REGISTRATION OF 'PENNLINE 10' BUCKWHEAT
(Reg. No. GP 1)

H. G. Marshall

'PENNLINE 10' buckwheat (Fagopyrum sagittatum Gilib.), C.I. 30, Pa. 110, was developed and released cooperatively by The Pennsylvania Agricultural Experiment Station and Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture.

Pennline 10 is an inbred line derived from a single highly self-fertile plant isolated from the open-pollinated buckwheat collection Pa. 53. The inbreeding generations were grown in the greenhouse, and Pennline 10 traces to a single S2 plant. The line is homomorphic for a new flower form with the anthers and stigmas on the same level, and this results in a high degree of self-fertility.3 Buckwheat normally is self-incompatible, and seed production is dependent on cross-pollination between "pin" (long pistil, short stamen) and "thrum" (short pistil, long stamen) flowers.

Pennline 10 is uniform for morphological characteristics. Seedling vigor tends to be low, and the plants are substantially shorter than those of the open-pollinated parental strain. The flowers are white. Stylar length averages about 1.2 mm (compared to 0.3 mm for short styles and up to 2.2 mm for long styles in the parental strain), and filament length is about 1.1 mm. The seeds are large and angular with the angles of the hulls extended to form prominent wings. Mature seeds are dull gray in color with dark brown mottling.

Pennline 10 is released for parental purposes and has no direct commercial value. The reduced stylar length should be useful to extract homozygous lines following hybridization, and offers the possibility of developing cultivars that are not dependent on cross-pollination.

A seed packet of 10 seeds is available for breeding and other research purposes from the Department of Agronomy, Tyson Building, The Pennsylvania State University, University Park, Pa. 16802.


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REGISTRATION OF FROST BLUE LUPINE
(Reg. No. 3)

Ian Forbes, H. D. Wells, J. R. Edwardson, R. E. Burns, and J. W. Dobson

Frost blue lupine (Lupinus aggregatus L., Tifton no. 26-12-13) has been registered for parental purposes and has no direct commercial value. It offers the possibility of developing cultivars that are not dependent on cross-pollination by bees. The line is homomorphic for a new flower form with the anthers and stigmas on the same level, and this results in a high degree of self-fertility. Buckwheat normally is self-incompatible, and seed production is dependent on cross-pollination between "pin" (long pistil, short stamen) and "thrum" (short pistil, long stamen) flowers.

Frost blue lupine is uniform for morphological characteristics. Seedling vigor tends to be low, and the plants are substantially shorter than those of the open-pollinated parental strain. The flowers are white. Stylar length averages about 1.2 mm (compared to 0.3 mm for short styles and up to 2.2 mm for long styles in the parental strain), and filament length is about 1.1 mm. The seeds are large and angular with the angles of the hulls extended to form prominent wings. Mature seeds are dull gray in color with dark brown mottling.

Frost blue lupine is released for parental purposes and has no direct commercial value. The reduced stylar length should be useful to extract homozygous lines following hybridization, and offers the possibility of developing cultivars that are not dependent on cross-pollination.

A seed packet of 10 seeds is available for breeding and other research purposes from the Department of Agronomy, Tyson Building, The Pennsylvania State University, University Park, Pa. 16802.

1 Registered by the Crop Science Society of America. Cooperative investigations between The Pennsylvania Agricultural Experiment Station and Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture; the University of Georgia College of Agriculture Experiment Stations; and the Florida Agricultural Experiment Station. Journal Series Paper No. 802, University of Georgia, Griffin. Received May 12, 1970.

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