Soils, and Biometeorology Dep., Utah State Univ., Logan, UT 84322-4820. U.S. plant variety protection has been applied for under the 1970 act as amended in 1994. Conditions of this license specify that seed of Douglas can be marketed only as a class of certified seed.


References and Notes

Published in Crop Sci. 35:1510-1511 (1995).

Registration of 'Fisher' Pinto Bean

‘Fisher’ pinto bean (Phaseolus vulgaris L.) (Reg. no. CV-127, PI 586681) was developed by the Colorado Agricultural Experiment Station. It was released in August 1994 as a new pinto cultivar adapted to the rainfed production region of the San Juan Basin in southwestern Colorado. Fisher was released because it has higher yield potential than ‘Cahone’ (1), the most prevalent cultivar grown in the San Juan Basin.

Fisher was derived from an F2 plant selection descended from the cross ‘San Juan’/A56-240/‘Yellow Jacket’/3/’Olathe’/AR83-2. San Juan was derived from a single plant selection from Yellow Jacket, a landrace grown for many years in the San Juan Basin. A56-240 was a selection from an F2 population provided by William J. Zaumeyer, USDA-ARS, Beltsville, MD. Olathe is a commercial pinto cultivar released by Colorado State University in 1979 (2). AR83-2 was introduced from Mexico by Zaumeyer and is of unknown origin. During the final development of Fisher, single plants were progeny tested to identify and remove plants segregating for a recessive allele that conditions cream seed color. Plant rows that did not segregate for seed color were bulked and increased for Breeder seed production.

Fisher has a vine growth habit (Type III) (3). It was tested as CZ 59196 for yield and adaptation from 1987 through 1993 at the Southwestern Colorado Research Center (SWCRC), Yellow Jacket, CO. Fisher averaged 84 kg ha$^{-1}$ higher seed yield than Cahone, during six years of tests at the SWCRC. Seed size of Fisher is slightly larger than Cahone, at approximately 35.1 and 33.5 g 100 seed$^{-1}$, respectively. Seed color and shape are similar to Cahone. Fisher is resistant to the Type, Mexican, New York 15, and US3 strains of bean common mosaic virus (M.J. Silbernagel, personal communication). Fisher is susceptible to the prevalent strains of leaf rust [caused by Uromyces appendiculatus (Pers.:Pers.) Unger] found in eastern Colorado. Since leaf rust has not been observed in the San Juan Basin, susceptibility should not be a problem in commercial pinto bean fields grown in the San Juan Basin. Physiological and harvest maturity are similar to Cahone.

Fisher was named after the late Adrian G. Fisher, former Superintendent SWCRC, who made the initial selections from unknown pedigree in the Colorado State University breeding program.

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Registration of ‘Arapaho’ Pinto Bean

‘Arapaho’ pinto bean (Phaseolus vulgaris L.) (Reg. no. CV-126, PI 578133) was developed by the Colorado Agricultural Experiment Station. It was released in February 1993 because it possesses field tolerance to white mold disease [caused by Sclerotinia sclerotiorum (Lib.) de Bary]. Arapaho has an upright plant architecture (Type III) for most environments, but in highly productive environments it may produce a vine type architecture (Type III) (1).

Arapaho was derived from an F4 plant selection descended from the cross ‘UI 114’/MO19/3/1367-1/N203/’Ouray’. UI 114 and Ouray (2) are commercial pinto cultivars released by the University of Idaho in 1965 and Colorado State University in 1972, respectively. MO19 is a selection from material of unknown pedigree introduced from Mexico. N203 (PI 203958) is a line released for root rot resistance by Oliver Norvell, Carnegie Institute of Washington, Stanford, CA. 1367-1 is an experimental line of unknown pedigree in the Colorado State University breeding program.

Arapaho was tested as CO 80-1744 from 1982 through 1991 in Colorado, and at 37 location-years throughout the USA during 1984–1985 in the Cooperative Dry Bean Nursery. When tested in the Cooperative Dry Bean Nursery, mean plant maturity, seed weight, and yield of Arapaho were 97 d, 36.7 g 100 seed$^{-1}$, and 2961 kg ha$^{-1}$, respectively, compared with 95 d, 36.4 g 100 seed$^{-1}$, and 2853 kg ha$^{-1}$ for UI 114. Trials conducted in 1988 at the University of Nebraska indicated that Arapaho had 42% white mold infection, compared with a mean of 59% among 26 dry bean entries. In trials conducted at four sites in eastern Colorado in 1990, when white mold infection severely reduced grain yield, Arapaho had an average of 46% plant infection,