REGISTRATION OF ‘LEI III’ RAPESEED

‘LEI III’ WINTER RAPESEED [Brassica napus L. subsp. oleifera (Metzg.) Sinsk. f. biennis] (Reg. no. CV-12, PI 547113) is an industrial-quality synthetic cultivar developed by the Idaho Agricultural Experiment Station at Moscow, ID, for Agrigenetics Company, a division of the Lubrizol Corporation at Wickliffe, OH. The 11 parental lines of LEI III were selected from >400 plants of the Syn 3 generation of ‘Bridger’ (1) for low levels of glucosinolates and high levels of erucic acid. Bridger is a cultivar with intermediate levels of glucosinolates; it was released by the University of Idaho in 1986. LEI III was officially released for commercial production in the fall of 1990.

The agronomic performance of LEI III was compared with Bridger in 24 tests across the USA during the 1988–1989 and 1989–1990 growing seasons (2,3). At seven test sites located between 30° and 34° N lat, LEI III produced seed yields that were 96% of Bridger. Average oil content of LEI III (397 g kg⁻¹) was slightly higher than the oil content of Bridger (388 g kg⁻¹). At seven test sites located between 34° and 38° N lat, LEI III produced seed yields that were 103% of Bridger. In these trials, the oil contents of LEI III (407 g kg⁻¹) and Bridger (409 g kg⁻¹) were almost identical. In four tests located between 38° and 42° N lat, LEI III produced average seed yields 15% higher than Bridger. Average oil contents of both LEI III (380 g kg⁻¹) and Bridger (379 g kg⁻¹) were nearly identical. In the six test sites located between 42° and 49° N lat, the average seed yield of LEI III was 84% of Bridger. Average oil content of both LEI III (400 g kg⁻¹) and Bridger (399 g kg⁻¹) were almost identical in this production region. Trials conducted over the past two growing seasons indicate that LEI III is fairly broadly adapted, producing seed yields and oil contents equivalent to those observed from Bridger in most production regions of the USA, with the exception of the Pacific Northwest.

LEI III had a slightly higher average survival (64%) than Bridger (53%) at seven sites where this characteristic was measured in the 1989–1990 growing season (3). The high market the meal as a high-protein animal feed supplement. At 13 locations in 1989–1990, the erucic acid level of open-pollinated LEI III seed ranged from 50.1 to 41.7%. Differential levels of cross pollination from canola cultivars included in these trials and environmental influences probably reduced the erucic acid concentration significantly in LEI III grown in isolation at both Moscow, ID, and Griffin, GA, produced oils with >50% erucic acid.

Seed and plants of LEI III are phenotypically similar to Bridger (1). Mature plants range from 90 to 170 cm in height, depending on the environment (2,3). Generally, both LEI III and Bridger are shorter, flower earlier, and demonstrate a more determinate growth habit than other industrial cultivars of winter rapeseed. Those characteristics are most pronounced in the warmer climates and short photoperiods of the southeastern USA.

In more northern locations, LEI III is usually seeded in August or early September and matures in July or early August the following year (2,3). In the southeastern USA, LEI III is usually seeded in late October and harvested in early June the following year. When planted in the early spring and grown under long photoperiods, some plants in LEI III may bolt and flower without vernalization. LEI III has not been evaluated for resistance to either white mold [caused by Sclerotinia sclerotiorum (Lib.) de Bary] or virulent blackleg [caused by Leptosphaeria maculans (Desmaz.) Ces. & De Not.].

Seed increases of LEI III are limited by Plant Variety Protection (PVP 9100090) to foundation and certified seed classes. Information on sources of certified seed can be obtained from the Vice President of Research, Agrigenetics Co., 35575 Curtis Blvd., Eastlake, OH 44095.

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