than Katepwa. CDC Nexon was approximately 4 days later maturing than Kyle durum (data not presented). CDC Nexon was 26 cm taller and weaker strawed than Katepwa. CDC Nexon had a kernel weight 27.6% higher than that of Katepwa but a 2.7% lower test weight.

In more recent years (2000 to 2003), CDC Nexon has been compared to AC Barrie CWRS wheat (Table 2). The results from up to 19 trials indicate that CDC Nexon is slightly lower yielding (gross weight) than AC Barrie. The remaining agronomic and quality differences between the spring spelt and CWRS control are similar to those observed in the trials where Katpewa was the check variety.

CDC Nexon is a hulled wheat. The hull constitutes approximately 15% of the harvested material by weight. The harvested material constitutes approximately 70% unthreshed spikelets (ie. "whitecaps"). Spelt grain is typically de-hulled as part of a post-harvest operation.

CDC Nexon meets the major criteria for the current markets: a cultivar not developed by hybridization with *Triticum aestivum* var. *aestivum*, having a soft kernel texture and weaker gluten properties (Tables 1 and 2). CDC Nexon does not pose a KVD problem. The kernels of CDC Nexon are medium red in colour. CDC Nexon is susceptible to stem and leaf rust and common root rot. CDC Nexon is highly resistant to common bunt and resistant to loose smut.

Table 1. Data summary (1991-1999) for comparisons between **CDC Nexon** Spring Spelt and **Katepwa** CWRS wheat. Agronomic (A) and End-use quality (B) traits.

<b>A</b>							
	Yield (kg/ha)	Heading (days)	Maturity (days)	Height (cm)	Lodging (0.2 to 9)	1000 Kernel wt. (g)	Test weight (kg/hL)
Katepwa	3691	60.5	98.2	101.3	1.5	32.6	77.7
CDC Nexon	4195	69.4	105.6	127.1	4.8	41.6	75.6
no. of tests	34	23	16	25	21	27	31
<b>B</b>							
	Grain Protein (%)	Flour yield (%)	Flour ash (%)	Farinogra ph absorption (%)	Farinograph Dough Dev. Time (min)	Farinograp h Mix. Toler. (BU)	Loaf volume (cc)
Katepwa	15.2	70.5	0.46	66.8	4.33	24	817
CDC Nexon	14.7	70.2	0.49	60.5	2.90	44	770
no. of tests	6	4	1	3	3	3	5

Table 2. Data summary (2000-2003) for comparisons between **CDC Nexon** Spring Spelt and **AC Barrie** CWRS wheat. Agronomic (A) and End-use quality (B) traits.

<b>A</b>							
	Grain (kg/ha)	Heading (days)	Maturity (days)	Height (cm)	Lodging 1 to 9	1000 Kernel wt. (g)	Test weight (kg/hL)
AC Barrie	2820	57.8	98.0	79.4	1.3	34.0	79.4
CDC Nexon	2786	65.2	102.3	102.9	5.0	36.9	75.9
no. of tests	19	15	13	17	3	17	17
<b>B</b>							
	Grain Protein (%)	Flour yield (%)	Flour ash (%)	Farinograp h absorption (%)	Farinograph Dough Dev. Time (min)	Farinograp h Mix. Toler. (BU)	Loaf volume (cc)
AC Barrie	16.0	78.1	0.56	64.5	4.9	32	1012
CDC Nexon	16.0	78.2	0.59	59.3	3.1	67	949
no. of tests	18	3	3	3	3	3	3