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

H. G. Marshall and F. L. Kolb

'PENNLINE 116' spring oat (Avena sativa L.) germplasm line was released in 1982 by ARS-USDA and The Pennsylvania Agric. Exp. Sm. 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 2460-3) from the North Carolina Agricultural Experiment Station with a club-type panicle and the Dow-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 'Oree,' 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. Sm. 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.

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

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

OKPC-1 kleingrass (Panicum coloratum L.) was released by the Oklahoma Agricultural Experiment Station and the USDA-ARS in February 1982. It provides a greater degree of winterhardiness relative to other known kleingrass germplasms.

OKPC-1 traces to four kleingrass accessions which were evaluated in the early 1950's. Equal amounts of seed of the four accessions were bulked in 1954 and planted for increase on the Southwestern Livestock and Forage Research Station (SWLFRS) near El Reno, Okla. (35° 31' N. Lat.). The four accessions were: PI 142284, PI 166400, PI 196363 and PI 196364. Since the initial planting (ca. 0.2 ha) in 1954 the strain has been advanced 10 generations via seed from plants having survived one or more winters. The size of the plantings ranged from ca. 0.1 to ca. 0.4 ha. All of the generational advances were made on the SWLFRS except the last, which was made on the North Central Research Station near Lahoma, Okla. (36° 25' N. Lat.).

Natural selection for cold tolerance during the 10 generations of advance has increased the winterhardiness of OKPC-1 substantially, but still not enough for reliable pasture use north of the 34th parallel. OKPC-1 and 'Selection 75' have been compared in small plot trials at several locations in Oklahoma and in space-planted nurseries at Stillwater. Stands of OKPC-1 have consistently demonstrated superior spring recovery and growth and have persisted much better than have those of Selection 75 in small plot tests. Difference in winterhardiness of the two types was also demonstrated in adjacent space-planted populations (1,000 plants/population) at Stillwater, OK following the unusually severe winter of 1978-1979. Over 75% of the Selection 75 plants were killed and most of the remainder recovered slowly from one to a few surviving tillers on the south sides of the plant crowns. Only 5 of the 1000 plants had good uniform recovery. Conversely, less than 25% of the plants in the OKPC-1 population were killed, and recovery was uniform in the majority of the surviving plants. About 4% of the plants in this population suffered little apparent injury as evidenced by early, uniform recovery and good growth in the spring of 1979.

No artificial selection was imposed during the 10 generations of advance and OKPC-1 populations are composed of highly 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. Taliaferro or R.M. Ahring, Dep. of Agronomy, Oklahoma State Univ., Stillwater, OK 74078.

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

John D. Miller and Homer D. Wells

Tift-1 hyacinth bean, Lablab purpureus (L.) Sweet, formerly known as Dolichos lablab L., was released jointly by USDA-ARS and the University of Georgia Agriculture Experiment Station in April 1982. The hyacinth bean is known by numerous other common names.

Tift-1 was bred by Dr. Ian Forbes, Jr. (ARS-retired) for introductions. Registration of Tift-1 is requested by the Crop Sci. Soc. of Am. Cooperative Investigations USDA-ARS and Univ. of Georgia Agric. Exp. Sm. Accepted 27 Sept. 1982.

Research agronomist and research plant pathologist, USDA-ARS Tifton, Ga., respectively.
