plants having long, narrow, drooping leaves. Stems are straight-necked and yellow at maturity. Distance from the flag leaf to the spike ranges from 14 to 22 cm; the collar is closed and the basal internode is straight and 1 to 3 mm long. The rachis is tough with glabrous edges.

Kline is resistant to spot blotch, caused by Cochliobolus sativus (Ito & Kurib.) Drechs. ex Dast., and barley yellow dwarf virus (BYDV). It is moderately resistant to leaf rust and scald, caused by Rhynchosporium secalis (Oud.) J.J. Davis. Kline is moderately susceptible to septoria glume blotch, caused by Leptosphaeria nodorum Müller, and is susceptible to powdery mildew and loose smut, caused by Ustilago nuda (Jens.) Rostr. Powdery mildew is not a serious disease in the Southeast and loose smut can be controlled by carboxin (Vitavax) seed treatment.

This cultivar was named to honor the late Dr. David Kline, USDA-ARS, cereal pathologist, North Carolina State Univ., Raleigh. Dr. Kline pioneered in research on new fungicides to control small grain diseases after organic mercurials were banned early in the 1970s. Breeder seed will be maintained by the Agronomy Dep., College Exp. Stn., Athens, GA 30602. Foundation seed will be maintained by the Georgia Seed Development Commission, 2420 South Milledge Avenue, Athens, GA 30605.


References and Notes

1. Associate professor of agronomy, Univ. of Georgia, Athens, GA 30602; professor of agronomy, Coastal Plains Exp. Stn., Tifton, GA 31793; associate professor of agronomy and professor of plant pathology, respectively, Georgia Exp. Stn., Experiment, GA 30212. Registration by Crop Sci. Soc. of Am. Accepted 8 Feb., 1985.

REGISTRATION OF ‘WW-SPAR’ BLUESTEM

WW-SPAR yellow bluestem, (Bothriochloa ischaemum (L.) Keng, var. ischaemum (Hack.) Celarier and Harlan, (Reg. no. 6) was released jointly by the USDA-ARS and the Oklahoma Agric. Exp. Stn. in 1982. It was received as PI 301573 from the Southern Regional Plant Introduction Station by the USDA, ARS, Southern Plains Range Research Station in Woodward, OK in 1976 as a part of Regional Project S-9. It was evaluated regionally under the Woodward designation WW-573.

‘WW-Spar’ bluestem is a perennial tufted bunchgrass with an upright growth habit. It has light green foliage with mostly basal leaves, 3 to 6 mm wide and 200 to 300 mm long at maturity. Foliage height will average about 0.50 to 0.75 m with seed stalks reaching 1 to 1.5 m lengths. Stems are yellowish with brown glabrous nodes. WW-Spar has non-glandular hairs about 5 mm long on the upper leaf surface near the collar and a short membraneous ligule. WW-Spar reproduces apomictically and seedlings are uniform with no apparent degree of sexual reproduction occurring. WW-Spar has an indeterminate flowering habit but the peak of flowering and seed maturation is more clearly defined than that from ‘Plains’ bluestem. WW-Spar is one of the original 30 accessions used in the blend to make Plains bluestem (1).

WW-Spar has excellent persistence and spring vigor at Manhattan and Mound Valley, KS; Simpson, IL; Cimmarron Co., Woodward, Stillwater, and A'dmore, OK; and at Vernon, Knox City, and Temple, TX. It has earlier spring green-up and makes more growth under drought conditions than Plains or ‘Caucasian’ bluestem. Water-use efficiency, CO2 assimilation efficiency, and turgor maintenance of WW-Spar correlate with its demonstrated ability to maintain production longer into a drought cycle than other yellow bluestems tested (2).

In a 3-year clipping trial at Woodward, OK, forage production of WW-Spar averaged 4270 kg ha⁻¹ compared to 3255 kg ha⁻¹ for Plains bluestem. In beef production studies at the Southern Plains Experimental Range, near Ft. Supply, OK, WW-Spar produced 120 kg beef head⁻¹ and 192 kg beef head⁻¹ in a year-long grazing program (3).

WW-Spar bluestem is a valuable grass for beef production when used in improved pasture or rangeland plantings. WW-Spar is also useful for soil stabilization and for wildlife cover.

Breeders’ seed will be maintained at the Southern Plains Range Research Station, Woodward, Oklahoma. Foundation seed is available from the Oklahoma Foundation Seed Stock, Inc., Room 101, Small Grains Bldg., OSU, Agronomy Research Station, Stillwater, OK 74078. Registered and certified seed is available through the Crop Improvement Association, Oklahoma State Univ.

C. L. DEWALD, P. L. SIMS, P. I. COYNE AND W. A. BERG (4)

References and Notes


REGISTRATION OF ‘FLARE’ RED CLOVER

FLARE red clover (Trifolium pratense L.) (Reg. no. 19) was developed by Nickerson American Plant Breeders. The experimental designation was NAPB 7602.

‘Flare’ was selected from a 3-year-old nursery near Columbia, MO, which had been decimated by disease and drought. Approximately 400 plants which were relatively free of powdery mildew (caused by Erysiphe polygoni DC.) were chosen as parents of Flare. These selections trace approximately equally to the cultivars ‘Redland’, ‘Redman’, ‘Arlington’, and ‘Kenstar’. Flare is similar to ‘Redland II’ in growth habit and percentage plants flowering in the year of seeding (53%). Approximately 77% of the plants have central leaf markings, 8% apical markings and 15% no markings. Flower color is approximately 72% medium pink, 17% dark pink, 10% light pink and 1% red, using the Munsell Color System. Flare has resistance to southern anthracnose, (caused by Colletotrichum trifolii (Bain)) and moderate resistance to northern anthracnose (caused by Kabatiella caulivora (Kirchn.) Karak.) and powdery mildew. Flare has been tested in the north central, east central, and southeast regions and is intended for use in these general areas for grazing or hay production.

Prebreeder seed (Syn 1) was produced on the approxi-