REGISTRATION OF SONORA BLACK GRAMAGRASS¹
(Reg. No. 4)
L. Neal Wright²

'Sonora' black gramagrass (Bouteloua eriopoda Torr.) was released jointly in 1965 by the Arizona Agricultural Experiment Station, the Agricultural Research Service, and the Soil Conservation Service of the U. S. Department of Agriculture.

'Sonora', which carried the experimental designation A-4567-2 during the period of evaluation, is the first improved variety of black gramagrass for commercial seed production and range seeding. The variety was named after the Sonoran desert, a semi-arid to arid grassland area of the southwestern United States and adjacent parts of Mexico where black gramagrass occurs abundantly over a wide altitudinal range.

Sonora has the many desirable characteristics of black gramagrass and in addition is superior in seed and forage production (1). The variety traces to 11 vegetative and 47 seed accessions collected in Arizona and New Mexico in 1957. From the space planted source nursery, 79 superior plants were selected and reevaluated in a replicated polycross nursery. Based on polycross progeny performance, 12 superior plants were selected and recombinated for production of Syn 1 seed. All 12 clones are diploid (2n = 20) and reproduce sexually (2).

Agronomic evaluation of Sonora shows outstanding performance in regard to leafiness, vigor, forage production, vegetative spread, components of seed set, and seed production when compared with the Flagstaff collection (3).

Sonora is limited to one generation each of breeder, foundation, and certified seed. Breeder seed, formed by blending equal amounts of seed from each of the 12 parent clones, is maintained by the Arizona Agricultural Experiment Station.

¹Registered by the Crop Science Society of America. Received Feb. 29, 1968. Published with the approval of the Director, Arizona Agricultural Experiment Station as Journal Paper No. 1218.

Literature Cited

REGISTRATION OF CAYUSE OATS¹
(Reg. No. 221)
C. F. Konzak, G. W. Bruchl, H. M. Austenson
P. C. Crandall, and K. J. Morrison²

'Cayuse,' (Avena sativa L.) C. I. 8263, is a spring oat with light yellow grain from the 1952 cross of 'Craig' x 'Alamo,' formerly Sel. 5271aB-2B-51, made by N. F. Jensen, Cornell University, Ithaca, N. Y. Cayuse has a pale green plant color and is a short, moderately early spring oat. The panicles are open and spreading and the straw is strong and resistant to lodging.

Cayuse carries the AB genes for stem rust reaction. It is resistant to Helminthosporium, but it is highly resistant to New York smut races during four years of inoculated tests at Ithaca, N. Y. Its reaction to crown rust races is not known in detail.

Cayuse was selected for its tolerance to barley yellow dwarf virus and 'red leaf of oats' because of its good agronomic type. The yellow dwarf tolerance of Cayuse is expressed mainly as its yielding ability in spite of moderate discoloration after severe attack by viriliferous insects. No disease other than yellow dwarf, which is the most serious oat disease in Western Washington, has attacked Cayuse in any of the Washington locations since screening tests began in 1959. However, Cayuse is susceptible to node blacketing and stem break by Septoria in New York (Personal communication, N. F. Jensen).

The main weakness of Cayuse is its relatively low volume weight; the test weight averaged about 35 pounds per bushel in all Washington and Idaho locations, compared with 37 for 'Park.' Cayuse has yielded 10 to 20% above Park, the previously recommended variety.

The particular source of Cayuse from which Cayuse was derived was a 3-grain sample of Craig x Alamo, Sel. 5271aB-2B-51 received from N. F. Jensen in 1959. It was included among nearly 4,000 varieties evaluated for disease tolerance by G. W. Bruchl, H. M. Austenson, and P. C. Crandall under severe barley dwarf infection at Vancouver, Wash., in 1959. Craig x Alamo, Sel. 5271aB-2B-51 was among 480 more tolerant strains selected from the 1959 tests and among 100 considered worthy of further evaluation in 1960. Yield tests were first begun in 1962 when Cayuse yielded 192 bushels per acre compared with 'Shasta' at 135 bushels per acre at Puyallup, Wash. Washington State Regional tests were begun in 1963. Under moderately severe yellow dwarf conditions at Vancouver in 1963, Cayuse yielded 95 bushels per acre compared with Shasta at 47 bushels per acre. Cayuse was entered in the Northwestern Regional Nurseries in 1965. Results of the 1965 and 1966 tests showed Cayuse to have outstanding yield potential and nondisruptive habits. In both years it was top yielder at both irrigated and non-irrigated locations.

Cayuse seed stocks of Cayuse were derived from panicles taken in 1963 from vigorous plants of the Craig x Alamo line grown under severe yellow dwarf conditions at Vancouver, Wash. In 1964 parts of each panicle were planted in Puyallup and at Pullman. The lines were mated and populations containing off-type plants were discarded. The Puyallup harvest was used in the Northwestern Regional Nursery, while the 264 lines grown at Pullman were harvested individually for the production of Foundation seed.

Washington State University and the University of Idaho, Moscow, Idaho, jointly named and released Cayuse in December 1966 with the approval of Cornell University. Breeders' seed stocks are maintained at Washington State University and are available through the Washington State Crop Improvement Association.

Cayuse will be recommended in Washington and Northern Idaho. Foundation, registered, and certified seed will be available for planting in 1968.

REGISTRATION OF NOVA 66 RICE¹
(Reg. No. 30)
T. H. Johnston, G. E. Templeton, and J. G. Atkins²

'Nova 66' rice (Oryza sativa L.) C. I. 9481, Stg 582114, originated as a single plant selection from 'Nova' (C. I. 9456) made at Stuttgart, Arkansas, in 1957. In preliminary tests it made shorter and stiffer straw than Nova.

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