Registration of 'Prompt' Flax

'Prompt' flax (Linum usitatissimum L.) (Reg. no. CV-44, PI 522393) (CI 3131) was developed by the South Dakota Agricultural Experiment Station and was released in 1989. Prompt is the progeny of an F2 plant from the cross BFP/'Culbert' (1). BFP is an unreleased flax population of F2-derived lines from plants selected for rust resistance from 22 crosses involving 'Linott', 'Nordc', 'Norstar', 'Foster', and various CI numbers as parents. BFP was crossed with Culbert in 1978, and a single plant was selected in 1980 from the F2 population. Subsequent generations were handled in bulk. Yield-testing of Prompt in South Dakota began in 1982. It was first entered in the North Central Regional Flax Trial in 1985.

In 24 location-years of testing in South Dakota State University trials from 1982 to 1988, Prompt averaged 1668 kg ha\(^{-1}\) seed yield, compared with 1629 kg ha\(^{-1}\) for Culbert and 'Culbert 79', 1603 kg ha\(^{-1}\) for Linott, 1640 kg ha\(^{-1}\) for 'Clark', and 1648 kg ha\(^{-1}\) for 'Dufferin'. In 3 yr of testing in the North Central Regional Flax Trials, Prompt averaged 1421 kg ha\(^{-1}\) seed yield across all stations, compared with 1336, 1371, and 1365 kg ha\(^{-1}\) for Linott, Culbert and Dufferin, respectively. Prompt is particularly high-yielding compared with other cultivars when sown late. Prompt yielded 1402 kg ha\(^{-1}\) in seven late-seeded trials, while Linott, Culbert, and Dufferin averaged 1319, 1245, and 1027 kg ha\(^{-1}\), respectively.

Prompt has blue flowers and small (5.5 g 1000 seeds\(^{-1}\)) brown seeds. It is early in maturity, flowering 44 d after sowing compared with 44, 45, and 49 d for Linott, Culbert, and Dufferin, respectively. Prompt is medium in height (59 cm), high in oil content (407 g kg\(^{-1}\)) and medium in iodine number (186) compared with Linott, Culbert, and Dufferin (59, 75, and 67 cm plant height; 399, 403, and 408 g kg\(^{-1}\) oil; and 183, 189 and 186 iodine numbers, respectively). Prompt carries the L\(^{6}\) gene, which conveys resistance to all known naturally occurring North American races of rust, caused by Melampsora lini (Ehrenb.) Desmaz. It is moderately resistant to wilt, caused by Fusarium oxysporum Schlechtend.:Fr. f. sp. lini (Bolley) W.C. Snyder & H.N. Hans., as determined in wilt nurseries at St. Paul, MN, Fargo, ND, and Morden, MB.

Prompt is adapted to the north-central region of the USA. Seed classes are limited to breeder, foundation, registered, and certified. Breeder seed of Prompt will be maintained by the South Dakota Agricultural Experiment Station, Foundation Seed Stock Division, P.O. Box 2207-A, Brookings, SD 57007.

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References and Notes