RELEASE OF "ELIDA" SAND BLUESTEM (Andropogon hallii)

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 "Elida" sand bluestem, an excellent seed and forage producer, with very good seedling vigor.

III. Summary of Development

A. Origin: Hand collection made in 1956 from sand dune area southeast of Elida, New Mexico. Elevation, 4,345 feet; annual precipitation, 15.7 inches; soil, deep sand. Carried and tested as PM-NM-14.

B. Method of Breeding or Development: Increase of original hand collection at the Los Lunas Plant Materials Center in an isolated initial increase block. Because of desirable characteristics observed in this block, and also in the rod-row comparison plantings, the number was further increased to a field production block of one and one-third acres.

IV. Summary of Performance

A. Plant Description: A perennial, long-lived, tall, warm-season grass that spreads by short rhizomes. Though somewhat variable, "Elida" is more uniform than Woodward sand bluestem. Culm height averages about 6 feet, and supports good foliage which extends up to 48 inches on the culms. Fairly uniform in ripening, about two weeks later than Woodward. Seedling vigor and seed and forage production is superior to Woodward at the Los Lunas Plant Materials Center. Seed production is well above average of all strains tested in comparison plots, and also in the production blocks. Type of reproduction: cross pollinated.

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

C. Seed Production: This selection is one of the highest seed producers of all strains in production on the Plant Materials Center. For the three years in production, "Elida" has averaged 150 pounds seed per acre

above Woodward, or an average of 342 pounds processed seed per acre. Yields are from material collected by combine, scalped, hammermilled, and fanned to a PLS of 40%.

D. Maturity Data and Harvesting Characteristics: Seed maturity date will depend on time of water application or precipitation in the spring or early summer. Under our conditions, plantings irrigated during mid-May produce flowers the latter part of July, and seed is ready for harvest in early October. Uniformity of height and ripening make this strain easier to combine than the average tested.

E. Forage Production: "Elida" is superior in forage production to the average of other accessions being tested on the Center. Under irrigation on the Center, herbage production averaged 6,830 pounds per acre, air-dry. Clippings were at a stubble height of 5 to 6 inches, and only one clipping per year. The average herbage yield for all other accession of sand bluestem was 6,190 pounds per acre, all producing less than "Elida". In field trial plantings of "Elida", herbage production, by ocular estimate, has been 5 to 20 percent greater than the other sand bluestem accessions being compared.

F. Disease and Insects: "Elida" has been free of disease; however, insect control may be required in certain years. An unidentified worm has caused some damage to seed heads on all accessions of sand bluestem in production on the Center.

V. Summary of Field Performance

See attached summary sheet.

VI. Justification for Certification.

This species is needed for reseeding on sandy plains and deep sand range sites in eastern New Mexico and as far north as Burlington, Colorado. Seed production is well above average for strains in production. "Elida" sand bluestem is an ecotype from a location subject to extremes in precipitation and temperature and should be better adapted to the area described above than other available strains.

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 produced from registered seed with no re-certification from certified seed.

D. Specific seed standards of all classes shall be not less than 30% PLS for foundation, 35% PLS for registered, and 25% 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, 1963
Marvin L. Wilson
Associate Director
New Mexico Agricultural Experiment Station
Date

A. A. Baltensperger — 10-21-63
A. A. Baltensperger
Head, Agronomy Department
Date

J. V. Lenzi — 10-27-63
Head, Horticulture Department
Date