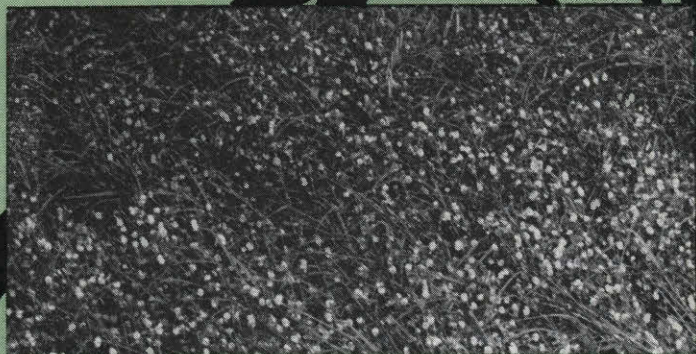


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Greenfield Bermuda-grass

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ABOUT THE COVER: Greenfield was tested under the title “Oklahoma No. 1” before its eventual release under its present name. The photograph on the cover shows Oklahoma No. 1 in a testing plot, seeded with winter clovers.

Bermuda-grass was recognized as an outstanding grass for Oklahoma soon after the Experiment Station was established in 1892. A strain of Bermuda-grass was first developed in Oklahoma from plants that survived the winters after seed plantings in the spring of 1892. It was called "Hardy Bermuda" and was released to all parts of the territory in 1906, the year prior to statehood. Though considerable selection and testing of Bermuda-grass strains were done at the Experiment Station before 1916, no strains were released and all plantings of the original "Hardy Bermuda" were lost.

Greenfield Bermuda-grass was selected from among a large number of common strains collected from all parts of Oklahoma in 1947 and 1948 and established in nurseries and test plots on the main Station farm west of Stillwater. This particular selection was found on the Station farm; and it is possible that Greenfield is one of the early selections made before 1916, for it was found near the old original Bermuda-grass nursery and testing plots.

The name "Greenfield" was chosen for this new strain because of the characteristic green color of the leaves which lasts through the growing season, and in honor of John Fields, an early director of the Oklahoma Agricultural Experiment Station. In 1902, Fields published a bulletin on Bermuda-grass; and in 1906, he wrote:

Native grasses do not yield sufficient pasture. Cultivated hillsides are washing and need something to cover the soil. Of all the grasses tried on the station, Bermuda-grass alone has shown the qualities which must be possessed by a pasture grass in Oklahoma.

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Greenfield Bermuda-Grass

By W. C. Elder
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DESCRIPTION

"Greenfield"* is a new strain of Bermuda-grass that is adapted to all parts of Oklahoma where common Bermuda-grass will grow, and it shows superiority over other varieties on medium- to fine-textured soils low in fertility. It has the ability to become established quickly in new plantings. The stolons spread rapidly and form a dense turf. After the soil is covered, the leaves grow more upright than most common strains, which allows grazing animals to obtain leafier forage with a minimum of stems. It has a multitude of leaves which remain dark green throughout the growing season.

The new strain is intermediate between the coarse and very fine types of common Bermuda-grass. The stolons are not as large and coarse as in many strains, the internodes are short, and leaf growth is prolific. Another characteristic is the purple color of exposed stolons. A few other strains of Bermuda-grass have purple stolons, but the majority are green in color. The rhizomes of Greenfield are short, crooked and numerous, forming a dense mat of roots below the ground surface. Because of this quality, increase from rootstocks is faster than from hybrid Bermuda strains, such as Coastal and Midland, which produce long straight rhizomes.

ADAPTATION

Greenfield Bermuda-grass is winter hardy, makes an early spring growth, and is adapted to all parts of Oklahoma where common Bermuda will grow. In the area receiving 30 or more inches of rainfall annually, it will grow on all types of soil used for cultivated crops. For best production, Greenfield requires a fertile soil especially high in nitrogen; but one of its chief advantages is its ability to grow on the less fertile soils. Midland** has a greater production potential than Greenfield and should be planted on the more fertile soils. Greenfield produced more forage on the low-fertility, medium- to fine-textured

*See inside front cover for how the name Greenfield was chosen for this strain.

**A hybrid between Coastal and a hardy variety from Indiana. (See Oklahoma Agricultural Experiment Station Bulletin No. B-416.)

soils on the Heavener and Coalgate Experiment Stations than did Midland. It has been observed that Midland is equal to Greenfield on sandy soils of low fertility.

Greenfield is expected to find its place as pasture on the poorer soils now being planted to less productive strains of common Bermuda. It is also recommended for non-agricultural land where a heavy dense turf is necessary to prevent soil erosion, such as roadsides, highways, airfields, drainage ditches, etc. It is *not* recommended for lawns and athletic fields.

Greenfield, like all common strains of Bermuda, lacks vigor in the late summer and fall months, probably because of diseases. Midland is superior to Greenfield in extremely hot dry weather and in the fall months.

FORAGE YIELDS

The comparative hay yields of Greenfield and common Bermuda (Table I) are in favor of Greenfield, two to one. In this test the common strain used was superior to many of the other common strains in the nursery. Comparative grazing tests with Greenfield and other Bermuda strains are now in progress.

Preliminary palatability tests with cattle indicate little difference between strains of Bermuda-grass. Protein content of all strains from the cuttings (Table I) were very similar, and they compare favorably with native grasses.

Midland Bermuda-grass has produced more forage cut at hay stage than Greenfield in yield tests on the main Station farm at Stillwater (Table I). The tests were started under good soil conditions. Coastal Bermuda produced more hay than Greenfield or Midland the first two years (1949 data not in the table); but the severe winter of 1950-51 destroyed most of the Coastal rhizomes and the grass did not recover until late the next summer.

Table I.—Comparative Forage Yields of Greenfield, Midland, Coastal, and Oklahoma Common Bermuda-grass at Stillwater, Okla.

(Pounds of dry matter per acre)

Variety	1950	1951
Greenfield	4,874	6,300
Midland	10,008	7,969
Coastal	10,762	3,272
Oklahoma Common	2,651	2,925

INCREASE AND ESTABLISHMENT

Greenfield is propagated only by rootstocks or runners above ground. The Experiment Station released Greenfield planting stock to Oklahoma Foundation Seed Stocks, Inc., in 1954. That organization distributed this supply of roots to several farmers throughout the state for establishment of registered fields in a regular certification program. However, the supply of Greenfield planting stock for establishment of pastures will be limited for several years.

Fields, to meet Certified planting stock standards, must be free of all other strains of Bermuda-grass for one year preceding the planting of another variety of Bermuda-grass. Also, the field must be inspected before the roots are dug for sale. The best time for field inspection is in late summer or early fall of the year before rootstocks are to be dug.

Persons desiring to plant any new variety of Bermuda-grass should secure small amounts of plant stock and establish small nurseries. The nursery should have a well-drained sandy, fertile soil to facilitate quick, easy digging of the rootstocks. Barnyard manure or commercial fertilizers high in nitrogen content can be used profitably on Bermuda-grass nurseries. Unless high fertility and good moisture conditions are maintained during the growing season it will require two years for the nursery to produce a good crop of rootstocks.

