CULTIVAR DESCRIPTION

# Bluesky red spring wheat

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Clarke, P. J., Thomas, J. B. and DePauw, R. M. 1994. **Bluesky red spring wheat.** Can. J. Plant Sci. **74**: 135–136. Bluesky, red spring wheat (*Triticum aestivum* L.), combines high grain yield with a maturity about 1 d later than Neepawa. Bluesky has shorter and stronger straw than Glenlea. It is adapted to the Peace River and Parkland regions of western Canada.

**Key words:** *Triticum aestivum* L., wheat (spring), high yielding, cultivar description

Clarke, P. J., Thomas, J. B. et DePauw, R. M. 1994. **Blé roux de printemps Bluesky.** Can. J. Plant Sci. **74**: 135–136. Le blé roux de printemps Bluesky (*Triticum aestivum* L.) allie un fort rendement grainier à un retard de précocité d'environ un jour sur Neepawa. La paille est plus courte et plus résistante que chez Glenlea. Le nouveau cultivar est adapté aux régions de la Prairie-parc et de la Rivière de la Paix (ouest canadien).

**Mots clés:** *Triticum aestivum* L., blé (printemps), rendement élevé, description de cultivar

Bluesky red spring wheat (*Triticum aestivum* L.) was developed at the Agriculture Canada Research Station, Beaverlodge, Alberta. The Seed Division, Food Production and Inspection Branch, Agriculture Canada, issued Registration No. 2782 for it on 27 Feb. 1987. It was named after a village in northern Alberta.

## Pedigree and Breeding Method

Bluesky was derived from a cross made in 1974 between Potam 70, an early-maturing semi-dwarf cultivar developed by the International Maize and Wheat Improvement Centre, and Glenlea, a cultivar with very strong gluten developed by the University of Manitoba (Evans et al. 1972). A modified pedigree method and early generation testing procedures were used to evaluate the progeny.

An $F_2$ plant was selected in 1975 on the basis of size, early maturity, and shattering resistance. A reselection was made among $F_4$ plants for head type and among $F_6$ plants for straw length. The $F_3$ and $F_5$ plants were grown as hill plots and the $F_7$ generation as head rows in winter nurseries at Brawley, California. In each of the $F_4$, $F_6$ and $F_8$ generations, segregants were evaluated in replicated yield trials for grain yield, maturity, straw strength, shattering resistance and kernel type. An $F_6$-derived $F_8$ line was bulked in 1978 and designated 78–319–143. Breeder seed was derived from a bulk of 250 single-head progenies selected in 1984. In 1979 and 1980, Bluesky was evaluated in single-row, two-replicate, two-location yield trials and four-row, four-replicate, four-location yield trials, respectively.

## Performance and Adaptation

Bluesky was tested from 1981 to 1984 in the Parkland Wheat Cooperative Trial as PT325. Bluesky yielded about the same as the Canada Western Extra Strong Red Spring Wheat control cultivar, Glenlea, but matured more than 2 d earlier (Table 1). Bluesky yielded about 15% more than the Canada Western Red Spring (CWRS) control cultivar, Neepawa, but matured more than 1 d later. Bluesky is shorter than Glenlea but taller than Neepawa and has stronger straw than either check. Bluesky has large kernels similar in appearance and test weight to Glenlea kernels. Milling-performance and end-use-suitability characteristics of Bluesky are similar to those of Glenlea.

Bluesky was also tested in 1984 in the High Yield Cooperative Trial. It was not adapted to the soil types covered by this more southerly trial.

## Other Characteristics

GROWTH HABIT. Spring.

COLEOPTILE COLOR. Green.

SHATTERING TOLERANCE. Good.

CULM. Hollow internodes, straight neck.

## Spike Characteristics

SHAPE. Elliptical, medium density, medium length, awned.

ATTITUDE. Erect.

GLUMES. Wide, medium long, glabrous, reddish brown; shoulders square, medium wide; beaks narrow, acuminate with prominent basal folds.

## Kernel Characteristics

COLOR. Medium red.

TEXTURE. Hard.

SHAPE. Medium wide, long, elliptical to ovate.

Table 1. Agronomic performance of Bluesky spring wheat and check cultivars in the Parkland Wheat Cooperative Tests, 1981–1984[z]

| | Yield (t ha$^{-1}$) | Ripe (d) | Head (d) | Height (cm) | Lodging (1–9)[y] | Test wt. (kg hL$^{-1}$) | Kernel wt. (mg) |
|---|---|---|---|---|---|---|---|
| Neepawa | 3.53 | 102.4 | 57.9 | 90.4 | 2.5 | 75.8 | 32.6 |
| Glenlea | 4.00 | 106.2 | 60.6 | 95.2 | 2.8 | 75.0 | 41.7 |
| Bluesky | 4.05 | 103.6 | 58.2 | 92.6 | 1.9 | 74.8 | 43.2 |
| LSD 0.05 | 0.14 | 1.2 | 1.1 | 1.1 | 0.5 | 0.2 | 2.6 |
| Station–years (*n*) | 36 | 23 | 17 | 40 | 10 | 40 | 40 |

[z]Data from western locations where the site coefficient of variation was ≤ 15% for yield. Locations included were Fort Vermilion, Beaverlodge, Ellerslie, Kelsey, Olds, Vermilion, Lacombe, Acme (AB); Saskatoon, Loon Lake, Melfort, North Battleford (SK); Dauphin (MB), although not all sites were planted each year. Cultivar means at each site were used for statistical analysis, without partitioning for year effects; thus each station-year of data was treated as one replicate.
[y]1 = no lodging; 9 = completely lodged.

GERM. Small to medium size, round.

CREASE. Medium width, shallow to medium depth.

CHEEKS. Rounded.

BRUSH. Medium length.

GRADE ELIGIBILITY. Canada Western Extra Strong Red Spring Wheat.

## Disease Reaction

Resistant to prevalent races of stem rust (caused by *Puccinia graminis* Pers. f. sp. *tritici* Eriks. & E. Henn); moderately resistant to prevalent races of leaf rust (caused by *Puccinia recondita* Rob. ex Desm. f. sp. *tritici*); resistant to prevalent races of loose smut [caused by *Ustilago tritici* (Pers.) Rostr]; moderately resistant to common root rot [caused primarily by *Bipolaris sorokiniana* (Sacc. in Sorok.) Shoem. and *Fusarium* spp.]; intermediate resistance to prevalent races of common bunt [caused by *Tilletia foetida* (Wallr.) Liro and *T. caries* (DC.) Tul.].

## Maintenance and Distribution of Pedigreed Seed

Breeder seed is maintained by the Seed Section, Agriculture Canada Experimental Farm, Indian Head, SK, Canada S0G 2K0. Distribution and multiplication of pedigreed seed stocks is handled by SeCan Association, 200-57 Auriga Drive, Nepean, ON, Canada K2E 8B2.

**Evans, L. E., Shebeski, L. H., McGinnis, R. C., Briggs, K. G. and Zuzens, D. 1972.** Glenlea Red Spring Wheat. Can. J. Plant Sci. **52**: 1081–1082.