Tifton Bur Clover

(Medicago rigidula 0373)

by

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Tifton Bur Clover made an excellent growth and reseeded freely on Tifton Sandy Loam Soil.
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Recent experiments indicate that Tifton Bur Clover (Medicago rigidula 0373) is destined to become a very important variety for the coastal plain region of the State. It makes a more vigorous growth; is more resistant to extreme temperatures and seasonal conditions; is more resistant to disease, and is a much more abundant seeder than the other bur clovers under test.

Tifton Bur Clover was introduced into this country through the Botanical Garden of Madrid, Spain, by the Office of Forage-Crop Investigation of the United States Department of Agriculture. The first experiments where its value was recognized for the coastal plain region were conducted at the Georgia Coastal Plain Experiment Station on the Tifton Sandy Loam soils.

Seed of this bur clover were received in the fall of 1920. The small plantings made at that time showed such promise that efforts were begun to increase the seed supply and further test the adaptability of this new bur clover to South Georgia conditions. The results of these tests were so gratifying that during the past season one acre was given to increasing the seed supply. From this acre one hundred sixty-one bushels of seed, in the bur, were harvested. This amount yielded four hundred twenty-four pounds of cleaned seed. The average weight per bushel of the seed, in the bur, was 10.7 pounds which threshed 2.6 pounds of cleaned seed. The measured bushel of cleaned seed weighed sixty pounds.

Description

Tifton Bur Clover is an annual fall-sown legume which makes a mat-like or trailing growth, and grows erect only when sown very thick on the land. The plants produce numerous, leafy, much-branched stems which attain a length of 18 to 36 inches. The dark green leaves of this plant are smaller than those of Common Bur Clover, and do not possess the characteristic leaf spot of that variety. The yellow flowers are borne in pairs, in the axils of the leaves, on slender flower stalks. The seed are much larger than those of Common Bur Clover and are kidney shaped.

1. In cooperation with the Office of Forage-Crop Investigations of the United States Department of Agriculture, and the Georgia State College of Agriculture.

2. Medicago rigidula (L.) Desr. Plants pubescent throughout; stems procumbent, 10 to 50 cm (4 to 20 inches) long; leaflets up to 12 mm. (one-half inch) wide and 24 mm. (1 inch) long, the leafstalk often equaling the leaves, but mostly shorter, the stalk of the terminal leaflet 3 to 4 times longer than the lateral; stipules not deeply toothed; flowers in twos, about 5 mm. (three-sixteenth inch) long, the stigma exposed when tripped; pods 7 to 8 mm. (about five-sixteenths inch) in diameter, the windings not so thick and covered with a fine pubescence, the spines somewhat hooked at the tips; seed about 4 mm. (five thirty-seconds inch) long, yellow, kidney shaped, the radicle about half the length of the seed, the tips slightly raised. (U. S. D. A. Bulletin 267).
Soil Adaptation

Due to the limited supply of seed of this bur clover, no tests have yet been conducted to determine with exactness the soils on which it will make its best growth, however, the work at the experiment station has been conducted on a Tifton Sandy Loam soil, on which soil type excellent results have been obtained. The Georgia State College of Agriculture, cooperating with the Georgia Coastal Plain Experiment Station in pasture experiments, reports excellent growth of this plant in the piedmont region of the State.

Inoculation

The failure of the bur clovers in this region may often be attributed to lack of inoculation. The inoculation of the crop is the most important single consideration in the development of bur clover growing in this part of the State.

The soil transfer method of inoculating for bur clover has been employed very satisfactorily and is generally recommended to communities having an area on which bur clover has been successfully grown. This method consists of taking soil from an area on which clover has been grown and transferring that soil, at the rate of 400 to 500 pounds per acre, to the area on which the bur clover is to be grown. The inoculated soil should be evenly distributed over the area and immediately disked into the first few inches of top soil.

The seed may be inoculated with pure cultures of bacteria if no soil is available where bur clover has been growing.

Seeding

The results indicate that the proper time of seeding in the coastal plain region is from October 15th to November 1st.

The seedings made at this station required 5 pounds of cleaned seed per acre. The area was given to seed production and the seedings were made in rows. Ten pounds of cleaned seed or four bushels of seed in the bur per acre should give good stands sown broadcast.

Fertilizers

Tifton Bur Clover thrives on a fertile well drained soil. On such soils it will produce its maximum in vegetative growth and seed, however, some growth may be obtained on the poorer soils which have been well inoculated. The limited amount of seed of this bur clover has made it impossible to determine with exactness the fertilizer requirements of the plant, however,
remarkable responses have been secured from an application of stable manure and acid phosphate. Four and one-half tons of stable manure and 400 pounds of 16% acid phosphate per acre were applied at the time of seeding. Until the fertilizer requirements of the plant can be more definitely determined this fertilizer treatment is recommended. The manure should be fine, well rotted material if it is to be applied in the drill with the seed and the acid phosphate. If the manure is coarse and heavy, broadcasting after the seeding is a very satisfactory method of applying it.

No marked response has been obtained in vegetative growth or seed from the use of lime.

Value For Pasturage

The principal value of the bur clover is that of pasturage. Animals often have to develop a taste for the plant after which they eat it readily. The growth of the dairy industry in South Georgia has created a demand for pastures and Tifton Bur Clover should constitute a valuable addition to the limited list of good pasture plants for the coastal plain region of the State.

The decumbent or trailing growth and the very prolific seeding habit of this bur clover should make it specially valuable as a pasture plant. The numerous much-branched stems are leafy throughout their entire length, thus furnishing a large amount of vegetative growth. The prolific seeding habit of the plant insures its maintaining itself, once it is established.

Experiments are being conducted to determine the most effective means of getting this bur clover established in permanent pastures of carpet grass, Dallis grass and lespedeza. As this plant has so far proven to be hardy and aggressive it is believed that seedlings made either in shallow furrows or broadcasted on top of the sod will give satisfactory results on the well-drained areas of the pasture. With either method it is good practice to apply inoculated soil, stable manure and acid phosphate with the seed at time of planting. Cleared seed should result in quicker germination than plantings made in the bur. After the clover once becomes established it should maintain itself.

Grazing may be expected as early as March 1st and last through the month of May. If heavy grazing is practiced, it may be necessary to remove the animals from the clover for a short period to enable it to produce seed. It is believed, however, that under ordinary grazing this variety will reseed in abundance.