NEW MEXICO STATE UNIVERSITY
COLORADO STATE UNIVERSITY,
AND UNIVERSITY OF ARIZONA
AGRICULTURAL EXPERIMENT STATIONS,
NEW MEXICO STATE HIGHWAY DEPARTMENT
AND
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

NOTICE OF NAMING AND RELEASE OF 'PALOMA' INDIAN RICEGRASS FOR SOIL STABILIZATION AND RANGE FORAGE.

The Agricultural Experiment Stations of New Mexico State University, Colorado State University, and the University of Arizona; the New Mexico State Highway Department; and the United States Department of Agriculture, Soil Conservation Service announce the naming and release of 'Paloma' Indian ricegrass [Oryzopsis hymenoides (Roem. and Schult.) Ricker].

Description:[1/] Indian ricegrass is a densely tufted perennial with upright stems. Its natural method of propagation is by seed. Leaves and stems are dark green while growing. It cures to a light straw color when mature. The brown to black mature seeds of Paloma are usually rounder than the more oblong elliptical seeds of many northern accessions such as P-2575.

Indian ricegrass is widely distributed over the western half of the United States where it is one of the most drought enduring native range grasses. The species occurs at elevations between 2,000 and 10,000 feet. It is most abundant from low semi-arid ranges up through the pinyon-juniper zone. It occurs on semi-deserts, sand dunes, sandy plains, canyons, hillsides, foothills, exposed ridges and dry sandy, rocky or shale mountain sites.

Origin: The original Paloma seed was collected in July 1957 west of Pueblo, Colorado. The site is at an elevation of 5,000 feet and has medium textured soil. Blue grama (Bouteloua gracilis) and western wheatgrass (Agropyron smithii) were the dominant associated species.

Testing: Paloma was included in accession trials planted in 1958, 1965 and 1966 at the Los Lunas Plant Materials Center (Table 1). A total of 33 different accessions (mostly from Colorado and New Mexico) were tested.

1/ Information and natural range of adaptation of the species taken from: _____ 1937. Range Plant Handbook. USDA, FS. U.S. Gov't Printing Office. pp. G-88.

Stands, vigor, seed and forage production of Paloma was consistently equal or superior to the majority of the other accessions tested in each of the trials. While one or more accessions were rated superior to Paloma in some traits in each planting, only NM-168's performance was considered to be equal to that of Paloma in these plantings.

There were 22 different accessions (mainly from Arizona) tested in four trials at Las Cruces, New Mexico. In the first test, Paloma was rated superior to all other accessions (17) in seed and forage production. In the second test with 14 accessions replicated 6 times, Paloma was rated equal or superior to the majority of the accessions in seed and forage production, and equal or superior to all other accessions in spring recovery and longevity of stands. Only one of the other 13 accessions (NM-168) had enough plants left to rate for longevity after four growing seasons. In the third test, Paloma was among the four best accessions in resistance to root rot damage. It had only 10% damage as compared to 64% for P-2575, the most susceptible accession to this disease. In the third and fourth tests, Paloma was rated equal or superior to all other accessions in stand establishment, forage production, and spring recovery.

No accession was rated superior to Paloma in establishment, vigor or forage production in three dryland trials conducted in Arizona. There were 29 different accessions represented in these trials. In measured yields at Tucson, Arizona, Paloma produced the most forage of any accession and was equalled in seed production by only one accession under irrigated conditions.

Pure live seed yields in field-size plantings under irrigation at Los Lunas averaged 162 pounds per acre for Paloma (Table 2). This compares to 181 pounds for NM-168 and 109 pounds for NM-15. While NM-168 has been a consistently good performer in seed production and in other characteristics in plot tests under irrigation, Paloma has been more widely field tested under dryland conditions, and was superior in forage yield in three field plantings where measured (Table 3).

Three non-irrigated field plantings containing Paloma were made in New Mexico and 21 in Colorado. Paloma was directly compared with one or more Indian ricegrass accessions in 9 of the 24 plantings. In the 13 possible comparisons, Paloma was rated superior to other Indian ricegrass accessions in 6, equal in 6, and poorer in 1. Paloma was rated equal in performance to the best species in 5 of the 24 plantings and poorer in 11. It was not rated, was not found, or the entire planting failed in the other eight (Tables 4 and 5).

Use: Paloma is being released as the first officially named variety of Indian ricegrass. It will be used for soil stabilization and range revegetation in Arizona, Colorado, New Mexico, and perhaps other states.

It has been successfully grown for seed production, Stands established in the field have been adequate to warrant its release for commercial production.

Large deposits of coal and oil shale are found interbedded with cretaceous shale in the Northern Desertic Basins and Southern Rocky Mountains Major Land Resource Areas in parts of New Mexico, Arizona, Utah and Colorado where Indian ricegrass is one of the dominant native grasses. When Indian ricegrass seed is available, this species will be used to revegetate these lands.

It is an important forage grass on the western semi-desert ranges. It is palatable to all classes of livestock and wildlife. The nutritious herbage cures exceptionally well standing, thus making it of special value on winter ranges. The seeds are also high in food value, especially protein. It is an important quail and dove food.

Seed Source: Breeder and foundation seed will be produced by the Plant Materials Center, Los Lunas, New Mexico. Limited quantities of foundation seed will be available to growers through Crop Improvement Associations and Natural Resource Conservation Districts. Standards for all classes of seed will be included in the New Mexico Seed Certification Handbook and in the Colorado Grass Seed Certification Standards.

Table 1. Summary of the performance of Paloma Indian ricegrass in comparison with other ricegrass accessions in initial evaluation plantings.

Planting Location	Year Planted	Year Eval.	No. of Access.	Perform. Rating	Performance of Paloma was superior, equal, or poorer than the following number of accessions for the traits shown: Stand	Vigor	Height	Seed Prod.	Forage Prod.	Root Rot Resist.	Spring Recovery	Stand Longevity
Los Lunas NM*	2/6/58	1958	11	Superior	6		6					
				Equal	2		1					
				Poorer	2		3					
		1959		Superior				9	7			
				Equal				0	3			
				Poorer				1	0			
		1960		Superior				2	0			
				Equal				1	3			
				Poorer				7	7			
Los Lunas NM*	2/11/65	1966	19	Superior	10	12		16	10			
				Equal	4	6		2	6			
				Poorer	4	0		0	2			
Los Lunas NM*	5/1/66	1966	24	Superior	21	16		21	18			
				Equal	2	7		1	3			
				Poorer	0	0		1	2			
		1967		Superior				0	17			
				Equal				9	0			
				Poorer				8	0			
Las Cruces NU	1966	1967-68	18	Superior				17	17			
				Equal				0	0			
				Poorer				0	0			
Las Cruces	2/25/69	1969	14	Superior	9			0	0			
				Equal	0			12	11			
				Poorer	4			1	2			
		1970		Superior				2	0		3	
				Equal				9	15		10	
				Poorer				2	0		0	
		1972		Superior								15
				Equal								0
				Poorer								0
Las Cruces NM*	2/25/70	1970	8	Superior	2			5				
				Equal	5	5		0				
				Poorer	0	0						
		1971		Superior				1	4	3		
				Equal	5			2	3	4		
				Poorer	0			4	0	0		
Las Cruces NY*	2/22/72	1972	12	Superior	9				6			
				Equal					5			
				Poorer	0				0			
		1973		Superior					6		11	
				Equal					5		0	
				Poorer					0		0	
Wilcox Ariz.-/	6/8/65	1966	21	Superior	20	14			19			
				Equal	0	6			1			
				Poorer	0	0			0			
Dog Valley Ariz.-/	10/25/67	1968	5	Superior	3	3						
				Equal	1	1						
				Poorer	0	0						
Dog Valley Ariz.-/	10/10/68	1969	4	Superior	3	3						
				Equal	0	0						
				Poorer	0	0						
son PMC on, Ariz.*	1/5/67	1968	25	Superior		15		23	24			
				Equal		9		1	0			
				Poorer		0		0	0			

*/ Irrigated planting.
-/ Dryland planting.

Table 2. Average seed yields of Indian ricegrass accessions in field size plantings at Los Lunas Plant Materials Center from 1959 through 1972.

Accession	Yrs. in Production	Bulk lbs./A	PLS lbs./A
Paloma	9	200	162
NM-15	4	157	109
NM-16	2	105	-
NM-168	9	202	181

Table 3. Per acre forage yields of Indian ricegrass accessions in non-irrigated field planting in Colorado.

Planting	Location	Harvest Year	Accession Paloma	Accession NM-168
D. W. Slaughter	Cripple Creek, CO	1971	26	8
Rifle FEP	Rifle, CO	1971	784	81
Meeker Airport FEP	Meeker, CO	1970	893[a/]	517[b/]

Table 4. Performance of Paloma in comparison to one or more Indian ricegrass accessions in non-irrigated field plantings in Colorado and New Mexico. Performance was based on stand and vigor. Comparisons were based on the last evaluation made for each planting.

Superior	Equal	Poorer	Total Comparisons
6	6	1	13

Table 5. Performance of Paloma in comparison with all other species and Indian ricegrass accessions in non-irrigated field plantings in Colorado and New Mexico. Performance was based on stand and vigor ratings. The last ratings made for each planting were used for these comparisons.

Superior	Equal	Poorer	None Found	Not Rated	Planting Failed	Total
0	5	11	2	3	3	24

'Paloma' Indian Ricegrass Release Notice

Approval signatures:

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March 29, 1974
Date

D. D. Johnson, Associate Director
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11 Mar '74
Date

R. K. Frevert, Director
Arizona Agricultural. Experiment Station
Tucson, Arizona

25 April '74
Date

Marion Strong, State Conservationist
USDA, Soil Conservation Service
Albuquerque, New Mexico

May 3 1974
Date

New Mexico State Highway Department
Santa Fe, New Mexico

May 2, 74
Date