REGISTRATION OF CROP CULTIVARS

REGISTRATION OF PERLA KOLEAGRASS†
(Reg. No. 33)

T. E. Adams, Jr., R. Merton Love, and Robert S. MacLauchlan

'PERLA' koleagrass (Phalaris tuberosa L. var. hirtiglumis Batt. and Trab.), P-14529, a perennial, was developed by the USDA Soil Conservation Service, at Pleasanton, California, as a range improvement plant for annual grasslands of the Mediterranean-like climatic zone of California. It was introduced from Morocco and received as a hardinggrass [Phalaris tuberosa L. var. stenopetra (Hack.) Hitchc.], P.I. 202480]. Perla is similar in appearance to hardinggrass. It is a tall, vigorous bunchgrass with short rhizomes. Perla has bigger seed and more vigorous seedlings than hardinggrass. It develops more rapidly and it recovers earlier. The distinguishing taxonomic characteristic of Perla is hairy glumes.

Testing of the new grass began in 1956. Perla was compared with standard hardinggrass at Pleasanton under conditions permitting complete expression of potential and at an outlying testing site representing range conditions. Its excellent seedling vigor and earlier recovery were noted. Additional screening confirmed early observations and encouraged seed increase in 1959 preparatory to seeding of field-sized plantings under actual use conditions (5). The first field-sized plantings were seeded in 1961. In 1965 the name Perla first appeared in print (2).

Based on cooperative evaluation by the Soil Conservation Service and the California Agricultural Experiment Station, Perla was accepted for certification in 1970 by the California Crop Improvement Association (1).

Perla has proven superior to hardinggrass for range improvement in California. Establishment is easier because of the stronger seedlings of Perla. Whalley and McKell (6) presented evidence which suggests Perla seedlings utilize sugars supplied by the endosperm more rapidly compared with hardinggrass seedlings to achieve more rapid growth. The quantity of Perla in forage harvested early in the season (January-February) is greater than that of hardinggrass. When spring drought limits growth on rangeland in March and April, total seasonal growth of Perla exceeds that of hardinggrass because of early recovery (5), (3). The ability of Perla to reseed naturally and its palatability are superior compared with hardinggrass (4).

Breeders and foundation seed are maintained by the Soil Conservation Service.

† Registered by the Crop Science Society of America. Contribution from the USDA, Soil Conservation Service. Received Nov. 17, 1973.

‡ Former Plant Materials Specialist, USDA, Soil Conservation Service, Pleasanton, California (presently Extension Wildlands Specialist, Agricultural Extension Service, University of California, Davis); Professor of Agronomy, Department of Agronomy and Range Science, University of California, Davis; and former Plant Materials Specialist, USDA, Soil Conservation Service, Pleasanton, California (presently Chief, Plant Materials Specialist, USDA, Soil Conservation Service, Washington, D.C.).

REFERENCES


A. J. Norden and D. W. Gorbet

‘ALTIVA’ peanut (Arachis hypogaea L.) is a promising botanical-type peanut that was released jointly by the Ministry of Agriculture in Guyana and the Florida Experiment Station for production in Guyana. Altiva is derived from a small creek in the “inter- nahs” of Guyana where the cultivar was found to be highly adapted.

Altiva, tested experimentally as F427B or F499C from a cross made at Gainesville, Florida in 1969 through 1970, has more and finer branches with darker pods than hardinggrass and appears to have more resistance to Cercospora disease than the local Valencia, ‘AK 62.’

Plants of Altiva have a bunch growth habit with the main stem similar to Valencia-type cultivars, but has more and finer branches with darker pods (5), (3). The ability of Altiva to reseed naturally and its palatability are superior compared with hardinggrass (4).

Pods of Altiva are two-seeded similar to Florigiant only 71% as large in Florida trials. The hulks of pubescence and thicker and brighter than Florigiant. Pods are distinguishable in that about three-fourths of the pods exhibit a marked angular enlargement on the basal end. Because of this characteristic, pods are generally more elongated and slightly flatter at the basal end. Therefore, about one-third of the seed of Altiva is slightly flattened on one end. The light-pink pods are somewhat indented or pitted compared with unblemished seed coats of Florigiant. Internals of Altiva have been less than that of Florigiant (15 to 20% less) and appear to have less starchy material.

In six Florida trials during the 3-year period 1968-1970, Altiva yields averaged about 4% less than Florigiant. Also, because of its low amount of blanching, roasting, and味, Altiva peanuts exhibit a slightly lower iodine value (92 vs 93) and have a wider oleic:linoleic acid ratio (62.5:21.4 vs 55.2:25.6) compared to Florigiant. Altiva peanuts processed into finished products were rated quite acceptable in blanching, roasting, and flavor.

In Guyana tests, Altiva matured from a few days to 2 weeks earlier than Florigiant; whereas in Florida tests from 1968 to 1970 seasons, Altiva plants were harvested 140 days after planting, which was 1 to 2 days later than Florigiant. Harvest maturity for Altiva may be determined by the dark brown color of the inside of the shell at maturity. The maturity for Florigiant is usually determined by the appearance of a deep pink color of the seed coat. Oven-dried pods will exhibit a dark brown, nearly black, color on the inside of the shell at maturity compared with a pinkish brown color of the Florigiant pods.

In long rainy-season trials (April through August) in Guyana on three different soil types in 1969, Altiva yielded 4222 kg/ha compared with 4900 kg/ha for the local Guyana Valencia cultivar. In Florida trials during the 3-year period 1968-1970, Altiva yielded an average of 4% less than Florigiant. Also, the thicker shells of Altiva yield a shelling percent of 68% and the 72% of Florigiant. Altiva peanuts have a slightly lower iodine value (92 vs 93) and have a wider oleic:linoleic acid ratio (62.5:21.4 vs 55.2:25.6) compared to Florigiant. Altiva peanuts processed into finished products were rated quite acceptable in blanching, roasting, and flavor.