REGISTRATION OF ‘OMEGA’ FLAX

‘OMEGA’ FLAX (Linum usitatissimum L.) (Reg. no. CV-43, PI 522517) was developed cooperatively by personnel of the USDA-ARS and the North Dakota Agricultural Experiment Station. Omega, released in February 1990, is a yellow-seeded, blue-flowered F₅-derived selection advanced by pedigree selection from the cross CI 3036/‘Flor’. CI 3036, cultivar L-581, was obtained from the USDA Flax World Collection and originated through a germplasm exchange with Romania. CI 3036 was the source of the yellow seed color. Flor (1), is a multiple-gene rust-resistant cultivar developed by the North Dakota Agricultural Experiment Station and the USDA-ARS; it was released in February 1981. Omega is the first yellow-seeded flax cultivar to possess the M³P³ multiple-gene resistance to flax rust, incited by Melampsora lini (Ehrenb.) Desmaz. These genes were derived from Flor and convey resistance to all known naturally occurring and prevalent races of flax rust in North America. Two races were utilized to verify the presence of the M³ and P³ genes. Race 218 S48 is virulent on plants with the M³ gene, but not on plants with the P³ gene. Race X36 is virulent on plants with the P³ gene, but not on plants with the M³ gene. Plants resistant to both races were identified in the F₂ and F₄ generations, self-pollinated, and advanced for agronomic evaluation. These races were also virulent on other genes present in the two parents used in crossing.

Omega, tested as CI 3259, averaged 4.5% higher in seed yield than ‘Linott’, ‘Culbert’, and ‘Dufferin’, in early- and late-seeded trials in North Dakota in 1987 and 1988 (12 trials). In these trials, yield of Omega averaged 947 kg ha⁻¹, and the three checks averaged 906 kg ha⁻¹. Omegaflowered 47 d after sowing and is medium height; had seed with 386, 393, and 386 g kg⁻¹; and had 183, 188, and 182 iodine numbers, respectively. Omega is moderately resistant to wilt [incited by Fusarium oxysporum Schlechtend.:Fr. f. sp. lini (Bolley & H.N. Hans.)] as evaluated at both Fargo, ND and St. Paul, MN. Foundation seed may contain up to 40 brown seeds per 1000 seeds.

Omega is adapted to the north-central flax growing region of the USA. Seed classes are limited to breeder, foundation, registered, and certified. Breeder and foundation seed will be maintained by the Foundation Seedstocks Project, Crop and Weed Sciences Department, North Dakota State Agricultural Experiment Station, Fargo, ND 58105.

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References and Notes


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REGISTRATION OF ‘VERNE’ FLAX

‘VERNE’ FLAX (Linum usitatissimum L.) (Reg. no. CV-42, PI 559367) (CI 2938) was developed at the Minnesota Agricultural Experiment Station, St. Paul, and was released in April 1987. Verne is the progeny of an F₅ plant from the cross ‘Culbert’ (1) × Hoil 5017. The latter parent was selected from an intercross population that was developed from four cycles of recurrent selection for oil content and resistance to wilt and rust. The original population parents were eight high-oil cultivars in the U.S. flax germplasm collection and four adapted cultivars. Verne was the highest-yielding entry in the north-central North American region of the USA. Seed classes are limited to breeder, foundation, registered, and certified. Breeder and foundation seed will be maintained by the USDA-ARS and the North Dakota Agricultural Experiment Station. Omega, released in February 1990, is a yellow-seeded, blue-flowered F₅-derived selection advanced by pedigree selection from the cross CI 3036/‘Flor’. CI 3036, cultivar L-581, was obtained from the USDA Flax World Collection and originated through a germplasm exchange with Romania. CI 3036 was the source of the yellow seed color. Flor (1), is a multiple-gene rust-resistant cultivar developed by the North Dakota Agricultural Experiment Station and the USDA-ARS; it was released in February 1981. Omega is the first yellow-seeded flax cultivar to possess the M³P³ multiple-gene resistance to flax rust, incited by Melampsora lini (Ehrenb.) Desmaz. These genes were derived from Flor and convey resistance to all known naturally occurring and prevalent races of flax rust in North America. Two races were utilized to verify the presence of the M³ and P³ genes. Race 218 S48 is virulent on plants with the M³ gene, but not on plants with the P³ gene. Race X36 is virulent on plants with the P³ gene, but not on plants with the M³ gene. Plants resistant to both races were identified in the F₂ and F₄ generations, self-pollinated, and advanced for agronomic evaluation. These races were also virulent on other genes present in the two parents used in crossing.

Omega, tested as CI 3259, averaged 4.5% higher in seed yield than ‘Linott’, ‘Culbert’, and ‘Dufferin’, in early- and late-seeded trials in North Dakota in 1987 and 1988 (12 trials). In these trials, yield of Omega averaged 947 kg ha⁻¹, and the three checks averaged 906 kg ha⁻¹. Omegaflowered 47 d after sowing and is medium height; had seed with 386, 393, and 386 g kg⁻¹; and had 183, 188, and 182 iodine numbers, respectively. Omega is moderately resistant to wilt [incited by Fusarium oxysporum Schlechtend.:Fr. f. sp. lini (Bolley & H.N. Hans.)] as evaluated at both Fargo, ND and St. Paul, MN. Foundation seed may contain up to 40 brown seeds per 1000 seeds.

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