

RELEASE OF "LUNA" PUBESCENT WHEATGRASS (*Agropyron trichophorum*)

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 "Luna" pubescent wheatgrass, a very good seed producer, that makes high forage yields, and has excellent seedling vigor.

III. Summary of Development

- A. Origin: Received at the former Albuquerque Soil Conservation Service Nursery under the number P. 1. 106831, via Turkestan. Carried and tested as A-1115-R<sub>2</sub>-B.
- B. Method of Breeding and Development: The population when first studied at the Albuquerque S.C.S. Nursery contained a considerable admixture of intermediate and atypical pubescent types. This population was spaced and rogued through two generations. At first roguing more than half the plants were eliminated. Seed of second rogued generation was then increased and a row in the increase was spaced for final observation. The resulting population, while not highly uniform, is more so than most designated trichophorum strains. "Luna" pubescent wheatgrass is now being maintained in a 1.50 acre production block at the Plant Materials Center.

IV. Summary of Performance

- A. Plant Description: A perennial, long-lived, rhizomatous, cool-season grass, similar to intermediate wheatgrass in appearance except having varying degrees of pubescence throughout the plant. "Luna" is fairly uniform, is a dark green color, and is less pubescent than other strains tested. Plants under cultivation on the Center have an average stem height of 48 inches and leaf height of 30 inches. Type of reproduction: Cross pollinated.
- B. Seedling Vigor: Excellent seedling vigor, which results in fast establishment, is an outstanding characteristic of this variety. Field tests show "Luna" to be superior in seedling vigor to other accessions tested.

- C. Seed Production: Seed yields of "Luna" pubescent wheatgrass have been higher on the Plant Materials Center than other accessions of this species in production. Yields for the four years in production have averaged 334 pounds of high quality seed per acre. Yields are from material collected by combine, hammennilled, and fanned to an average PLS of 87%.
- D. Maturity Date and Harvesting Characteristics: Seed maturity date depends on time of water application or precipitation in the spring. Under conditions on the Plant Materials Center, production blocks given the first irrigation of the season in mid-March will come into full flower around June 24th, and seed is ready to harvest around July 24th. As with most wheatgrasses, "Luna" presents no harvesting problems except for occasional lodging, and may be collected with a regular type farm combine.
- E. Forage Production: "Luna" is considerably superior in leafiness and herbage production to the average of other accessions tested on the Center. Under irrigation on the Center, herbage production has averaged 7,190 pounds per acre, air-dry. This figure is from the seed production block, one clipping only per year at a stubble height of 6 inches, and two years data. Limited off-Station trials are under way to determine its value in irrigated pasture plantings for New Mexico and Colorado.
- F. Disease and Insects: Practically free of diseases, and has been infested in spring with only light population of red spider mites, which have been effectively controlled with dusting sulfur.

#### V. Summary of Field Performance

See attached summary sheet.

#### VI. Justification for Certification

Test plantings in Colorado and northern New Mexico have shown "Luna" pubescent wheatgrass to be well adapted to the deep soils of the big sagebrush zone, and to be superior to other accessions tested in seedling vigor and ease of establishment. It is also a good seed producer and gives above-average herbage yields. As commercial seed of "Luna" is not available, seed growers are needed in order to get it on the market.

#### 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 72% PLS for foundation, 85% PLS for registered, and 76% 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 Date  
 Associate Director  
 New Mexico Agricultural Experiment Station

A. A. Baltensperger 17 Oct 63  
 A. A. Baltensperger Date  
 Head, Agronomy Department

J. V. Conzie Oct 29, 1963  
 J. V. Conzie Date  
 Head, Horticulture Department





Rating of "Luna" pubescent wheatgrass (A-1115) continued...

Location	<u>1st Yr. Rating</u>				<u>Mature Plant Rating</u>				Remarks
	Accession Number	Seedling Vigor	Stand	Vigor	PLANT Height in.	PLANT DIAM. in.	Stand	Apparent Adaptability to Site	
Range Site									
Date of Planting									
<u>Date of Last Check</u>									
Sum. '61									
1 mi S Red Mesa, Colo. C. W. Huntington Colo. & Green River Foothills	A-1115	G	G+	F	18	---	G+	F+	Dryland planting.
12/16/59									
8 mi SE Meeker, Colo. D. B. Cannafax S. Rocky Mts. Mt. Grassland	A-1115	G	G+	G	---	---	G	G	Dryland planting.
10/19/56	A-1488	G	G+	G	---	---	G+	G	" "