REGISTRATION OF GERMPLASMS

REGISTRATION OF CANDO DURUM WHEAT\(^1\)
(Reg. No. 580)
J. S. Quick, J. D. Miller, and B. J. Donnelly\(^2\)

'Cando' (Triticum turgidum L. var. durum), CI 17438, is a spring durum wheat developed by the North Dakota Agric. Exp. Stn., North Dakota State Univ., Fargo, in cooperation with the ARS, USDA. Cando was selected from the cross D65130/D6148 made in 1966. D65130 is D6130/Leeds', a durum semidwarf with low spaghetti color, leaf disease susceptibility, and unstable grain yield. The pedigree of D6130 is 'Lakota'/5/'Willet' sib/'Norin 10'/’Brevo'/3/Langdon. Willet sib/Norin 10/Brevo is a semidwarf hard red spring wheat (Triticum aestivum L.) line obtained from the Rockefeller Foundation-Mexican Ministry of Agric. wheat breeding program in 1956. D6148 is Br160/Wells', a normal height, high yielding ND-USDA durum breeding line. Langdon, Lakota, Wells, and Leeds are North Dakota-USDA cultivars released in 1955, 1960, 1965, and 1966, respectively. The cross to produce Cando was made to combine short straw with high grain yield, good quality, and leaf disease resistance. Early selection through the F\(_2\) generation was made with the pedigree method in 4 years by utilizing North Dakota and Mexico winter breeding nurseries. Cando was bulked in the F\(_4\) generation as an F\(_4\)-derived line in Mexico in the winter of 1970-71 and first entered in preliminary yield trials in North Dakota in 1971 as selection D7057. It has been tested in the Uniform Regional Durum Wheat Tests since 1972 and in North Dakota drill strips since 1973. Cando has been evaluated in national and worldwide disease tests.

Cando has averaged 70 cm in height, slightly shorter than 'Ward', and has resisted lodging under high-moisture conditions during 5 years of testing. The ears are of spring habit, culms are usually white, ears are slightly smaller than Ward. The kernel weight of Cando has been intermediate between Wells and Ward, and its test weight has averaged 1.3 lb/bushel.

Milling and spaghetti processing characteristics have been satisfactory in 16 tests during 1973 to 1975. The kernel weight of Cando has been slightly higher than Wells and Rolette and slightly lower than Ward.

Cando was named and released by the North Dakota Agric. Exp. Stn. on 18 December 1975. Breeder seed was deposited in the Seedstocks Project, North Dakota Agric. Exp. Stn., Fargo, ND 58102. The National Small Grain Variety Review Board has approved Cando for certification.

Cando is described further in North Dakota Agric. Exp. Stn. Res. Bull. 178 (1976). Cando is the first semidwarf durum cultivar released by the USDA.


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REGISTRATION OF DA-1 AND DA-2 ALFALFA GERMPLASM\(^1\)
(Reg. Nos. GP 53 and GP 54)
T. E. Devine, R. H. Ratcliffe, J. H. Graham, J. E. McMurtry and J. L. Goodlett\(^2\)

Two populations of alfalfa (Medicago sativa L.), DA-1 and DA-2, with moderate resistance to anthracnose (Colletotrichum trifolii Bain) were developed by the Agric. Research Service, USDA and released to alfalfa breeders on 12 September 1975. These germplasm pools were developed to provide alfalfa breeders with anthracnose resistant germplasm from which they may select alfalfas with resistance to insect pests and diseases, and a reduced level of dormancy with consequent higher yield potential for areas not requiring intensive winter hardiness.

DA-1 (GP53) was developed from 'Moapa', Beltsville 2-An4W2, and ArcSb3W2fl. Beltsville 2-An4W2 was developed by one cycle of selection for bacterial wilt resistance from Beltsville 2-An4. ArcSb3W2fl was developed from the cultivar 'Arc' by one cycle of selection for bacterial wilt resistance from Beltsville 2-An4. ArcSb3W2fl was crossed in the combination (Florida 66 X Arc-SbW2fl) X (Moapa X Arc-SbW2fl) X (Moapa X Arc-SbW2fl) X (Moapa X Arc-SbW2fl) X (Moapa X Arc-SbW2fl). Each plant was paired and crossed reciprocally to a plant of Beltsville 2-An4W2. Each Florida 66 plant was crossed by hand and by honey bees to produce seed of DA-2. Similarly, each Moapa selection was crossed reciprocally to a distinct plant of Beltsville 2-An4W2, and crossed in the combination (Moapa X Arc-Sb3W2fl X Beltsville 2-An4W2). A single progeny was crossed in the combination (Moapa X Arc-Sb3W2fl X Beltsville 2-An4W2). A single plant was established from each parent plant used in the latter cross, and these were crossed by hand and by honey bees to produce DA-2.

DA-2 (GP54) was developed from 'Florida 66', Beltsville 2-An4W2, and ArcSb3W2fl. It was initiated by selecting 86 vigorous plants from the alfalfa weevil (Hypera postica (Gyllenhal)) and potato leafhopper (Empoasca fabae (Harris)) yellowing. DA-2 (GP53) was initiated by selecting 86 vigorous plants from the alfalfa weevil and potato leafhopper.}

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