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# A WARTIME PUBLICATION

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M. F. MILLER, *Director*

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## Smooth Bromegrass in Missouri

E. MARION BROWN\*

Smooth bromegrass (*Bromus inermis*) is a long-lived perennial that spreads like Kentucky blue grass by means of rhizomes to form a sod. It is palatable, nutritious, productive and resistant to both drought and cold. In fact, the natural adaptation of this grass to a cool, moderately dry climate limits its usefulness in the warmer and more humid sections of Missouri. Because of its deep root system, it also requires a deep, well drained soil.

Bromegrass has not been thoroughly tested in all sections and on all soil types in Missouri. Adapted strains can be expected to give good results, however, on deep, well drained soils of at least medium fertility in the northern half of the State, and on the better soils it can be grown successfully for some distance south of the Missouri River in the western part of the state. Its production should not now be attempted in the southeastern quarter of Missouri, nor on land that is low in fertility, wet, or underlaid by a tight subsoil in any section of the state.

Regional strains of bromegrass differ widely in their performance in different latitudes. Here we should use only seed that has originated from strains that have been grown for many years in the central latitudes of Missouri, Kansas, southern Iowa, or Nebraska or seed whose origin can be traced to these general sources.

Initial stands of bromegrass are often thin and stands thicken slowly during the first two years. It is advisable, therefore, either to sow bromegrass at a heavy rate or to add some timothy to the seed mixture. One or more legumes should always be sown with bromegrass to supply the nitrogen that will prevent or delay the characteristic

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\*Agent in pasture research: Division of Forage Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture, and the Missouri Agricultural Experiment Station cooperating.

"sodbound" condition that usually occurs in older sods of this grass, where legumes are not present.

On soils that contain enough lime to grow sweet clover, sow bromegrass 15 pounds and sweet clover 10 pounds; or bromegrass 10 pounds, timothy 5 pounds, and sweet clover 10 pounds per acre. If, however, the soil does not contain the large supply of lime required for the successful production of sweet clover, substitute Korean lespedeza for sweet clover in the seed mixture. Alfalfa and bromegrass make an excellent combination for either pasture or hay on land that is fertile enough to grow alfalfa.

Best results are obtained if bromegrass is seeded between August 20 and September 10. Timothy, or alfalfa can be sown at the same time, but lespedeza and sweet clover should not be seeded until winter or early spring. If unhulled sweet clover seed is used, broadcast it during December or January in the grass that has been sown in the fall, but if scarified seed is used, sow the sweet clover in March.

If the bromegrass mixture must be seeded in the spring, sow in March rather than later.

A companion crop of oats, rye, barley, or wheat should be used *only* where erosion would be excessive without such a crop or to provide a seed mixture with sufficient weight to feed through a drill or endgate seeder. The companion crop, when used, should be sown at a light rate and it should be pastured off or cut for hay before it reaches maturity.

Seed bed preparation should be as thorough as for wheat.

Bromegrass seed is so light and chaffy that only seed of the finest quality will feed through a drill unless mixed with the heavier seed of a companion crop. The seed can be broadcast by hand or with an endgate seeder. If the latter method is used, a small amount of oats should be mixed with the bromegrass to facilitate its feeding through the hopper. Broadcasting should be followed by a light harrowing to cover the seed to a depth of  $\frac{1}{2}$  to  $\frac{3}{4}$  inch.

Bromegrass should not be heavily grazed until the plants become well established, but pasturing off a companion crop during the spring will not be harmful if the ground is firm.

Mixtures containing bromegrass can be used for hay or pasture, although bromegrass often does not grow tall enough after the third year to harvest for hay unless an associated legume is maintained with the grass. Profitable seed yields are also obtained from bromegrass. If crops of seed are to be harvested, timothy and sweet clover should not be included in the seed mixture. Alfalfa or lespedeza rather than sweet clover should be seeded with bromegrass if the mixture is to be harvested for hay.