Oct 63

RELEASE OF "PASTURA" LITTLE BLUESTEM (Andropogon scoparius)

by the

PLANT MATERIALS CENTER
of the
MIDDLE RIO GRANDE SUBSTATION

I. The New Mexico Agricultural Experiment Station, in co-operation with the Soil Conservation Service, United States Department of Agriculture.

Co-operative work is being done on the Los Lunas Plant Materials Center of the Middle Rio Grande Substation, Los Lunas, New Mexico, under Sponsored Project No. 10.

II. Notice of release of "Pastura" little bluestem, a very good seed and forage producer, with very good seedling vigor.

III. Summary of Development

A. Origin: Seed hand collected from native plants between Glorieta and Rowe, New Mexico, from a shallow upland range site. Elevation, 6,500 to 6,900 feet; average annual precipitation, 14 inches. Carried and tested as PM-NM-272.

B. Method of Breeding or Development: Original source material was planted in comparison plots and also in an initial seed increase block. Because of desirable characteristics observed in the plots and the small increase block, the number was increased to a field production block of two acres.

IV. Summary of Performance

A. Plant Description: A perennial, long-lived, medium height, warm-season, bunch grass. "Pastura" is quite uniform in size, growth habit, and color. It is of medium height for the species, and of the green type, in contrast to the bluish green type commonly found further east. Plants are erect, non-lodging at maturity, dense basal leaf growth averaging 12 inches in height, and culms averaging 24 inches. Type of reproduction: cross pollinated.

B. Seedling Vigor: Seedling vigor is very good as indicated in production blocks on the Station, and also in field evaluation plantings.

C. Seed Production: Seed yields of "Pastura" have been higher on the Plant Materials Center than any of the other strains of little bluestem in production. Seed yield in a two-acre production block, for the three years in production, averaged 227 pounds of high quality seed per acre.

Yields are from material collected by combine, scalped, hammermilled, and fanned to a PLS of 35%.

D. Maturity Date and Harvesting Characteristics: Seed maturity date depends on time of water application or precipitation in the spring or early summer. Under our conditions, production blocks given the first irrigation of the season in mid-June will start ripening the first part of September and continue to shatter seed and ripen until the first killing frost. However, the optimum seed yield may be harvested from mid-September to the first week in October. The very uniform height of "Pastura" allows for ease of harvesting with a regular type farm combine.

E. Forage Production: "Pastura" has produced an average amount of herbage in comparison with other accessions of little bluestem being tested on the Center; however, the basal leaf growth is of greater density than the average tested. Under irrigation on the Center, herbage production averaged 3,915 pounds per acre, air-dry. Clippings were at a stubble height of 3 to 4 inches, and only one clipping per year. In field trial plantings of "Pastura", herbage production, by ocular estimate, has been average.

F. Disease and Insects: "Pastura" is free of disease, and insect control has not been needed at this location.

V. Summary of Field Performance

See attached summary sheet.

VI. Justification for Certification

"Pastura is an ecotype from a location subject to extremes in precipitation and temperature. Adapted to this type of environment, it is of more value for use in the lower rainfall areas found in much of New Mexico than material from higher rainfall areas further east. It is also more drought-tolerant than eastern material. The species has never been grown as a commercial seed crop to any extent because of poor seed yields, difficulty in harvesting and handling seed, and competition from native, wild collection Native harvests are from outside of New Mexico in areas receiving higher rainfall such as Kansas, Oklahoma, and Texas. Seed from such collections has been repeatedly planted in New Mexico and Colorado, with very little success.

"Pastura" has proven to be well adapted for commercial seed production. Widely scattered field plantings show it to be adapted to foothills and plain sites of central and eastern New Mexico and eastern Colorado on medium to sandy textured soils. As no adapted strain or variety of little bluestem is commercially available, "Pastura" is greatly needed for plantings in much of the area mentioned.

VII. Proposed Handling of Release

A. Foundation material will be maintained at the Los Lunas Plant Materials Center.

B. Limited quantities of foundation material will be released to growers approved by the New Mexico Crop Improvement Association.

C. Production will be limited to registered seed produced from foundation, and certified seed from registered, with no re-certification from certified seed.

D. Specific seed standards of all classes shall be not less than 20% PLS for foundation, 20% PLS for registered, and 20% PLS for certified seed. Isolation in rods shall be 80 for foundation, 40 for registered, and 10 for certified. Further details on certification standards can be found in the Official Handbook of Seed Certification for New Mexico.

E. Approval, signatures as follows:

Marvin L Wilson — Oct. 16, /
Marvin L. Wilson — Date
Associate Director
New Mexico Agricultural Experiment Station

[illegible] — [illegible]
A. A. Baltensperger — Date
Head, Agronomy Department

J. V. Ermel — 10-24-63
[illegible] — Date
Head, Horticulture Department