TESTS WITH SODIUM FLUOSILICATE AS AN HERBICIDE AND AS AN ACTIVATOR FOR HERBICIDES

The dinitrophenols have become established as selective herbicides and as preemergence sprays. In their work on the activation of substituted phenol herbicides, Crafts and Reiber obtained a greatly increased effect of Sinox (sodium dinitro-o-cresylate) used as an herbicide when acidified with either ammonium sulfate or sodium bisulfate.

Since sodium fluosilicate is also an acid salt, it was thought advisable to determine its effect when used as an activator. In most cases crabgrass was used to determine the effect on foliage. DN 289 (a salt of dinitro-o-butyryl phenol) in a concentration of 1-1000 in water produced only slight injury. When used with sodium fluosilicate (1-4000) the crabgrass was killed. Similar results were secured with sodium pentachlorophenate, Sinox, and sodium trichloroacetate. Equally striking results were obtained when tested for toxicity on insects.

Sodium fluosilicate was also found to be an excellent crabgrass killer by itself. A saturated solution (1-150) or 3 pounds in 50 gallons of water, used as a spray on lawns, killed the seedling stages of crabgrass without appreciable injury to bluegrass. Two or more applications 14 days apart may be necessary. Good control of the crabgrass was also obtained with a 25% dust diluted with pyrax and used at the rate of 35.5 to 75 pounds of the fluosilicate per acre. For best results a heavy overnight dew is essential in order to dissolve the fluosilicate.

Sodium fluosilicate has many advantages as an activator or herbicide. It is readily available for around 5 cents a pound, is easy to handle, does not harm the soil, and is relatively nonpoisonous when used as directed. — S. Marcovitch, Tennessee Agr. Exp. Sta., Knoxville, Tenn.

BROWNTOP MILLET

Howard the annual grass, Panicum ramosum L., of tropical Asia, became a forage crop in the Southeastern United States is not fully known. The writer first saw it in southeast Georgia during the summer of 1916. At that time, the few farmers growing the grass regarded it highly for both grazing and hay. They sowed the seed during early May on rich spots near the barns either in rows or broadcast. The plants grew rapidly during the rainy summer season. The common name was German grass. It had been misidentified as Panicum adspersum.

During World War I, the common name was changed to Liberty grass. About the same time, the botanical name was again incorrectly determined as Panicum fasciculatum. Browntop millet was the book common name of this species due to a dark brown tinge of its seed in panicles. The Liberty grass without dark brown color of seed gradually became known as browntop millet. The correct botanical identification as Panicum ramosum was made in the early 1940s. By this time, the common name browntop millet was so well attached, it was retained for P. ramosum and browntop panicum substituted for P. fasciculatum.

Browntop millet is now grown more extensively than in 1916. The increase has been slow and irregular. The center of heaviest planting has shifted from southeast to north central Georgia. The grass is still a minor forage crop.

Browntop millet has these advantages in the Southeast:

1. Freedom from plant diseases
2. Rapid growth
3. Heavy seed production
4. Not weedy in following crops
5. Good quality hay or grazing

It has these disadvantages for the same area:

1. Limited to fertile soils
2. Not very drought resistant
3. Only moderate yields
4. A short season of growth

One of the best uses of browntop millet has been after crimson clover for grazing or seed. Some farmers using reseeding strains of clover have been able to get both crops to volunteer repeatedly in a 1-year rotation.

The short season of growth is associated with a medium short day photoperiod. The plants seed out promptly under favorable temperature range when the day length is less than 13 hours. Very early plantings in southern Georgia will produce seed during the spring and make very little growth. Fall growth is limited for any planting date. Many dairymen needing fall grazing prefer Sudan grass instead of browntop millet after crimson clover. — Paul Tabor, U. S. Soil Conservation Service, Spartanburg, S. C.

FIG. 1. — Mature browntop millet ready for seed harvest.