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## **Bermudagrass: Varieties and Establishment**

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Bermudagrass is one of the most important warm-season perennial grasses in the southern USA. It is thought to have originated in Eurasia but it is found throughout the world. The first written record of bermudagrass in the USA was its introduction at Savannah, Georgia by Governor Henry Ellis in 1751. Common bermudagrass was planted throughout the southeastern USA as a forage crop but rapidly became a major weed in cotton and other row crops.

The improvement of bermudagrass varieties in US began with the release of Coastal by Dr Glenn Burton, USDA-ARS Tifton, Georgia in 1943. Extensive planting of Coastal bermudagrass initiated the development of new technology and equipment to dig and plant bermudagrass sprigs. Today, there are an estimated 10 million acres of Coastal bermudagrass grown across the southern USA. After the release of Coastal, a massive number of new bermudagrass varieties were released by state agricultural experiment stations and by private companies.

**Table 1. Bermudagrass varieties propagated vegetatively.**

| <u>Variety</u> | <u>Year</u> | <u>Origin</u>   |
|----------------|-------------|---|
| Coastal        | 1943        | Tifton, GA  |
| Coastcross-1   | 1967        | Tifton, GA  |
| Tifton 44      | 1978        | Tifton, GA  |
| Midland        | 1999        | Oklahoma, Kansas, Missouri, Arkansas, and Noble Foundatin |

|           |      |                       |
|-----------|------|-----------------------|
| Jiggs     | ?    | J.C. Riggs, TX        |
| Tifton 85 | 1992 | Tifton, GA            |
| Florakirk | 1994 | University of Florida |

A list of bermudagrass varieties propagated by vegetative material is shown on Table 1. Coastcross-1 has improved nutritive value when compared with other bermudagrass varieties; however, it has low cold tolerance. Coastcross-1 is used for hay production in tropical countries in Central and South America where there are rare freeze occurrences during the winters. On the other hand, Midland and Tifton 44 were selected primarily for cold tolerance and they are widely spread in Oklahoma, Northeast Texas, and Arkansas. The expected production and nutritive value of Midland and Tifton 44 is similar to Coastal and both are suitable for grazing and hay production.

Unlike most of the bermudagrass hybrid varieties, Jiggs was released by a private company in Texas. Jiggs is one of the few bermudagrass that tolerate poorly drained soils, which make it an attractive option for South Florida. The thin stems of Jiggs make it a desirable variety for hay production. However, recent research has shown that Jiggs has lower production and nutritive value than other improved bermudagrass hybrids. In South Florida, cattle grazing Jiggs has shown decreased average daily gain when compared to Florona stargrass and Tifton 85 bermudagrass. Tifton 85 is a relatively new bermudagrass variety released from the USDA-ARS Tifton, Georgia. Tifton 85 is a hybrid between South African bermudagrass and 'Tifton 68' stargrass. It has larger culms, broader leaves, and darker color than other bermudagrass hybrids and compared with Coastal, Tifton 85 yield 26% more with greater nutritive value. The thicker stems of Tifton 85 can require longer drying periods when cut for hay. In addition, there still is a perception that thicker stems are related with low nutritive value and it sometimes limit the market for Tifton 85 hay. Tifton 85 is not adapted to poorly drained soils and there are many cases of stand lost in 2-3 years after establishment in South Florida, mainly because of poor soil drainage conditions. Florakirk is a bermudagrass variety used strictly for hay production. It has thin stems and the hay produced from Florakirk has good appearance and marketability. Florakirk is not recommended for grazing because of low persistence under grazing.

The seeded bermudagrass varieties are considered to be less productive than the vegetatively propagated hybrids. Common bermudagrass is the most used seeded bermudagrass variety. It has decreased production and nutritive value but excel in persistence under grazing conditions. Giant bermudagrass has excellent seedling vigor and first year growth but the stand deteriorates with time. For this reason, Giant is sold in mixture with common or other seeded varieties. Most of the seeded bermudagrass varieties came from turf breeding programs. A list of seeded bermudagrass varieties is shown on Table 2.

**Table 2. Seeded bermudagrass varieties.**

| <u>Variety</u>        | <u>Year</u> | <u>Origin</u>         |
|-----------------------|-------------|-----------------------|
| Common                | --          | --                    |
| Giant                 | 1957        | Northrup King and Co. |
| Cheyenne              | 1989        | Jacklin Seed Co.      |
| Wrangler              | 1999        | Oklahoma AES          |
| Texas Tough (blend)   | --          | --                    |
| Ranchero Frio (blend) | --          | --                    |

In Florida, the establishment of bermudagrass varieties in areas previously planted with bahiagrass may be a challenge. Bahiagrass is very persistent and compete with bermudagrass during the early stages of establishment. Below is a short list of procedures that must be followed to increase the success of bermudagrass establishment in areas formerly planted with bahiagrass.

- In late summer the year prior to planting, apply limestone according to soil testing recommendation
- Destroy existing bahiagrass vegetation with 4 quarts/acre of glyphosate 4 weeks after liming.
- Four weeks after herbicide application, prepare seedbed and consider planting small grain or ryegrass on the site.
- Disk the small grains or ryegrass under and prepare seedbed early May.
- Plant 30-40 bushels of springs/acre or 1500 lbs of vegetative material/acre into a moist seedbed. Springs or tops should not be planted deeper than 3".
- Roll the seedbed to ensure good plant material/sprig contact. Apply 2 pints/acre of Weedmaster 7-10 days after planting.
- When tops or springs are actively growing, fertilize with N, P, and K.
- Pay close attention to bahiagrass and broadleaf appearance. If necessary, spot spraying with Roundup 1 ½ % solution
- Fertilize with N after first graze or harvest.
- Do not overseed with winter annuals the first year

Bermudagrass is a important warm-season grass specie for Florida. The escalating demand for bermudagrass hay, primarily for the horse industry, is increasing the interest of producers in planting bermudagrass varieties. As we mention above, there are several varieties of bermudagrass with specific characteristics and adaptability. Matching the bermudagrass variety with appropriate management practices and environmental conditions increase the chances of success on establishment and subsequent forage production. If you have any questions regarding bermudagrass varieties or establishment, please contact Joe Vendramini, e-mail: [jv@ufl.edu](mailto:jv@ufl.edu).