NOTICE OF RELEASE OF 'IAFAL-C3' A YELLOW FLOWERED ALFALFA GERMPLASM

The United States Department of Agriculture-Agricultural Research Service, in cooperation with Iowa State University, announces the release of 'IAFAL-C3' a yellow flowered alfalfa germplasm. This population was developed cooperatively by U.S. Dairy Forage Research Center (USDA-ARS) Research Geneticist Heathcliffe Riday, Madison, WI, and Forage Breeder E. Charles Brummer formerly at Iowa State University, currently at University of Georgia. 'IAFAL-C3' is an autotetraploid (2n = 4x = 32) yellow flowered alfalfa germplasm (Medicago sativa subsp. falcata). This germplasm has been selected for increased dry matter yield and fall growth. 'IAFAL-C3' is designated as PI 644249 in NPGS. 'IAFAL-C3' represents a further cycle of recurrent selection out of IAMF101 germplasm (Cycle 2). 'IAFAL-C3' represents the third cycle of recurrent selection in a closed population, since population formation in 1999. 'IAFAL-C3' parents were selected out of IAMF101 nurseries planted at the: U.S. Dairy Forage Research Center Dairy at Prairie du Sac, WI; University of Wisconsin-Madison, Agricultural Research Station at Arlington, WI; and Iowa State University Agronomy and Agricultural Engineering Farm near Ames, IA. Three replicates of ten plants each of 46 halfsib families of IAMF101 (syn 1 seed) were planted at the three selection locations in semi-sward plots. Ten plant halfsib family plots were spaced in a 2 by 5 plant grid (30 cm between plants). Halfsib family plots were separated from each other by 45 cm on the plots' long axis and 120 cm on the plots' short axis. Plants were greenhouse established during February 2004 and transplanted to field locations in early May 2004. At the two Wisconsin locations, halfsib machine harvestable dry matter yield and plant height were taken on halfsib plots on: June 1, 2005; June 27, 2005; and July 26, 2005. Based on halfsib family dry matter yield data, 17 of 46 halfsib families were selected (among halfsib family selection intensity 37% or k = 1.02). A low among halfsib family selection intensity was used to maintain population genetic diversity. In early September 2005 at all three selection locations, individual plant fresh weights were taken on all plants in the 17 selected halfsib families. At each location, within each halfsib family, the two heaviest plants were selected (within halfsib family selection intensity 6.5% or k = 1.95). In early autumn 2005, the 102 selected plants from all three locations were combined in the U.S. Dairy Forage Research Center greenhouse and allowed to reach full bloom. Bumblebees (Bombus impatiens) were used to open pollinate plants for several months. Some supplemental hand-pollination was accomplished as well. Halfsib seed was harvested from individual plants, and equal quantities of halfsib seed of 66 of the 102 selected plants were bulked to form syn 1 cycle 3 seed. A small quantity of syn 1 seed was planted in Idaho in April 2006 where syn 2 seed was grown using alfalfa leafcutter bees (Megachile rotundata) and harvested in autumn 2006.
Syn 2 seed of ‘IAFAL-C3’ is maintained by USDA-ARS and small seed quantities will be provided upon request to Heathcliffe Riday (riday@wisc.edu), U.S. Dairy Forage Research Center, USDA-ARS, 1925 Linden Drive West, Madison, WI 53706. Genetic material of this release has been deposited in the National Plant Germplasm System where it will be available for research purposes, including development and commercialization of new varieties/cultivars. We request that appropriate recognition be made of the source when this germplasm contributes to a new cultivar. U.S. plant variety protection will not be requested for ‘IAFAL-C3’.

Director, Iowa Agriculture and Home Economics Experiment Station, Iowa State University

Deputy Administrator, Crop Production and Protection Agricultural Research Service, U.S. Department of Agriculture

3-27-07

Date

11/24/07

Date