

Is Turf Type Bahiagrass a Reality?

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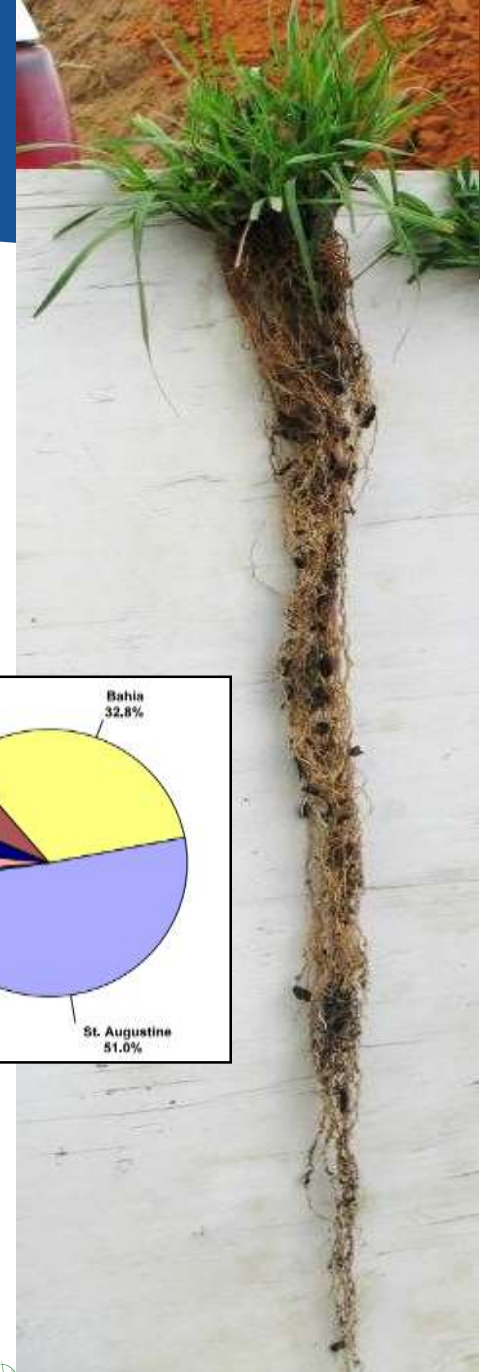
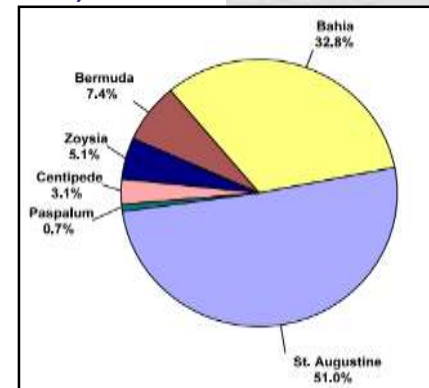
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Bahiagrass - Importance

- > 2.4 million ha in the southeastern US (Burton et al., 1997)
- Persists in infertile, sandy soils and does not require significant fertilization or irrigation (Trenholm et al., 2003)
 - ✓ extensive and deep fibrous root system (Burton, 1943)
- Seed propagation (Adjei et al., 2000)
 - ✓ cheaper and easier
- Wide range of commercial uses (Newman et al., 2011)



“There is no such thing as a good looking Bahia lawn”...

www.iloveturf.com



Lack of

- color
- turf quality

Seed heads

- long flowering season
- large number of seed heads



Rationale

The need for traditional turfgrasses with improved drought resistance.

Or

Bahiagrass with increased aesthetic value



OBJECTIVES (turf-type bahiagrass):

- Darker Green Bahiagrass
- Denser Bahiagrass
- Changes in Seedhead Production
 - Number
 - Height
 - Time of Emergence



What Have We Done?

Creating variability at the tetraploid level

Argentina



Wilmington



Mutagenic treatments

- X-rays
- Sodium Azide
- Ethyl methane sulfonate
- Gamma rays

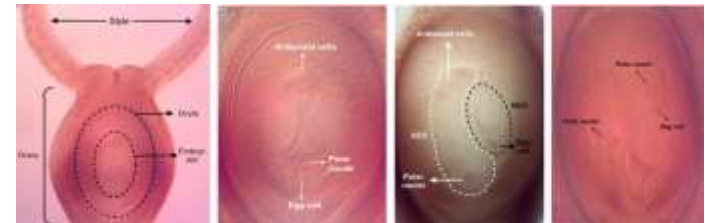


- ≈ 2000 plants were planted in the field in 2008.



- In 2011, 40 plants were selected based on turf characteristics:

- leaf color
- density
- seed head production



Bahiagrass Pistil Sexual Facultative Apomictic

Bahiagrass



12 Entries @ Citra | 13 Entries @ Jay, FL

- 3-4 Entries: Seed produced/ vegetative – Pasture First, Turf Second (SV-PT)
- 3-4 Entries: Seed produced/ vegetative – Turf Only (SV-T)
- 1 Entry: Seed only – Pasture or Turf (S-PT)
- 5 Entries: Vegetative only – Turf Only (V-T)
- Control: Argentine

Bahiagrass, Jay, FL

Planted March 2015

28-Jun-16						
Entry	Type*	Color	Density	Turf Quality	Seed Head #	Seed Head Height
WEMS 12	V-T	8.50 a	6.70 a	7.60 a	17.3 fg	18.8 f
4% EMS	V-T	7.00 c	6.50 abc	7.00 ab	51.5 ef	24.8 de
WCON 1	SV-T	7.80 b	6.60 ab	6.90 b	135.3 c	27.5 bcd
WXR 02	V-T	7.30 bc	6.80 a	6.90 b	154.0 c	24.5 de
MID ROAD 3	V-T	7.70 b	6.70 a	6.80 bc	208.3 b	27.0 cd
WEMS 18	V-T	7.60 b	6.10 cd	6.80 bc	143.5 c	30.0 abc
M98 ALT	SV-PT	6.10 d	6.10 cd	6.70 bc	11.8 g	30.3 ab
3 FPEN 8	SV-PT or SV-T	6.80 c	6.10 cd	6.50 bcd	93.5 d	28.8 abc
M27	SV-PT	6.20 d	6.00 d	6.50 bcd	63.0 de	31.0 a
3 FPEN 7	SV-T	6.10 d	6.20 bcd	6.20 cd	344.5 a	23.3 e
FLDW 5-1	SV-T	6.00 d	5.90 d	6.20 cd	314.3 a	25.0 de
M36	S-PT	7.00 c	5.90 d	6.20 cd	32.0 efg	30.3 ab
Argentine	SV-PT	5.90 d	6.20 bcd	6.00 d	43.3 efg	29.3 abc

*V-T = Vegetative – Turf; SV-T = Seed/Vegetative – Turf; SV-PT = Seed/Vegetative – Pasture or Turf; S-PT = Seed – Pasture or Turf

Bahiagrass, Jay, FL



Vegetative Evaluations





10 Months after sprigging

FLDW-5-1

WEMS12



Vegetative Evaluations

WEMS12
V-T

FLDW-5-1
SV-T



10 Months after sprigging

Just Mowed

Expand for further evaluation:

- Sod-tensile strength?
- Is there a market for a turf only vegetative bahiagrass?



Rhizome Comparisons



Conclusions

- Bahiagrass
 - Probable Seed and vegetative types to be released
 - Vegetative production of Turf only bahiagrass shows promise.
 - More testing: sod strength
 - Questions remain regarding the market
 - Future:
 - More testing of forage production for some lines.
 - WEMS12 is in a class of its own for turf quality
 - Suggest that it be further expanded and tested in landscapes.
 - Water use/persistent comparisons



Thank You!

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