REGISTRATION OF LADAK 65 ALFALFA\(^1\)
(Reg. No. 35)
R. F. Eshick, J. L. Krall, and A. E. Carleton\(^2\)

'Ladak 65' is a Ladak-type alfalfa, Medicago sativa L., with additional wilt-resistance developed by the Montana Agricultural Experiment Station. It was released in 1965 for use in Montana where Ladak is currently recommended. It is a synthetic variety composed of 49 clones chosen from an initial population of 1,100 plants selected from 10 years or older irrigated commercial stands planted with certified seed of Ladak in Northern Montana. The final selection of these 49 parental clones was based on greenhouse tests for bacterial wilt of all clones, further elimination based on crown rot susceptibility and final polytoccs testing of 72 clones for forage and seed yield, fall dormancy, and bacterial wilt.

Ladak 65 has been tested in Montana for hay production in 1 to 4-year-old stands under irrigation (22 station-years), on dryland (7 station-years) and in grass mixtures (9 station-years). There appears to be no differences in forage yields between Ladak 65 and Ladak in the first 3 or 4 harvest years in the test, after 5 yr. the yield production under irrigation (3 trials), Ladak 65 produces significantly higher yields than Ladak due to its higher level of bacterial wilt resistance.

Seed of Ladak 65 is increased on a three-generation basis: breeder, foundation and certified classes. Limitations or number of harvests that may be made from a seed field have been established. Breeder seed is produced by the Montana Agricultural Experiment Station. Ladak 65 received favorable consideration for certification by the National Certified Alfalfa Variety Review Board in 1966.

\(^1\) Registered by the Crop Science Society of America. Received April 15, 1968.
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REGISTRATION OF MCNAIR 601 BARLEY\(^1\)
(Reg. No. 97)
G. K. Middleton and J. R. Bennett\(^2\)

'McNaïr 601' barley (Hordeum vulgare L. emend. Lam.), CI 13644, is a pure line selection from a cross of 'Harbine' (CI 7524) × 'Marconee' (CI 8107). The cross was made by the North Carolina Agricultural Experiment Station. Bulk seed was shared with the South Carolina Agricultural Experiment Station and later a number of selections were received from South Carolina by the McNair Seed Company. McNair 601 is a composite of morphologically similar head rows from S. C. 60-2701.

McNaïr 601 is a six-rowed, awnleted, facultative winter, feed barley. It has shorter awns than does 'Colonial 2' (CI 8062) or 'Davie' (CI 9176), only a few lemmas showing awn points. McNaïr 601 has better resistance to powdery mildew than does Colonial 2 or Davie, is equal to Colonial 2 in leaf rust resistance but is inferior to Davie, and has scald resistance equal to Davie and superior to Colonial 2. McNaïr 601 is one to two days earlier than Colonial 2 and Davie, has better lodging resistance and is equal in winter hardiness.

In 19 Official Variety Tests conducted in North Carolina in 1965-1966\(^3\) and 1966-1967\(^4\) McNaïr 601 produced an average of 3934 kilograms per hectare (73.2 bu./a) compared with 3.715 kg. (69.1 bu./a) for Colonial 2 and 3.575 kg. (60.5 bu./a) for Davie. Test weight for these three varieties averaged 46.2, 44.5 and 44.8 pounds per bushel, respectively. In four McNair Seed Company tests conducted during the same period as the above, McNair 601 averaged 3.592 kilograms per hectare (73.4 bu./a) for Colonial 2 and 3.575 kg (60.5 bu./a) for Davie. Pure seed will be maintained by McNair Seed Company.

\(^1\) Registered by the Crop Science Society of America. Cooperative investigations between the Georgia Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Received March 20, 1968.
\(^2\) Agronomist, Experimental Station, Experiment, Ga., and Research Agronomist and Research Plant Pathologist, respectively, Crops Research Division, ARS, USDA, Beltsville, Md.

REGISTRATION OF MILLER BARLEY\(^1\)
(Reg. No. 98)
U. R. Gore, D. A. Reid, and J. G. Moscman\(^2\)

'Miller' barley (Hordeum vulgare L. emend. Lam.), CI 14444, was developed cooperatively by the Crops Research Division of the U. S. Department of Agriculture and the Georgia Experiment Station. Breeder seed was released to growers for the production of foundation seed in the fall of 1967.

Miller was developed specifically to provide a leaf rust-, powdery mildew-resistant winter barley for Georgia. 'Ricardo' (CI 6306), a leaf rust-, mildew-resistant variety from the World Collection was backcrossed three times to Ga. Y635 (CI 10526), a stiff-stawed, high-yielding line adapted to Georgia conditions. Leaf rust- and mildew-resistant plants were selected in the F\(_2\) of each backcross generation for successive crosses to Y635.

Crosses and inoculations were made at Beltsville, Md., by Crops Research Division personnel from 1952 to 1964. Progeny from resistant F\(_2\) plants from the third backcross were tested for rust and mildew reaction; and seed of 17 homozygous rust- and mildew-resistant plants was sent to Experiment, Ga., for increase and agronomic evaluation. Agronomically uniform lines were bulked for the basic seed stock.

Miller has a six-rowed, awnleted or partially awned, dense spike, and is resistant to lodging. In tests in 1966 and 1967 at Experiment, Ga., when leaf rust was not a factor, Miller yielded 3.907 kg/ha (73.8 bu/a) compared to 4.172 kg/ha (77.6 bu/a) for 'Ga-Jet' (CI 10154), and 3.598 kg/ha (68.2 bu/a) for 'Colonial 2' (CI 8062). Miller appears to be adapted to the Upper Coastal Plain and Piedmont areas of Georgia.

Breeder seed will be maintained by the Agronomy Department, Georgia Experiment Station, Experiment Georgia 30212.

\(^1\) Registered by the Crop Science Society of America. Cooperative investigations between the Georgia Agricultural Experiment Station and the Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Received March 20, 1968.
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REGISTRATION OF ARIMAR BARLEY\(^1\)
(Reg. No. 99)
A. D. Day, R. K. Thompson, and F. M. Carasso\(^2\)

'Arimar' barley (Hordeum vulgare L. emend. Lam.), CI 18-628, was released in 1968 by the Arizona Agricultural Experiment Station. Arimar is a six-rowed, rough-awned, spring barley with white aleurone that originated from the cross 'California Mariout' (CI 1455) × 'Arivat' (CI 7534) made at the Arizona Agricultural Experiment Station in 1954. The

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