

THE UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
AND
MISSISSIPPI AGRICULTURE AND FORESTRY EXPERIMENT STATION
AND
DEPARTMENT OF WILDLIFE AND FISHERIES
MISSISSIPPI STATE UNIVERSITY

ANNOUNCE THE SELECTED CLASS RELEASE OF

Hopefield Selection trailing wildbean

The United States Department of Agriculture, Natural Resources Conservation Service (NRCS), Mississippi Agriculture and Forestry Experiment Station and the Department of Wildlife and Fisheries, Mississippi State, Mississippi announce the naming and release of Hopefield selection trailing wildbean [*Strophostyles helvula* (L.) Ell.].

Hopefield selection was assigned the NRCS accession number 9021719. It was selected to provide an adapted trailing wildbean for inclusion in critical area erosion control mixtures (Graham, 1941) and wildlife food and cover (Grelen and Hughes, 1984) in Arkansas, Louisiana, Mississippi, Alabama, and western Tennessee (mid-South region).

ORIGIN AND SITE DESCRIPTION: Seed of Hopefield selection was collected in October 1980 by John L. Reid of the USDA-Soil Conservation Service. The original stand was located southeast of Marion, Arkansas, in major land resource area 131 and plant hardiness zone 7 (USDA, 1990). The collection site was located at 35° 10' north latitude and 90° 05' west longitude in Section 11, Township 6N, Range 9E in Crittenden County. Soil is a Bowdre silty clay. The Bowdre series consists of rather poorly drained, level to gently undulating soils (USDA, 1974). In addition to trailing wildbean, other plants growing on this site were partridge pea [*Chamaecrista fasciculata* (Michx.) Greene] and sesbania (*Sesbania* spp.). Annual precipitation for the area is 50 inches and elevation is 215 feet. The area has a seven month growing season extending from April to October. Hopefield selection was named after the Hopefield landmarks near the collection site.

Seed was received by the USDA-NRCS, Jamie L. Whitten Plant Materials Center (PMC) near Coffeeville, Mississippi in 1980. It was one of several *Strophostyles* spp. collected from native stands throughout the mid-South. Seeds were planted in an initial evaluation planting at the PMC and in advanced evaluation plantings in Jackson, Mississippi. A production field was planted in 1996 at the Jamie L. Whitten PMC from seed increases of the original collection.

PLANT DESCRIPTION AND OCCURRENCE: Trailing wildbean is a native warm season annual legume with twining or trailing stems. Leaves are pinnately trifoliate and leaflets ovate to ovate-oblong and 3-lobed. Flowers are purplish. Seed pods are 4-9 cm. long and seeds are persistently woolly due to fragments of the inner pod adhering to the seed. Removal of the woolly cover exposes a black, shiny seed. It is adapted to

medium to fine textured soils, but is found growing on infertile, sandy and droughty soils. Trailing wildbean occurs in open woodlands, abandoned cropland, and coastal dunes (Radford et al., 1968). Seeds are eaten by bobwhite quail and turkey (Graham, 1941; Grelen and Hughes, 1984).

Hopefield selection trailing wildbean does not vary from the general taxonomic description of trailing wildbean.

PLANT PERFORMANCE: Hopefield selection was one of 10 accessions selected from an initial evaluation planting of 32 accessions of *Strophostyles* spp. on the basis of plant vigor (Wolfe et al., 1989). Seed traits (i.e., seed pod, seed weight, seed quality, and production measurements) were the criteria used to support the selection of five accessions for potential release (Wolfe, 1992). Hopefield selection trailing wildbean was selected from these five accessions because it ranked the highest in seed production and exhibited resistance to disease, insect, and drought.

RELEASE JUSTIFICATION: There are no commercially available sources of trailing wildbean in the mid-South. This legume has been recognized by wildlife biologists as a valuable food source for game birds but its unavailability has limited its use.

ESTABLISHMENT AND HARVESTING: Hopefield selection should be planted on a firm, clean seedbed. Planting date is March to May 1 for the mid-South. For seed production, inoculate seed with *Strophostyles* Special 1 inoculum and seed at 15 lb/acre in 40 inch rows. Fertilize production fields at a rate of 300 lb/acre of 8-24-24. For wildlife and critical area mixtures seed at 10 lb/acre. Hopefield selection contains approximately 50 percent hard seed. Natural reseeding from previous year's seed crop, combined with hard seed will probably be adequate for sufficient stands in succeeding years. A light disking or other means of soil disturbance to expose mineral soil and to eliminate weed competition will enhance reseeding. Seed can be direct harvested with a conventional combine. Because Hopefield selection is an indeterminate seeder, seed yields vary but yields of 80 lb/acre have been harvested at the PMC. To facilitate harvest, defoliate the plant one week prior to harvesting with Gramoxone® at 2.5 pints/acre.

AVAILABILITY OF SEED: Generation 2 seed of Hopefield selection trailing wildbean is available from the USDA-NRCS Jamie L. Whitten Plant Materials Center, Rt. 2 Box 215-A, Coffeerville, Mississippi 38922. Tel.: 601-675-2588. FAX: 601-675-2369.

REFERENCES:

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