REGISTRATION OF CROP CULTIVARS

REGISTRATION OF ‘CLARK’ FLAX

‘CLARK’ flax (Linum usitatissimum L.) (Reg. no. 39) (CI 2925, SD 7911), is the unselected progeny of an F₃ plant from the cross ‘Linott’/CI 2783. CI 2783 has a complex pedigree involving ‘Arny’, CI 954, CI 1663, and CI 1134. The selection was made in 1975 from an F₂ population grown in the field at Brookings, SD. Yield testing in South Dakota began in 1978 as SD 7911. Clark was first entered in the North Central Regional Flax Trial in 1980. Clark was named and released in 1983.

Clark had an average seed yield 17% higher than ‘Linott’, 14% above ‘Culbert’ and 7% better than ‘Dufferin’ in 14 location-years of testing in South Dakota from 1980–1983. In those trials Clark averaged 1362 kg/ha. In 11 location-years Clark was 10% higher in yield than ‘Culbert’ 79 and 3% higher than ‘Wishek’. Clark also had higher yields than ‘NorLin’ and ‘McGregor’.

Clark is medium-early in flowering, being 2 to 3 days later than the early cultivars Culbert, Culbert 79, Linott and Wishek. It flowers 2 days earlier than Dufferin and 8 days earlier than McGregor. Flower color of Clark is blue and seed color is brown, similar to Linott. Its seed averaged 4.88 g/1000 seeds compared to 4.70 for Linott and 4.85 g for Culbert in 1983 SD yield trials.

Clark is similar to other flax cultivars in plant height and lodging. In nine South Dakota trials from 1981 to 1983 Clark averaged 50 cm, as did Dufferin, while Culbert 79 averaged 49 cm. In four of these trials lodging occurred. Clark was late in flowering date, being 4 days later than the early cultivar Culbert and approximately 2 days earlier than Dufferin. Rahab lodges less than Dufferin, Flor, and Wishek.

Clark has very high oil content, producing the highest average oil percentage across all current naturally occurring races of flax rust. Its tolerance to flax wilt (caused by Fusarium oxysporum Schlecht. f. lini (Bolley) Synd. and Hans.) is less than Dufferin but similar to Culbert and McGregor and better than NorLin and Linott. Clark carries the L6 gene which confers resistance to prevalent races of flax rust (caused by Melampsora lini (Ehrenb.) Lev) which occur in the North-central flax growing region.

Breeder seed of Clark will be maintained by the South Dakota Agriculture Experiment Station, Foundation Seed Stock Division, P.O. Box 2207-A, Brookings, SD 57007.

References and Notes
1. Professor, research associate, and associate professor, South Dakota State Univ., Plant Science Dep., Brookings, SD 57007. Registration by the Crop Sci. Soc. of Am. Accepted 30 Sept. 1986.

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REGISTRATION OF ‘RAHAB’ FLAX

‘RAHAB’ flax (Linum usitatissimum L.) (Reg. no. 40), CI 2943, is the unselected progeny of an F₃ plant from the cross CI 2790/N419. CI 2790 is a high-yielding, high-oil experimental line from the Univ. of Minnesota, St. Paul, MN, which is susceptible to rust caused by Melampsora lini (Ehrenb.) Lev. N419 is a rust resistant line from the breeding program at North Dakota State Univ., Fargo, ND, and was selected from a cross of the yellow-seeded parents CI 1220Y and Foster. The cross between CI 2790 and N419 was made in 1975 and a single rust-resistant F₃ plant was selected from an inoculated F₃ population grown in the greenhouse. Yield testing of Rahab in South Dakota began in 1979. It was first entered in the North Central Regional Flax Trial in 1981. Rahab was released 1 Mar. 1985.

In 14 location-years of testing in South Dakota State Univ. trials since 1979, Rahab had an average seed yield of 1588 kg/ha, compared to 1388 kg/ha for ‘Culbert’, 1481 kg/ha for ‘Linott’, and 1531 kg/ha for ‘Dufferin’. In 11 location-years, Rahab averaged 1475 kg/ha compared to 1378 kg/ha for ‘Clark’, ‘NorLin’ and ‘McGregor’, and 1413 kg/ha for ‘Linott’. Rahab also had higher yields than ‘Culbert’ 79, ‘Flor’, and ‘Wishek’. In three years of testing in the North Central Regional Flax Trials, Rahab averaged 1281 kg/ha seed yield compared to 1206 kg/ha for Linott, 1231 kg/ha for Culbert, and 1263 kg/ha for Dufferin.

Rahab has brown seeds and blue flowers. It is medium-