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. 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.

2Research Agronomist, Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, and Associate Professor of Agronomy, The Pennsylvania State University, University Park, Pa. 16802.

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 is a forage variety. It was developed at Georgia Coastal Plain Experiment Station. Seed yields of Frost have averaged much higher than Rancher in tests at Tifton, Georgia, because of freeze injury to Rancher. Frost is resistant to gray leaf spot. Frost's seeds are about 2/3 the size of those of other commercial varieties, and seeds up to 2 weeks later at Tifton, depending on temperatures, than less hardy commercial varieties. The variety has blue flowers and tan-specked white seeds, while a few plants with pink or white flowers and dark brown seeds occur. The variety is low in alkaloids and soft-seeded.

Frost is the seed increase of six F1 selected plant from the cross WH-1 x 58-404 mated at the Coastal Plain Experiment Station in Georgia from the wild Portugal introduction P.L. 1 of winterhardiness, gray leaf spot resistance, tan-specked white seed coats; elite line S of anthracnose resistance, low alkaloid content; and Wb (tan-specked white seeds). With the associated with a slow mid-winter growth mode of inheritance appears to be compatible and a description of the variety have been made.

Seed production of Frost is limited to the breeder seed; namely, foundation, registered, and certified. Isolation of seed fields from other blue lupine to prevent varietal impurity from cross-pollination. The variety maintains breeder seed.

1Registered by the Crop Science Society of America. Cooperative investigations between The University of Georgia College of Agriculture, Georgia Coastal Plain Experiment Station, Tifton, Georgia; Agronomy, University of Florida Experiment Station, Gainesville; Associate Plant Pathologist, Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, in cooperation with the Montana, North Dakota, and South Dakota Agricultural Experiment Stations; and the University of Georgia College of Agriculture, Georgia Coastal Plain Experiment Station, Tifton, Georgia.
2Research Agronomist and Research Pathologist, Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, Georgia Coastal Plain Experiment Station, Tifton; Agronomist, University of Florida Experiment Station, Gainesville; Associate Plant Pathologist, Crops Research Division, Agricultural Research Service, U.S. Department of Agriculture, in cooperation with the Montana, North Dakota, and South Dakota Agricultural Experiment Stations; and Assistant Professor of Agronomy, The Pennsylvania State University, University Park, Pa. 16802.