have promise as a grazing and hay crop. The variety is short growing, uniform in height, and is profusely branched. It also has fine stems, excellent texture and appearance, and good seedling vigor. It is widely adapted in the southeastern States and shows promise for several states north of the region. Interstate was tested by SCS, TVA, State Highway, and State Agricultural Experiment Station personnel.

Cleistogamous dormant seed of Alabama inbred line 1737 was treated in 1957 with ionizing radiation in cooperation with the University of Tennessee.Atomic Energy Commission Agricultural Research Program at Oak Ridge, Tenn. Pure line breeding was followed after irradiation. In X_1 the mutant from which Interstate was developed was identified. X_n plants were progeny tested, and all X_n progenies were similar in appearance, growth pattern, and size in 1957, 1968, and 1969.

Seed production of Interstate shall be on a four-generation basis: breeder, foundation, registered, and certified. Seed will be produced in the southeastern States. Auburn University Agricultural Experiment Station, Auburn, Ala., will maintain breeder and foundation seed.

REGISTRATION OF HOPE WHITE LUPINE

(Reg. No. 4)

M. S. Offutt

'HOPE' while lupine (Lupinus albus L.) was developed by the Arkansas Agricultural Experiment Station and released in 1970.

Hope was developed from common white lupine by six cycles of phenotypic selection for winter hardiness and plant vigor. The original lot of seed of common white lupine was obtained from the U. S. Department of Agriculture in 1957. Seed from this lot was used to establish a nursery of 4,000 plants at Fayetteville, Ark., in the fall of 1958. Plants were grown in rows spaced 31 cm apart with plants spaced approximately 8 cm apart within rows. Four of the 4,000 plants in this nursery survived the winter (lowest temperature was -19 C). Selection was continued within populations originating from these four plants through the winter of 1963-64. The coldest temperature during this six cycles of selection without snow on the ground was -23 C. Only those lines with less than 25% winter injury were continued to the next cycle of selection.

Hope has a higher level of winter hardiness than common, produces white flowers and seed, has a high alkaloid content, and tends to develop and remain in a rosette form of growth during the fall and winter. Spring growth is rapid and mostly erect. Hope has a very small percentage of hard seed. Vernalization of the germinating seed or plants is required before flowering will occur.

Hope was tested as Arkansas Line No. 1 from 1965 through 1969 at three locations in Arkansas (Fayetteville, Manilla, and Hope). Hope has outyielded common in dry herbage by 40% in 16 tests, in seed by 27% in 15 tests, and in nitrogen in the dry herbage by 68% in eight tests in Arkansas. In these tests, Hope has produced an average of 4,253 kg of dry herbage per ha (3.794 lb per acre), 2,247 kg of seed per ha (33.4 bu per acre), and 150 kg of nitrogen in the dry herbage per ha (134 lb per acre).

Hope was developed especially for use as a winter cover and green manure crop and for short-term weed control when turned under before planting crops such as cotton and soybeans. It is a deep-rooted plant that acts as a natural herbicide while the plant material is being decomposed in the soil. The alkaloid, which is present in both the forage and seed, is poisonous to livestock when eaten. Proper precautions should be taken, therefore, when there is a possibility that livestock might become involved.

Although Hope has only been tested in Arkansas, it probably is also adapted to the light and medium textured soils in states adjoining Arkansas on the west, south, and east.

Breeder seed will be maintained by the Arkansas Agricultural Experiment Station.

REGISTRATION OF LEONARD PROSO MILLET

(Reg. No. 21)

Greg Hinze, Kenneth Takeda, and T. E. Haus

'LEONARD' proso millet (Panicum miliaceum L.) was selected at the U. S. Central Great Plains Field Station, Akron, Colo., and released by the Colorado Agricultural Experiment Station in 1969. In 1963, the North Platte Experiment Station, Nebraska, supplied the seed line which was an increase of a single plant selection of P. I. 222794 obtained from the New Crops Research Branch, Plant Science Research Division, U. S. Department of Agriculture, from Afghanistan. It was designated as 4-2020 during the testing stages.

Leonard matures in 75 to 80 days in northeastern Colorado, which is 2 to 3 weeks later than the widely grown Common White or 'Turghai' varieties. This variety has less seed shatter than other proso millets now grown. The second glume and sterile lemma are tan in color. Test weights of Leonard are generally greater than those of other proso millets. The open panicle is of the effusum type and is borne on a relatively short peduncle. Leonard possesses a high tillering capacity and dense foliage. Stem diameter is relatively small, making the straw after harvest finer and more marketable to livestock than Common White. Plant growth is upright and ranges from 60 to 90 cm (24 to 36 inches) in eastern Colorado.

The increase of Leonard is limited to one generation each of foundation, registered, and certified seed. Breeder seed will be maintained by the Department of Agronomy, Colorado State University, Ft. Collins, Colorado 80521.

REGISTRATION OF AKRON PROSO MILLET

(Reg. No. 22)

Greg Hinze, Kenneth Takeda, and T. E. Haus

'AKRON' proso millet (Panicum miliaceum L.) was released by the Colorado Agricultural Experiment Station, Akron, Colo., formerly Junior Agronomist, Colorado Agricultural Experiment Station, Akron; and Professor of Agronomy, Colorado Agricultural Experiment Station, Fort Collins, Colo. 80521.

'AKRON' proso millet (Panicum miliaceum L.) was selected from North Platte Experiment Station, Nebraska. P.I. 222811 was introduced from Iran by the New Crops Research Branch, Plant Science Research Division, U. S. Department of Agriculture, Akron; and Professor of Agronomy, Colorado Agricultural Experiment Station, Fort Collins, Colo. 80521.

The increase of Akron is limited to one generation each of foundation, registered, and certified seed. Breeder seed will be maintained by the Department of Agronomy, Colorado State University, Ft. Collins, Colo. 80521.

REGISTRATION OF LEONARD PROSO MILLET

(Reg. No. 21)

Greg Hinze, Kenneth Takeda, and T. E. Haus

'LEONARD' proso millet (Panicum miliaceum L.) was selected at the U. S. Central Great Plains Field Station, Akron, Colo., and released by the Colorado Agricultural Experiment Station in 1969. In 1963, the North Platte Experiment Station, Nebraska, supplied the seed line which was an increase of a single plant selection of P. I. 222794 obtained from the New Crops Research Branch, Plant Science Research Division, U. S. Department of Agriculture, from Afghanistan. It was designated as 4-2020 during the testing stages.

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Greg Hinze, Kenneth Takeda, and T. E. Haus

'AKRON' proso millet (Panicum miliaceum L.) was released by the Colorado Agricultural Experiment Station, located at the U. S. Central Great Plains Field Station, Akron; formerly Junior Agronomist, Colorado Agricultural Experiment Station, Akron; and Professor of Agronomy, Colorado Agricultural Experiment Station, Fort Collins, Colo. 80521.

1 Registered by the Crop Science Society of America. Received May 5, 1971.

2 Assistant Agronomist, Colorado Agricultural Experiment Station, located at the U. S. Central Great Plains Field Station, Akron; formerly Junior Agronomist, Colorado Agricultural Experiment Station, Akron; and Professor of Agronomy, Colorado Agricultural Experiment Station, Fort Collins, Colo. 80521.

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