KYLE DURUM WHEAT

Kyle durum wheat (*Triticum turgidum* var. *durum*) combines high yield with good quality and a high level of disease resistance. It is adapted to the Brown and Dark Brown soil zones of Alberta and Saskatchewan. It was licenced 28 June 1984. Breeder seed of Kyle will be maintained by the Agriculture Canada Experimental Farm, Indian Head, Saskatchewan.

Key words: Durum wheat, cultivar description

[Blé dur Kyle.]
Titre abrégé: Blé dur Kyle.
Le blé dur Kyle (*Triticum turgidum* var. *durum*) combine un rendement élevé à une bonne qualité et à une grande résistance aux maladies. Il est adapté aux zones des sols bruns et brun foncé de l'Alberta et de la Saskatchewan. Son homologation date du 28 juin 1984. La semence de l'obtenteur sera conservée par la Ferme expérimentale du ministère de l'Agriculture du Canada à Indian Head (Saskatchewan).

Mots clés: Blé dur, description de cultivar

Origin and breeding

Kyle is a new durum wheat (*Triticum turgidum* var. *durum*) developed at the Agriculture Canada Research Stations at Swift Current and Regina. Kyle was selected from a cross made in 1974 between two selections from crosses made in 1969 of Wakooma with DT320 and DT322, thus its parentage is Wakooma/DT322//Wakooma/DT320. It derives from a single plant in F_6 and was developed using yield, rust and quality testing in F_4, F_6 and F_8 generations in a pedigree system of breeding under the designation 7466-CF4B. It was tested in the Durum Wheat Cooperative Test as DT375 from 1981 to 1983 where it out yielded all the check cultivars. Kyle was granted licence no. 2433 in 1984 by the Plant Health and Plant Products Directorate, Food Production and Inspection Branch, Agriculture Canada. It was named after the Town of Kyle in the heart of the durum growing area of Canada.

Performance and Adaptation

In the cooperative tests Kyle outyielded Wakooma and Medora by 7% in the Brown soil zone of Saskatchewan and Alberta where the durum wheat production is concentrated. In the black soil zone of Saskatchewan and Manitoba it outyielded Medora by 3% and Wakooma and Coulter by 7% (Table. 1). It is a little later maturing, about 3 cm taller, and slightly more susceptible to lodging than Wakooma, however, none of these faults is serious in the major durum producing area of the brown soil zone. Kyle will not be well adapted to the black soil zone where lodging is often a problem. Kyle has medium sized seed, good quality and generally good disease resistance (Table 2).

Description

SPIKE. Strap shaped, awned, mid-lax to mid-dense; glumes glaborous and white, mid-long, narrow with oblique narrow shoulders with acuminate beak that is often black at maturity; awns long, spreading, usually black at maturity.

Table 1. Performance of Kyle and check cultivars. Expert Committee on Grain Breeding, report on Durum Wheat Cooperative Tests 1981 to 1983.

Cultivar	Yield (100's kg ha^{-1}) Black soils (14)†	Brown soils (16)	Overall (30)	Maturity (d) (24)	Height (cm) (30)	Lodging score‡ (18)	Test wt (kg hL^{-1}) (30)	1000-kernel wt (g) (30)
Hercules	36.3	–	–	100.8	94	2.1	81.3	46.3
Wakooma	39.8	35.9	37.2	102.8	100	3.7	80.3	41.9
Coulter	39.6	33.7	36.2	100.9	92	2.7	80.7	42.6
Medora	40.9	35.9	38.0	102.1	96	1.9	81.2	43.8
Kyle	42.2	38.6	39.6	103.5	103	4.0	80.7	43.4

†No. of station-years in parentheses.
‡1 = best resistance, 9 = poorest resistance.

Table 2. Disease reaction of Kyle and check cultivars. Expert Committee on Grain Breeding, report on Durum Wheat Cooperative Tests 1981 to 1983

Cultivar	Stem rust	Leaf rust	Loose smut	Bunt	Tan spot	Septoria leaf spot	Kernel smudge (%)	Root rot (%)
Hercules	2 VR†	3 R	MR	R	MS	4	4.8	23
Wakooma	1 VR	2 R	MS	R	MS	3	3.7	16
Wascana	2 VR	2 R	MS	R	MS	3	6.1	31
Coulter	2 VR	3 R	S	R	MS	3	4.1	22
Medora	2 VR	t R	HS	R	MS	3	5.7	19
Kyle	3 VR	1 R	S	R	MS	3	5.1	22

†The number and/or t (trace) before the letter denoting the reaction type of leaf and stem rust indicate the percentage of the plant area infected in accordance with the modified Cobb Scale. VR = very resistant, R = resistant, MR = moderately resistant, MS = moderately susceptible, S = susceptible and HS = highly susceptible.

KERNEL. Color medium amber; shape mid-size, mid-long to long, mid-wide, elliptical; shoulder mid-deep to deep, base straight; germ mid-size, ovate to elliptical, frequently pointed; crease mid-wide, mid-deep; brush mid-size to small, mid-long to short; cheeks angular to rounded.

STRAW. Little or no anthocyanin coloration, medium thickness; hollow internodes; pronounced waxy bloom, slightly longer than Wakooma.

MATURITY. Slightly later than Wakooma.

DISEASE REACTION. Resistant to prevalent races of leaf and stem rust (caused by *Puccinia recondita* Rob. ex. Desm. f. sp. *tritici* and *P. graminis* Pers. f. sp. *tritici* Eriks. and E. Henn., respectively) and bunt (caused by *Tilletia foetida* (Wallr.) Liro and *T. caries* (DC.) Tul.); susceptible to loose smut (caused by *Ustilago tritici* (Pers) Rostr.); moderately susceptible to tan spot; moderately resistant to Septoria leaf spot, kernel smudge and root rot (caused by *Cochiobolus sativus* Ito and Kurib.).

QUALITY. Equal to Hercules; medium semolina yield, slightly lower protein content, high pigment content, good cooking quality.

Seed Distribution

Kyle has been released to SeCan Association, Suite 512, 855 Meadowlands Drive, Ottawa, Ontario K2C 3N2 for distribution. Breeder seed will be maintained by the Seed Section, Agriculture Canada Experimental Farm, Indian Head, Saskatchewan S0G 2K0.

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