Most Common Establishment Mistakes

1. Failure to soil test, lime, & fertilize

Dr. Dennis Hancock, Univ. of Georgia

Most Common Establishment Mistakes

2. Poor seedbed preparations
   - "Prepared" seedbed (conv. tillage)
   - Sod destruction (no till; minimum till)

Dr. Dennis Hancock, Univ. of Georgia

Most Common Establishment Mistakes

3. Plant too deep or too shallow

Dr. Dennis Hancock, Univ. of Georgia

Most Common Establishment Mistakes

4. Poor pest control

Dr. Dennis Hancock, Univ. of Georgia

Most Common Establishment Mistakes

5. Wrong time of year

Dr. Dennis Hancock, Univ. of Georgia

GRASS
www.georgiaforages.com

UNIVERSITY OF GEORGIA
EXTENSION

Most Common Establishment Mistakes

6. Poor quality seed or vegetative material

Dr. Dennis Hancock, Univ. of Georgia

Most Common Establishment Mistakes

7. Uncooperative weather

Dr. Dennis Hancock, Univ. of Georgia

Bermudagrass

- Common (seeded) vs. Hybrids (sprigged)
  - Tifton (USDA-ARS & UGA)

Hybrids:
- Typically very drought tolerant
- Aggressive and persistent
- Requires high fertility
- Must be vegetatively established

A little perspective…

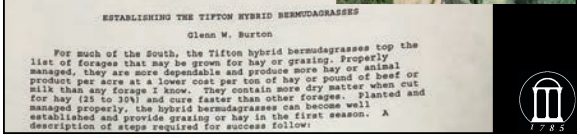
Sprigging stick designed to push bermudagrass sprigs into the ground.

Two-row sprig planter developed at the CPES by UGA's James Stephens.

Dr. Glen Burton

"Father" of forage & turf bermudagrasses
(1910-2005)

USDA ARS (1936-1997*)



ESTABLISHING THE TIFTON HYBRID BERMUDAGRASSES

Glenn W. Burton

For much of the South, the Tifton hybrid bermudagrasses top the list of forages that may be grown for hay or grazing. Properly managed, they are more dependable and produce more hay or animal product per acre at a lower cost per ton of hay or pound of beef or milk than any forage I know. They contain more dry matter when cut for hay (25 to 30%) and cure faster than other forages. Planted and managed properly, the hybrid bermudagrasses can become well established and provide grazing or hay in the first season. A description of steps required for success follow:

1: Choose an appropriate site for establishment.

- The soil must be well-drained.
- Choose site that is as weed-free as possible.
- Preferably, site is free of bermudagrass or bahiagrass.
- If either are present:
  - Grow a summer crop for 1-2 seasons
  - Chemical fallow (non-selective herbicide 2-4 times during season)
  - High rate of glyphosate in fall prior to spring establishment.

GRASS
www.georgiaforages.com

UNIVERSITY OF GEORGIA
EXTENSION

Dr. Dennis Hancock
UGA Extension Forage Agronomist

If Bermudagrass or Bahiagrass is Present…

- Use a smother crop for at least one year.
  - Pearl millet, sorghum x sudan
  - RR soybeans
- If replacing a bermudagrass with a different bermudagrass variety, consider two years.

2: Soil test and lime and fertilize accordingly.

- Ask for recommendations for "hybrid bermudagrass hayfield" even if for a pasture.
  - Lime to a target of pH 6.5.
  - Incorporate all recommended nutrients.
- Soil pH of 6.0-7.0 in winter before planting or not a viable field.
- Immediately prior to planting:
  - 50 lbs N, 15 lbs P_2O_5, and 100 lbs K_2O/a
  - Incorporate (no deeper than 2 inches)

Conventional Seedbed Preparation Steps

1. Soil test and apply lime as needed 12-24 months prior to planting or sprigging.
2. Mow or tightly graze existing vegetation at least 8 wks prior to planting or sprigging.
3. Wait ~1-2 wks to allow regrowth, then apply a non-selective herbicide (e.g., glyphosate @ 2 qts/ac)

Conventional Seedbed Preparation Steps

4. Plow/disc/finish at least 4 wks prior to planting or sprigging
5. Incorporate phosphorus, potassium, and additional lime (as recommended by soil test).
6. Allow time to settle or firm with cultipacker/roller.

Seedbed should be firm

- Boot tracks should be ~1/4 in. deep
- If too fluffy, the soil will dry very quickly (sandy soils)

3: Use the false or stale seedbed preparation method.

- In the 4-6 weeks between tillage and planting, weed seeds will germinate.

False seedbed prep:

- Kill the weeds by lightly tilling the soil with a light drag or shallow disking, then immediately firm with a roller.
  - Downside: moisture loss

Stale seedbed prep:

- Kill the weeds with non-selective herbicide, wait 1-7 days and plant.

GRASS
www.georgiaforages.com

UNIVERSITY OF GEORGIA
EXTENSION

Minimum Till ("No-till") Options

- Acceptable for vegetative establishment (sprigging), but will leave the field very rough.
- Weed control?

4: Choose an establishment method and timing.

Three primary methods

1) Dormant sprigs – 40-70 bu of LS/acre
   - Jan. to early Mar.
   - Less desirable for Tifton 85
   - Cover with at least 2" of soil to protect sprigs from freezing
   - 50%+ of dormant sprigs fail to emerge
   - Fall prior: do not allow the nursery area to be cut or grazed after Labor Day
   - Excessive winter rainfall limits dormant sprig survival
   - Estimate sprig survival by grow-out and adjust sprigging rate accordingly

4: Choose an establishment method and timing.

Three primary methods

2) Spring sprigs – 40-70 bu of LS/acre
   - Spring (after last freeze) to early Aug.
   - Early sprigging increases likelihood of establishment by end of the first year
   - Avoid planting before early April
   - Sprigs should be vigorously growing before digging.
   - Stand development is directly proportional to sprigging rate

4: Choose an establishment method and timing.

Three primary methods

3) Tops/green stems – 60-100 bu/A
   - June until early Aug.
   - Tops need 6+ nodes on the stolons
     - Fine-textured varieties: 10-12"
     - Coarse-textured varieties: 18-24"
   - Nursery area should receive: 100 lbs N, 25 lbs P_2O_5, and 100 lbs of K_2O/acre in late March to produce tops by June
   - Not recommended for Tifton 44
   - Usually not planted with sprig planter.

5: Plant ONLY in moist soil.

- Sprigs will die if they drop below **~50-55% moisture** or if they heat above **120°F** for extended period.
- If soil is dry, especially if hot, it will draw moisture out of the sprigs even after they have been planted.
- Ideal: planting on cool, cloudy day, preferably with a misty rain or imminent rainfall.
- Irrigation before and after can add flexibility, but do not over irrigate.
  - ~1"/wk (0.5" x 2x/wk) for first 4 wks

Heat Damage to Sprigs:
Lessons from the Turfgrass World

- **Temp. of sprigs inc. 1.0-2.5°F/hour of storage, depending on O_2 intrusion and density of pack.**
- **Sprigs can survive 110°F for extended period and 120°F for up to 6 hrs with minimal damage.**
- **If exposed to 130°F for 4 hrs, sprig survival is 30-60%. If 140°F for 1 hr, 100% sprig death.**
- **No difference in sprig survival among turf varieties.**

Source: Elsner and McWhorter, 1999. USGA Green Sec. Rec.

Photo credit: ChechesseeCreekClub.com

GRASS
www.georgiaforages.com

UNIVERSITY OF GEORGIA
EXTENSION

6: Plant pure sprigs or tops.

- Recommended to buy only certified planting material
  - GA Crop Improvement Assoc. certified (www.georgiacrop.com)
- If none available in your area, ask to see the nursery field
  - 'Common' contamination is common complaint.
  - Be proactive!

7: Plant fresh sprigs or tops from a well-fertilized nursery.

Recommended nursery protocol:

- If dormant sprigs to be harvested
  - 100 lbs N, 25 lbs P_2O_5, and 100 lbs K_2O/ acre in Sept. prior to dig.
- If spring sprigs to be harvested
  - 100 lbs N, 25 lbs P_2O_5, and 100 lbs K_2O/ acre at spring green up or within 6 weeks of digging or top harvest.

What Does a "Good Sprig" Look Like?

- **Crown, rhizome, and stolon size are an indicator of CHO storage and vigor.**
- **Crown and rhizomes should be 3/16 – 3/8" in diameter.**
- **Stolons in sprigs should have 2-4+ nodes and be 1/8 – 1/4"+ in diameter at nodes.**
- **Stolons as tops should have 6+ nodes and be 1/8 – 1/4"+ in diameter at nodes.**
- **Dormant and spring sprigs should be planted ASAP (at least <24 hr after digging).**
- **Tops should be planted < 4 hr of cutting.**

Dennis Hancock, UGA

8: Pack the soil well after planting.

9: Spray to control weeds.

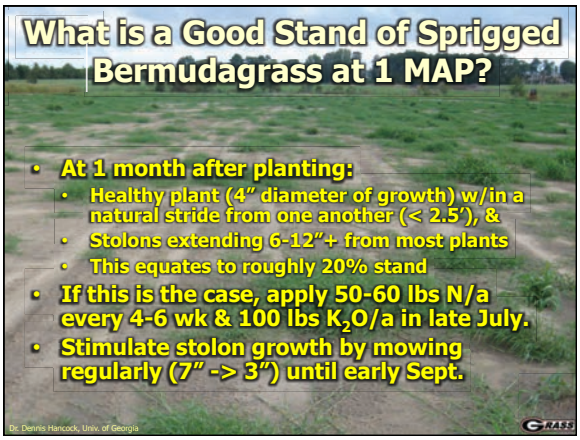
- **Aggressive sprigs planted at high rate can usually out-compete weeds**
- **If for turf or roadside, more flexible herbicide options**
- **Mowing (when 7-8" tall, mow to 3")**
- **Diuron (e.g., Direx 4L @ 1-2.4 qt/a)**
  - Good control: crabgrass, crowfootgrass, sandbur, goosegrass, and some broadleaf weeds
  - Immediately after planting
  - Sprigs must be 2-3" deep
  - Tifton 85 is very sensitive to diuron
- **2,4-D (2 qts/a) or 2,4-D + dicamba (2-4 pts/a)**
  - Good control of broadleaf weeds
  - No demonstrable pre-emergent activity

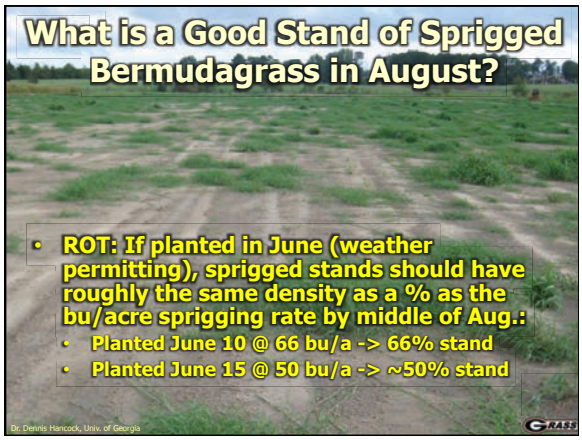
10: Complete keys 5-9 on the same day.

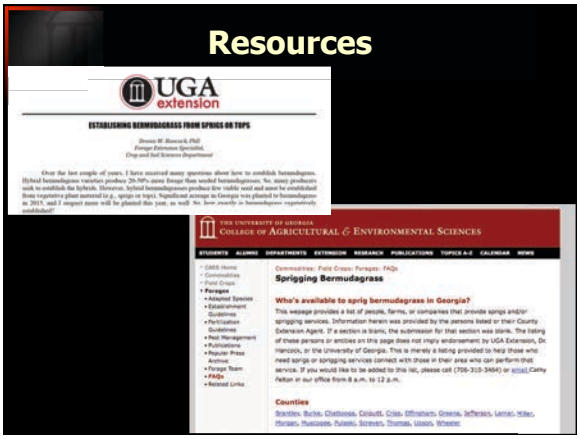
- **Ensures adequate soil moisture**
- **Maximizes sprig survival**
- **Minimizes weed problems**

GRASS
www.georgiaforages.com

UNIVERSITY OF GEORGIA
EXTENSION







GRASS
www.georgiaforages.com

UNIVERSITY OF GEORGIA
EXTENSION