

Agropy Williams

TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

PLANT MATERIALS No. 26

Casper, Wyoming
March 27, 1972

PM-M-286

P-15581

Some seed
Available in 1972

RE: Description of 'Critana' Thickspike Wheatgrass
Agropyron dasystachyum (Hook.) Scribn.

by James R. Stroh, Plant Materials Center Manager,
Bridger, Montana

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1973

'Critana' thickspike wheatgrass is a native perennial grass collected near Havre, Montana, in 1960 by D. E. Ryerson of Montana State University. The collection was made from plants growing on several roadside cuts on medium- to fine-textured soils. The bulked collections were evaluated and increased without selection. The variety was cooperatively named and released by the SCS and Montana Agricultural Experiment Station in 1971.

Critana is strongly rhizomatous, forming a tight sod under dryland conditions. It has excellent seedling vigor. Some plants may develop and mature seed in the seedling year. It is low growing with abundant, fine, light green leaves. Approximately 30% of the seed heads of this variety are glabrous, and a trace will have long, bent awns. Interspecific hybrids between this species and slender wheatgrass, *A. trachycaulum*, occur naturally in native stands. Critana may exhibit up to 2% seed or spike characteristics of slender wheatgrass as a result of this hybridization.

Critana was developed primarily for reclamation and stabilization of disturbed areas, roadsides, airports, recreation areas, and construction sites. Once established in solid stands, few seed heads are produced, and the low growing foliage requires little maintenance. It may also be used in mixtures with higher producing species for reseeding range sites that are severely eroded and have low fertility. Critana is adapted to medium- to coarse-textured soils and granular shaley clays in the 10- to 20-inch precipitation zone of the northern Rocky Mountain and adjacent Great Plains region.

Stands adequate to control erosion are easily obtained using accepted cultural practices. Late fall or early spring seedings are equally satisfactory. Good seedbed preparation on critical areas, including harrowing, packing if necessary, drilling the seed, and mulching, should be encouraged for best stand establishment. Broadcasting the seed should be discouraged. The seeding rate on critical areas should be at least double that for range or pasture seedings and a minimum of 10 lbs/acre. No fertilizers need be applied to establish the stand. Seeding rangelands should follow established techniques.

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Management of Critana on critical areas depends on individual situations. Thin stands can be improved and vigor increased with additions of nitrogen fertilizer at rates not exceeding 40 lbs/acre on dryland. Mowing established stands is unnecessary because of the natural low growth habit of the plants. Grazing should be prohibited on critical areas to assure maximum vegetative cover and soil stabilization. Standard broadleaf weed control may be practiced but will usually be unnecessary in solid stands due to the competitive ability of Critana.

Critana is not considered a key management species on rangelands. Its purpose is to provide understory ground cover in mixtures with more productive species. Little data are available on its palatability or grazing tolerance, but it may be assumed that no damage will be incurred on Critana under proper grazing pressures determined by the key species in the mixture. Range mixtures may contain a maximum of 50% Critana on coarse- to medium-textured soils and 80% on fine-textured soils.

Critana will produce excellent seed crops and will continue to do so for several years under good management practices. The best seed crops are produced where supplemental irrigation water is available. Four to ten acre-inches of irrigation water applied in two applications in the spring before flowering are sufficient for top yields. Do not irrigate during flowering as this may reduce fertilization and seed set. Seed production stands are established in wide row spacings of 22 to 36 inches, cultivated and sprayed to control weeds, and fertilized according to soil test recommendations. The seed matures in mid-July. Harvesting is accomplished by windrowing at the hard dough stage and threshing when the windrows have cured. There are no particular threshing or cleaning problems with Critana seed. Seed yields average about 400 lbs/acre at the Bridger Plant Materials Center.