REGISTRATION OF PENNLINE 116 OAT GERMPLASM1
(Reg. No. GP25)

H. G. Marshall and F. L. Kolb2

'PENNLINE 116' spring oat (Avena sativa L.) germplasm line was released in 1982 by ARS-USDA and The Pennsylvania Agric. Exp. Stn. It is short in plant height and has excellent lodging resistance. The line should be useful as a parent to produce commercial cultivars with these traits.

Pennline 116 was derived from a 'James'/C.I. 8447 cross (XW69G373) made in 1969. The C.I. 8447 parent is a dwarf winter oat (NC 2469-3) from the North Carolina Agricultural Experiment Station with a club-type panicle and the Dw-7 dwarfing gene. Pennline 116 traces to an F3 plant row selected in 1974. In tests in Pennsylvania in 1975 and 1976, it averaged 38 and 26 cm shorter plant height than 'Mariner' and 'Otee,' respectively. Grain yield and bushel weight are low because grain filling tends to be incomplete. Pennline 116 has shown no lodging at N levels up to 134 kg/ha.

Juvenile plants of Pennline 116 are erect. Adult plants have short, thick culms with relatively erect flag leaves. The panicle is equilateral, short, narrow, and does not appear ovate. The rachis branches are very short, and during some years, a few rachis branches break causing spikelets to senesce prematurely. The lemma is short, yellow, and glabrous except for several to numerous short basal hairs. Spikelet separation occurs by fracture, and separation is by imperfect disarticulation. The secondary floret rachilla segment is hairy. Kernels are plump but frequently do not fill completely. They have a basal scar but no cavity. Awns are absent.

Pennline 116 carries a gene for the hulless trait (from James), but this trait is not expressed in the semidwarf. Occasional semidwarf segregates with open panicles are found in populations having Pennline 116 as a parent.

Breeder seed of Pennline 116 will be maintained by The Pennsylvania Agric. Exp. Stn. A limited quantity of seed will be sent to breeders who request it from the Dep. of Agronomy, Tyson Building, The Pennsylvania State University, University Park, PA 16802.


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REGISTRATION OF OKPC-1 KLEINGRASS GERMPLASM1
(Reg. No. 15)

C. M. Tallaferro, R. M. Ahring, and W. L. Richardson

OKPC-1 Kleingrass, Panicum coloratum (L.) was released by the USDA and The Pennsylvania Agric. Exp. Stn. Accepted 6 Jun 1982 as Paper No. 6453, Journal Series, The Pennsylvania Agric. Exp. Stn. The P. coloratum germplasm line was developed from work initiated by Dr. Ian Forbes, Jr. in 1954. To date, 10 generations of advance have been made via seed from plants having survived one or more winters. The development of a new cultivar or other germplasm release took place over the 10 generations. Requests for seeds should be sent to C.M. Tallaferro or R.M. Ahring, Dep. of Agronomy, Oklahoma State University, Stillwater, OK 74078.

REGISTRATION OF TIFT-1 HYACINTH BEAN GERMPLASM1
(Reg. No. GP 44)

John D. Miller and Homer D. Wells

TIFT-1 hyacinth bean, Lablab purpureus (L.) was released jointly by the USDA and the University of Georgia Agriculture Experiment Station near El Reno, Okla. (35° 31' N Lat.). The PI's used were PI 142284, PI 166400, PI 196363 and PI 196364. TIFT-1 has been planted (ca. 0.2 ha) in 1954 the strain has been advanced 10 generations via seed from plants having survived two winters. The size of the plantings ranged from 1 to 0.2 ha. All of the generational advances were made on the North Central Research Station near Lahoma, Okla. (36° 25' N Lat.)

Natural selection for cold tolerance during each year of advance has increased the winterhardiness of the germplasm to a substantial degree, but not enough for reliable performance below the 34th parallel. OKPC-1 and 'Selection 75' were compared in small plot trials at several locations in Oklahoma. Stands of OKPC-1 persisted much better than have those of Selection 75 in small plot nursery trials. Stands of OKPC-1 were winterhardy to the same degree as are those of Selection 75; the 1000 plants had good uniform recovery. OKPC-1 was winterhardy as demonstrated in adjacent space-planted populations (13 generations). Of the 13 generations, 25% of the plants in the OKPC-1 population had good uniform recovery in the major of the surviving tillers on the south sides of the plants. The 4% of the plants in this population suffered little apparent injury.

No artificial selection was imposed during the first generation of advance and OKPC-1 populations are composed of heterogeneous plant types indicative of a broad genetic base. Morphological characters for which variability has been observed include: foliage color, leaf/stem ratio, pubescence, growth habit and seedhead traits e.g. color and compactness.

Up to 100 g seed of OKPC-1 will be provided upon written request and agreement to make appropriate recognition of its source as a matter of open record when this germplasm contributes to the development of a new cultivar or other germplasm release.

Requests for seeds should be sent to C.M. Tallaferro or R.M. Ahring, Dep. of Agronomy, Oklahoma State University, Stillwater, OK 74078.