Registration of ‘5715’ Alfalfa

‘5715’ ALFALFA (Medicago sativa L.) (Reg. no. CV-181, PI549107) was developed by Pioneer Hi-Bred International, Inc. and tested experimentally as XA181 and YA181. The cultivar was released 12 Feb. 1991.

5715 is a 102 plant synthetic cultivar with parents selected through phenotypic recurrent selection originating from several experimental lines traced to BAA17, BAA20, ‘CUF 101’, ‘Moapa 69’, ‘Lahontan’, ‘N71 Briar’; ‘UC Cargo’, UCZX, ‘UC Salton’ and others with minor contributions. Parent plants were selected for resistance to or more of the following: anthracnose [caused by Colletotrichum trifolii Bain & Essary (Race 1)], blue alfalfa aphid (Acyrthosiphon kondoi Shinji) and phytophthora root rot (caused by Phytophthora medicaginis E. M. Hans. & Maxwell). (1) Germplasm sources of 5715 include: 1% M. varia, 10% Turkistan, 2% Flemish, 9% Chilean, 9% Indian, 33% African, and 36% unknown.

5715 is a nondormant variety with fall dormancy similar to that of Moapa 69. The cultivar has high resistance to anthracnose (Race 1), fusarium wilt [caused by Fusarium oxysporum Schlechtend.:Fr. f.sp. medicaginis (J. L. Weimer) W. E. Snyder & H. N. Hans.], blue alfalfa aphid, spotted alfalfa aphid (Taetoaphia maculata (Buckton)); resistance to phytophthora root rot and pea aphid [Acyrthosiphon pisum (Harris)]; low resistance to bacterial wilt [caused by Clavibacter michiganensis subsp. insidiosum (McCall)] Davis et al., and verticillium wilt (caused by Verticillium alboatrum Reinke & Berthier).

5715 has been tested for forage yield in the warmer climates of the USA. Flower color is approximately 93% purple and 7% variegated.

Seed increase is limited to one, two, and one generation of breeder, foundation, and certified seed classes, respectively. Limitation of age of stand is 3 and 5 yr, respectively, for foundation and certified seed. Seed produced from the certified class is not recognized as 5715. 5715 was favorably reviewed in 1990 by the National Alfalfa Variety Review Board. An application for US Plant Variety Protection was submitted on 19 Mar. 1991 for 5715.


References and Notes


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Registration of Jamestown II Chewings Fescue

‘JAMESTOWN II’ CHEWINGS FESCUE (Festuca rubra L. subsp. commutata Gaud.) (Reg. no. CV-51, PI549269) was developed through the cooperative work of Lofts Seed, Inc., Bound Brook, NJ and the Rhode Island Agricultural Experiment Station. It was released in August 1991 by Lofts Seed, Inc. J-II was the experimental designation for Jamestown II.

Jamestown II was developed using a modified backcross procedure with plants of Jamestown Chewings fescue as the recurrent parents and plants selected from LF-1 chewings fescue as the donor parents. Following the first cross, plants were examined for presence of an endophyte fungus [Acremonium typhinum Morgan-Jones and Gams, the anamorph of Epichloe typhina (Pers:Fr:Tul.)] followed by a backcross and phenotypic plant selections in an isolated, spaced-plant nursery at the University of Rhode Island.

LF-1 Chewings fescue was developed from plants selected from Longfellow Park in Cambridge, MA using a program of genotypic and phenotypic recurrent selection and is closely related to the cultivar, Longfellow Chewings fescue. LF-1 contained an endophyte designated as the Cambridge strain. LF-1 contributed the endophyte as the maternal parent in the cross with Jamestown.

During September 1984, twelve rows of spaced-plants of LF-1 (144 plants) were surrounded by thirteen rows of Jamestown Chewings fescue in an isolated nursery at the Plant Science Research Facility at Adelphia, NJ.

Each row of Jamestown included 12 clusters of seedling transplants. Prior to anthesis, 50 plants were selected based on seed production potential, phenotypic uniformity, freedom from disease, and overall attractiveness. Seed was subsequently harvested from the 50 remaining endophyte-containing LF-1 plants in June 1985.

A backcross nursery was established at Kingston, RI with rows of LF-1 × Jamestown progeny plants alternating with rows of Jamestown Chewings fescue. In June 1986, seed was harvested from the LF-1 × Jamestown plants pollinated with Jamestown. The endophyte level of this seed was found to be over 95% and was designated as Jamestown II breeder seed. Breeder seed was used to establish a foundation field in central Oregon in the spring of 1988 and the first certified seed was produced in Oregon in 1991.

Jamestown II Chewings fescue is an attractive, persistent turf-type cultivar capable of producing a dark green turf with a fine leaf texture and high shoot density. It has excellent winter hardiness and good cold temperature color retention. When seed with viable endophyte is used, Jamestown II may show enhanced resistance to many harmful insect pests (1, 2, and 3) and improved stress tolerance and persistence. When seed of Jamestown II containing high levels of endophyte is desired, seed should be harvested at either freshly harvested or maintained in cold, dry storage to help ensure viability and effectiveness of the endophyte. Jamestown II is recommended for use on medium-to-low maintenance turfs under varying light intensities ranging from full sun to moderate shade in regions where Chewings fescue is well adapted for turf use. In the southern United States, Jamestown II may be used for winter overseeding dormant warm-season grasses to provide winter color and cover to lawns and sports turfs.

Jamestown II seed containing high levels of viable endophyte is not recommended for establishing lawns for forage or pasture because of possible adverse effects on animal health and performance.

Chewings fescue plants containing the Cambridge strain of endophyte may occasionally, and especially under conditions of low soil N, produce a significant percentage of reproductive tillers with choke disease. This will not adversely affect turf performance but could reduce seed yield. The level of N fertilizer required for high seed yield should suppress the incidence of choke disease (4) and seed yield reduction has not been a significant problem in well fertilized spaced-plant nurseries and seed fields.

Seed increase of Jamestown II is limited to two generations of increase from breeder seed, one each of foundation and certified. Breeder seed will be produced and maintained at the Rhode Island Agricultural Experiment Station. Application (no. 9100254) has been made for U.S. Plant Variety Protection.

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References and Notes