competitive ability, the variety is well suited for growth in mixtures with Flamande and other early, aggressive alfalfa varieties. Ratings on disease reactions made at several locations indicate that its resistance to leaf streak, Scoparia obtusa, is similar to the varieties Pennlate and Potomac and it has a rust reaction similar to Pennlate.

Pennmead was widely tested under the designation Pennsylvania Medium Synthetic II prior to its release in 1963. It has been included in NE-28 Regional Forage Breeding trials in New York, Maryland, and West Virginia as well as in Pennsylvania. In each state it has performed better than other commercial varieties regardless of maturity. Pennmead will be restricted to a three generation seed increase program. Breeder seed is maintained by the Pennsylvania Agricultural Experiment Station. It is a composite of equal amounts of viable seed from each of the parental clones which have interpollinated in isolation. Foundation seed is the first generation increase of breeder seed. Certified seed is produced from foundation seed. No registered seed class will be permitted.

REGISTRATION OF CACHE WHEAT
(Reg. No. 470)

Wade G. Dewey

‘Cache’ (Triticum aestivum L. em. Thell.), C. I. 11599, originated from the cross ‘Ridit’ × ‘Utah Kanred’ made by D. C. Tingley at the Utah Agricultural Experiment Station, Logan, Utah, in 1927. A single smut-resistant F1 plant was selected in 1931 and was increased and tested in subsequent years as ‘54a-40’. This breeding line was released to growers on a trial basis in 1937 but was not officially named until 1944. Cache was bred specifically for dwarf bunt resistance and contributed significantly to the decline of the bunt problem in the Intermountain area, particularly in the late 1930’s and the 1940’s. It possesses only intermediate resistance to several of the newer bunt races, however. It is moderately resistant to stripe rust.

Cache is a hard red winter wheat with relatively weak mixing properties. It is generally rated inferior to newer varieties such as Itana, Delmar, and Tendoy in baking quality. It remains popular with the farmers, however, because of its combination of smut resistance, resistance to shattering and its ability to yield well over a wide range of conditions.

Morphological characteristics of Cache have been described as follows: plant winter habit, midseason, midtall; stem white, midstrong; spike awnleted, fusiform, lax, erect; glumes glabrous, white, midlong, midwide; shoulders narrow, rounded; beaks midwide, acute, 0.5 mm. long; awnlets several, 5 to 20 mm. long; kernels red, midlong, hard, ovate; germ small; crease narrow, shallow; cheeks rounded; brush small, short.

Pure seed is maintained by the Utah Agricultural Experiment Station and the Utah Crop Improvement Association.

REGISTRATION OF LUNA PUBESCENT WHEATGRASS
(Reg. No. 6)

Glenn C. Niner

‘Luna’ pubescent wheatgrass (Agropyron trichophorum (Link) Rich.) was developed by mass selection of spaced plants following intense roguing through two generations at the former Soil Conservation Service Nursery, Albuquerque, and SCS Plant Materials Center, Los Lunas, New Mexico. In 1963, Luna was cooperatively released by the New Mexico Agricultural Experiment Station and Soil Conservation Service, U. S. Department of Agriculture. During the period of development, it was designated A-1115. The original source was P1106831, a collection made by Westover-Enlow in Turkey in 1954.

Luna produces seed heads which may appear almost glabrous and may resemble those of A. intermedium, but basal leaves are always hairy, particularly on margins. Leaves are wide, lax, and dark green. Herbage production is high and is considered by most ranchers to be more palatable than intermediate wheatgrass.

The outstanding characteristics of Luna are seedling vigor and ease of establishment.

Luna is best suited for dryland pasture on the deeper soils of the upper big-sagebrush areas and the scrub-oak zone of the Rocky Mountain and Intermountain region. It needs a climate where an effective portion of the annual precipitation occurs as accumulated snowfall. It is well adapted in northern New Mexico at elevations of 7,000 to 8,500 feet, with an annual rainfall of 17 to 20 inches; in western Colorado, Utah, and areas further north, it does well at lower elevations and with less rainfall. Luna has proved to be less exacting in soil requirements than most other accessions of pubescent wheatgrass planted in test plots on shallow soils of low fertility.

Genetic identity and purity are maintained by limiting the number of generations of increase to one each of breeder, foundation, registered and certified seed. Breeder seed is maintained by the SCS Plant Materials Center, Los Lunas, New Mexico. Foundation seed is available from the Plant Materials Center and from the New Mexico Crop Improvement Association. Luna is in commercial production in Arizona, Colorado, and New Mexico.

1 Registered by the Crop Science Society of America. Received Aug. 21, 1967.
2 Plant Materials Technician, SCS Plant Materials Center, USDA, Los Lunas, New Mexico.