



# Bahiagrass Management

Dr. Leanne Dillard

Animal Science and Forage Webinar Series

April 10, 2019



# Bahiagrass

- Long-lived, warm-season perennial
- Commonly used for pasture, but can be used for hay, erosion control, and wildlife habitat
- Successful use in a 'sod-based' rotations with peanuts and cotton

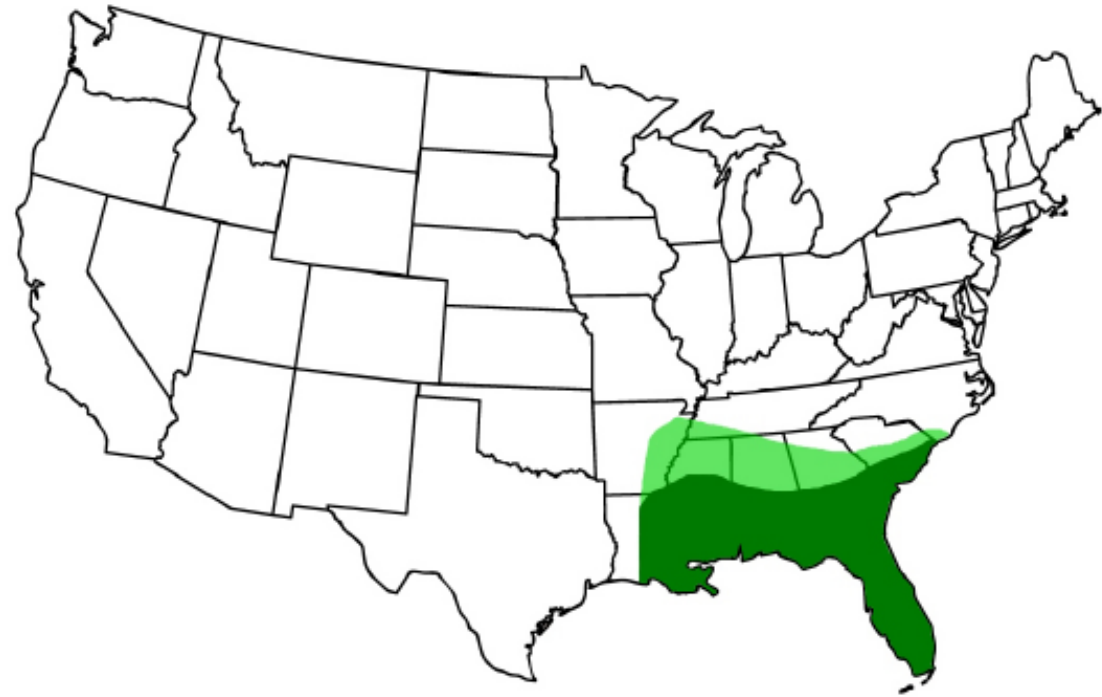


Figure 1. Bahiagrass is well-adapted in the dark green area and can be successfully grown in the light green area.



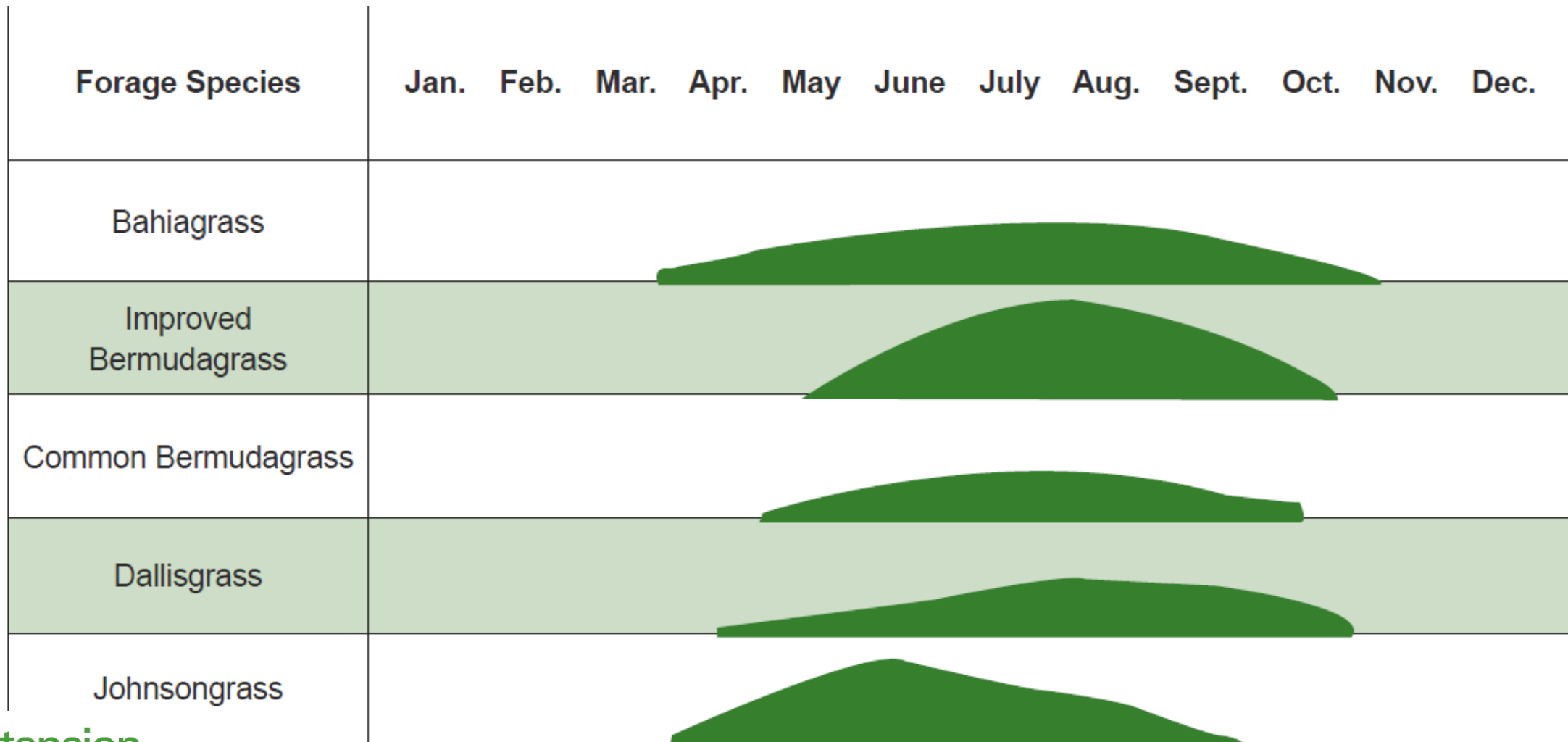
# Bahiagrass- Characteristics

- Grazing tolerant
- Few disease/insect problems
- Drought tolerant
- Moderate forage quality
- Low – moderate fertility needs
- Tolerant of soil acidity
  - Struggles in some very basic Black Belt Soils



Hancock et al., 2017

# Bahiagrass- Seasonality



# Varieties



*Photo Courtesy of Dr. Dennis Hancock*

- **Pensacola**- best used on less fertile soils and in pastures that will not be well managed
- **Argentine**- not cold tolerant and very susceptible to ergot
- **Tifton-9**- Pensacola selection with greater seedling vigor and more upright growth habit and 25% greater yield than Pensacola
- **AU Sand Mtn**- Most cold tolerant, limited seed availability
- **TifQuik**- variant of Tifton-9 superior seedling vigor, otherwise essentially Tifton-9
- **UF-Riata**- later fall growth and earlier in spring. Only studied in Lower Coastal Plain



# Varieties

## Bahiagrass Comparison Plots

April 5, 2007 Wiregrass Research Station Headland Alabama



Pensacola

Tifton 9

TifQuik



# Establishment

- **Prepared Seedbed:**
  - Plant scarified seed at 10-15 lb/acre in March or April
  - ¼ - ½" deep
- **Broadcast:**
  - 18-20 lb/acre
- **Tifton-9** and **TifQuik** have better seedling vigor than Pensacola-type varieties
  - 8-10 lb/acre drilled
  - 12-15 lb/acre broadcast



# Fertility

- General Recommendations:
  - Nitrogen 75-175 lb/acre
  - $P_2O_5$ : 40 lb/acre
  - $K_2O$ : 40 lb/acre
  - Annual lime: 0.3-0.5 tons/acre

Always soil test and follow soil test recommendations!



**TEST**  
ALABAMA

*Photo Courtesy of Dr. Kim Mullenix*



# Forage Quality and Grazing Management

## Typical Forage Quality

- 85-90 RFQ
  - Bermudagrass- 90-100
  - Novel Tall fescue- 100-120
- Close grazing is necessary to obtain good utilization
- All varieties similar in quality



*Photo Courtesy of Dr. Marcelo Wallau*

# Forage Yield

Average yield (2-yr) of Pensacola at different N and clipping frequencies

**Improved varieties (i.e., Tifton-9, TifQuik, and UF-Riata) 10-15% more yield**

	N Rate (lbs N/A)			
Clipping Frequency (week)	Forage Yield (lbs of dry matter/A)			
1	960	1580	2020	3500
2	1220	1940	2560	4260
3	1340	2080	3080	5520
4	1320	2160	3120	5600
6	1400	2460	3580	6420
<b>Avg.</b>	1240	2040	2860	5060

Source: Beaty et al., 1963.

Hancock et al., 2017



# Forage Yield

Forage availability from Pensacola at various heights affected by N rate

Cutting Height (inches)	N Application Rate (lbs N/A)			
	0	75	150	300
5+	9.4	10.3	14.7	16.3
4-52	8.1	7.6	8.4	9.1
3-4	9.8	8.5	8.9	9.1
2-3	11.9	10.6	12.2	9.4
1-2	18.0	18.2	17.2	16.3
0-1	42.7	44.8	38.6	39.7

Only 40-50% of total forage yield

Source: Beaty et al., 1963.

# Grazing Management

## Carrying Capacity

- 0.75-1.25 AU/acre/year
  - Bermudagrass- 1.00-1.50
  - Novel Tall Fescue- 0.50-1.00

## Average Daily Gains- Stocker Cattle

- 0.7-1.0 lbs/hd/d
  - Bermudagrass- 1.5-1.8
  - Novel Tall Fescue- 1.8-2.5



*Photo Courtesy of Dr. Kim Mullenix*



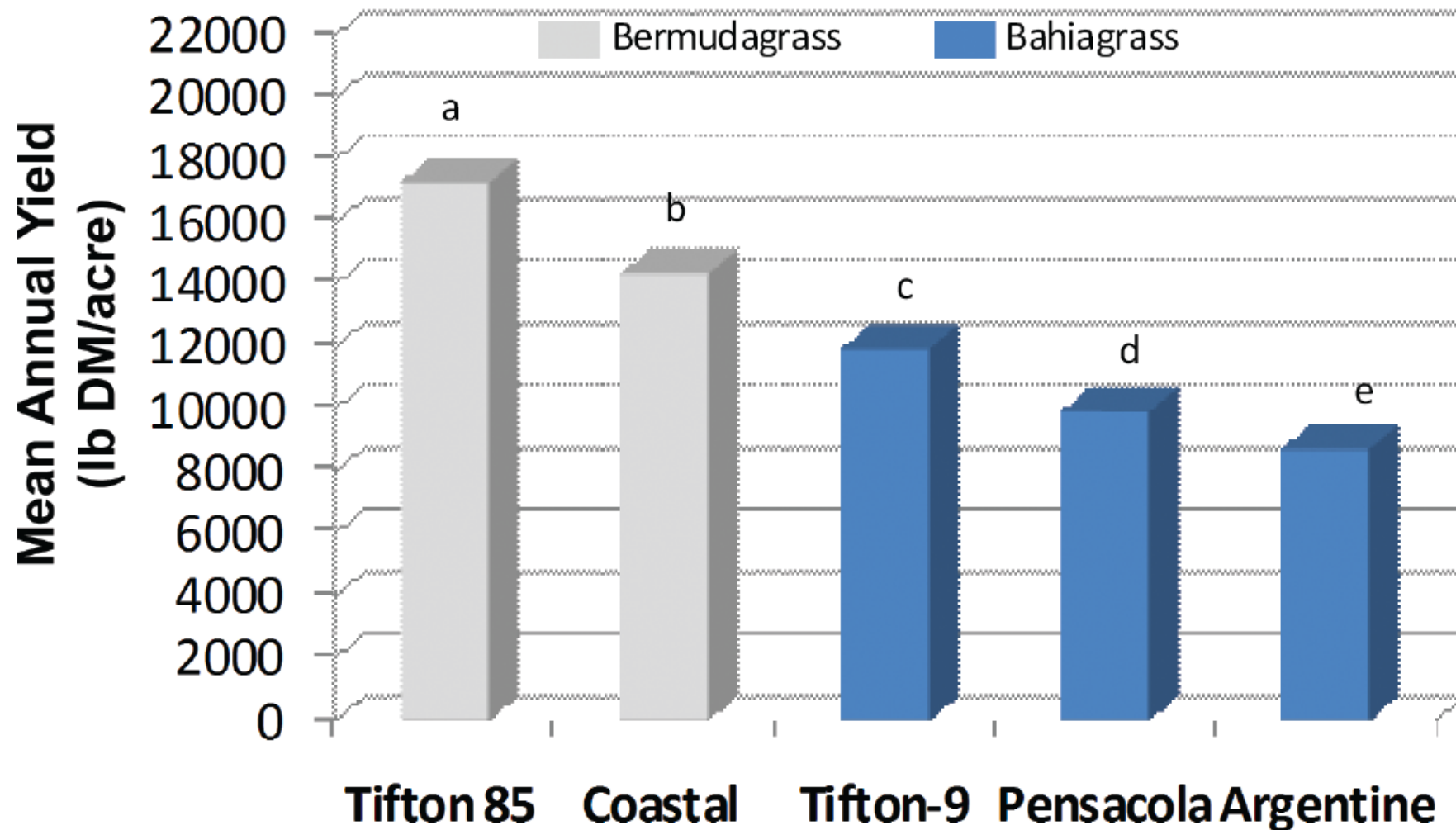
# Hay Management

- Moderate quality hay when cut < 5 wk intervals
  - 50-56% TDN
  - 9-11% CP
- Majority of forage biomass is below 1.5-2” mower cutting height
  - Typically not considered good species for hay production
- New/improved varieties provide much better hay yields than Pensacola
- Can become invasive in bermudagrass hay fields
  - No effect on nutritive quality, but dries darker making less visually appealing



*Photo Courtesy of Dr. Kim Mullenix*

# Average forage yield from 2 bermudagrass and 3 bahiagrass varieties in Tifton, GA over 3-yr.





# Seed Production

- Can be additional source of income on pastures and hayfields
- Newer varieties are Plant Variety Protected, so illegal unless certified field
- Fields of Pensacola and Argentine can be harvested to offset fertilizer and other production costs
  
- Seed yields range from 150-400 lb/acre
- Growth of tillers (later develop into seedheads) stimulated by grazing/mowing and 100 lb N/acre

# Seed Production

- Determining seed harvest time:
  - Maturity rates will vary, so check multiple seedheads
  - Grab and strip seed head
    - Mature seed will easily release from the seedhead
  - Color is not a good indicator
- Dry seed as quickly as possible to avoid heat damage
- Timing is dependent on rainfall, fertility, and management
- Generally mid-to late June in Coastal Plain



# Weed Management

- Best defense is management to promote dense, vigorous bahiagrass growth
  - Once established, bahiagrass is an excellent competitor
- Broadleaf weeds:
  - 2,4-D (not before bahiagrass is 8" tall)
- Grassy Weeds:
  - Vassegrass and Smutgrass
    - Hexazinone (Velpar)
    - April through Late July
    - 0.67-1.12 lbs/ a.i. per acre
    - Only apply when soil moisture is sufficient, humidity is high, and air temperature > 80°F
    - Will injure bahiagrass (temporary burning and yellowing 2-4 weeks after application)

# Weed Management

**WWW.ACES.EDU**  
**Search IPM Guides**

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## Pastures and Forage Crops



Insect and Weed Control Recommendations for 2018





# Brunswickgrass

- Emerging weed problem in bahiagrass
- Moderate quality but not palatability to livestock
- Out competes bahiagrass, leading to field of bahiagrass look-a-likes



*Photo Courtesy of Dr. Ann Blount*

# Brunswickgrass- Appearance

- Brunswickgrass is a perennial summer grass
- Similar growing season and appearance to that of bahiagrass
- Closely related to bahiagrass (*Paspalum notatum* Flugge)
- Similar flowering to 'Pensacola' bahiagrass but it often has 3-4 racemes per head
- Bahiagrass has typically 2 to 3 racemes



Dillard et al., 2019



# Brunswickgrass- Root Structure





# Seed Comparison

Brunswickgrass

Bahiagrass

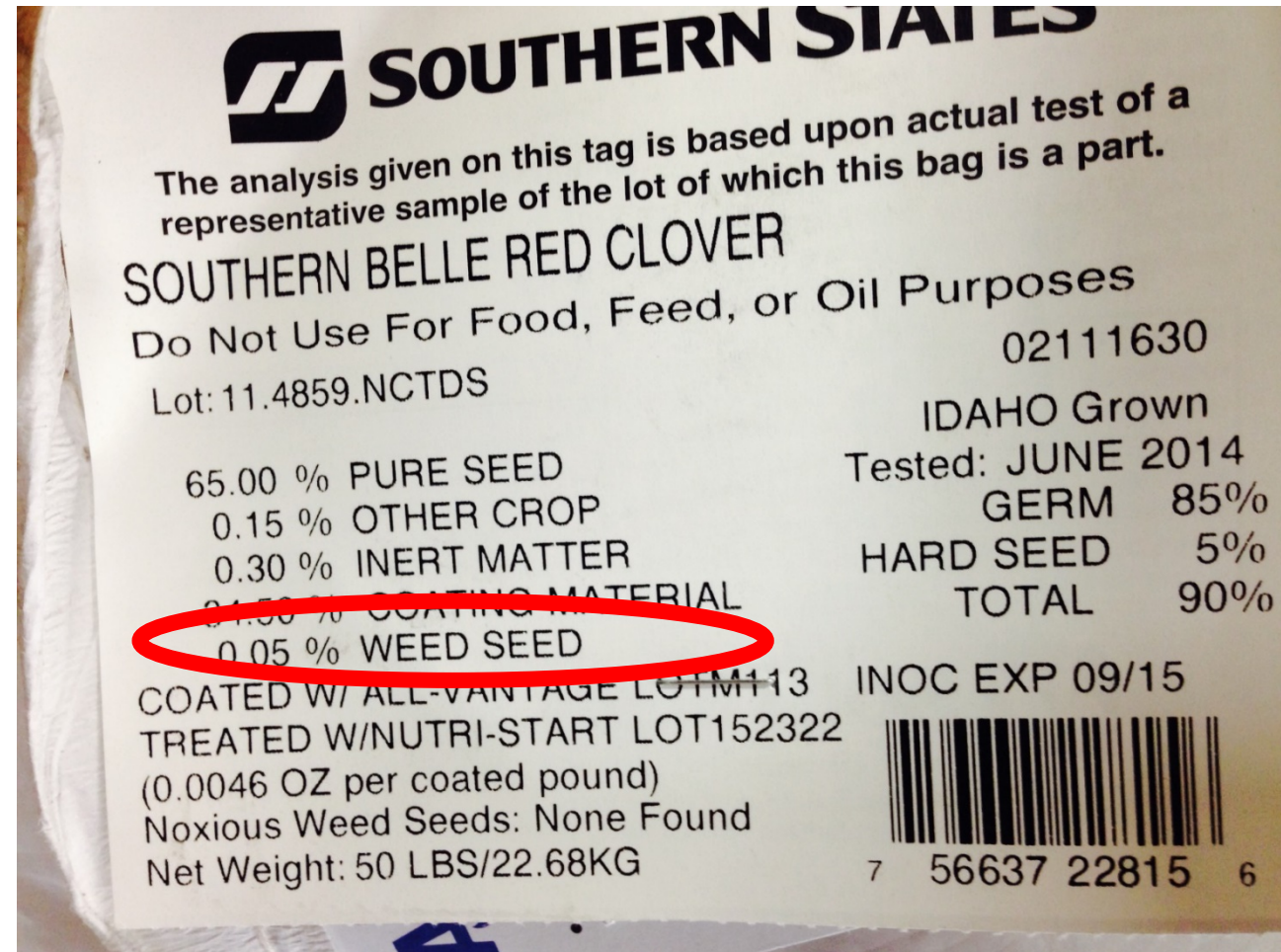


*Photo Courtesy of Dr. Marcelo Wallau*



# Brunswickgrass- How to Control

- Prevention is the key to control
- Brown-bag seed is not tested for contamination
- Certified seed is produced under strict guidelines and will include information on amount of weed seed



# Insect Management

- Fall armyworms most serious problem
  - Severe outbreaks late summer/early fall after dry period
  - Will reduce yield, but usually won't kill stand in established fields
  - Late-season infestations may not cause enough loss to justify treatment



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## Pastures and Forage Crops

Insect and Weed Control Recommendations for 2018



CROPS



## Management of Fall Armyworm in Pastures and Hayfields



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## APRIL 17, 2019

A 1 day advanced grazing school for producers that are using a grazing management program on their farm, and want to 'take it to the next level.'

8:00 AM to 5:45 PM

Registration: \$45

## TOPICS

- Soil Health and Fertility
- Getting Closer to Year Round Grazing
- Pasture Economics
- Hands-On Demonstrations

Contact To Register:

Leanne Dillard [alabamaforages@auburn.edu](mailto:alabamaforages@auburn.edu)

Joshua Elmore [elmorjb@auburn.edu](mailto:elmorjb@auburn.edu)

Space is limited, contact Leanne or Josh immediately.



# Alfalfa in the South Workshop

## May 7, 2019

Cattlemen's Park

4100 US Hwy 231 South, Troy, Alabama

8:30 AM to 3:00 PM

## Program Topics

- Establishment
- Variety Selection
- Weed and Insect Control
- Management
- Research Update
- Economics
- Producer Panel
- Afternoon Field Tour

## Registration: \$15

Call the Wiregrass Research and Extension Center (334-693-2010) to RSVP by April 30

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\$50 for one-day conference,  
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**Deadline: November 19, 2019**



# 2019 Alabama Extension Animal Science and Forage Webinar Series

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10 AM CDT

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