

UF UNIVERSITY of FLORIDA

Broomsedge Management in Bahiagrass Pastures

Brent A. Sellers


UF IFAS Extension
UNIVERSITY of FLORIDA

1

Broomsedge

UF UNIVERSITY of FLORIDA

- Tufted perennials
- 3 to 5 yrs
- ~19 species
- Extremely evident in the fall



2

Broomsedge vs. Sedge

UF UNIVERSITY of FLORIDA



3

Previous Research

UF UNIVERSITY of FLORIDA

- Broomsedge disappeared from NPK fertilized fescue plots over a 5-yr period (Peters and Lowance 1974)
- Tillage (3" depth) + 100 lb N/A decreased broomsedge density in bermudagrass
- Most research has indicated that broomsedge infestation is a result of low fertility
- Many have implicated soil pH

4

Broomsedge

UF UNIVERSITY of FLORIDA

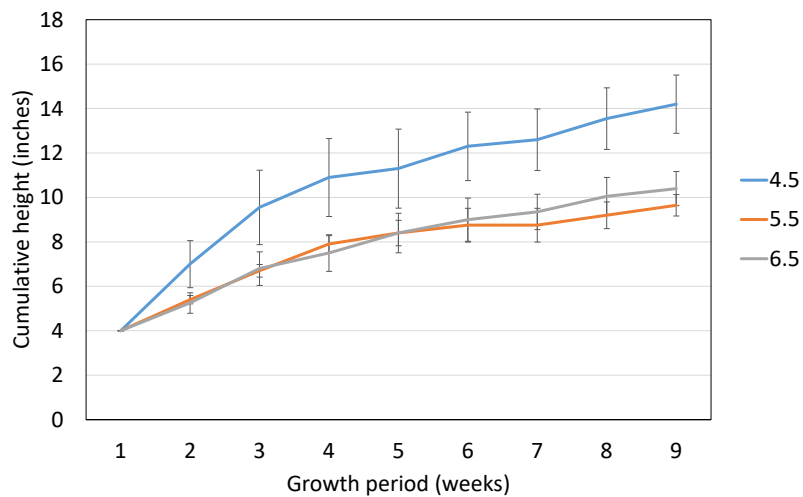
- Soil pH is not necessarily the reason

Location	pH	P	Cu	Zn
			-----ppm-----	
Hardee	5.9	42	0	1.46
Polk	5.1	1	0	0.74
Polk**	6.0	105	1.37	19.39
Polk	4.5	3	0	7.34
Okeechobee	5.4	0	0	3.38
Highlands	4.1	2	0	3.97
Manatee	5.6	0	0	0.43
Ona	4.3	2	0	0.95
Glades	5.8	0	0	6.55
DeSoto	7.8	40	0	0.54

5

Cumulative Purple Bluestem Height

UF UNIVERSITY of FLORIDA



6

Circumstantial Evidence

- Optimize soil pH
- Does P have a role?
- Does Cu have a role?
- Does something else have a role?

Location	pH	P	Cu	Zn
			-----ppm-----	
Hardee	5.9	42	0	1.46
Polk	5.1	1	0	0.74
Polk**	6.0	105	1.37	19.39
Polk	4.5	3	0	7.34
Okeechobee	5.4	0	0	3.38
Highlands	4.1	2	0	3.97
Manatee	5.6	0	0	0.43
Ona	4.3	2	0	0.95
Glades	5.8	0	0	6.55
DeSoto	7.8	40	0	0.54

7

Methods

- 3 locations
 - Ona (2012)
 - Arcadia (2012)
 - St. Cloud (2013)
- Annual application
 - 10-5-10
 - Frit 503-G (micros)
- Broomsedge counts annually
- Soil and tissue samples – fall
- Ona = Lime (2012, 2018); Arcadia = S; St. Cloud = None

	0Lime 0 NPK Micro	Lime 0 NPK 0 Micro	0 Lime NPK Micro	Lime NPK 0 Micro	Lime 0 NPK Micro	0 Lime NPK 0 Micro	Lime NPK Micro	0 Lime NPK 0 Micro
Rep 4	0 Lime NPK 0 Micro	Lime 0 NPK Micro	0 Lime NPK Micro	Lime 0 NPK 0 Micro	Lime NPK Micro	0 Lime NPK Micro	Lime NPK 0 Micro	0 Lime NPK 0 Micro
Rep 3	0 Lime NPK 0 Micro	0 Lime NPK Micro	0 Lime NPK 0 Micro	Lime NPK 0 Micro	Lime NPK Micro	0 Lime NPK Micro	Lime NPK 0 Micro	Lime NPK 0 Micro
Rep 2	0 Lime NPK Micro	0 Lime NPK Micro	0 Lime NPK 0 Micro	Lime NPK 0 Micro	Lime NPK Micro	0 Lime NPK Micro	Lime NPK 0 Micro	Lime NPK 0 Micro
Rep 1	Lime NPK Micro	0 Lime NPK Micro	Lime 0 NPK Micro	0 Lime NPK Micro	Lime NPK 0 Micro	0 Lime NPK 0 Micro	Lime NPK 0 Micro	Lime NPK 0 Micro

8

Methods – Location Information



Location	Soil pH	P	K	Mg	Ca	Cu	Mn	Zn	Species
		-----PPM-----							
Arcadia	7.7	13	10	69	1879	0	2	2	Bushy bluestem
Ona	4.3	2	19	24	116	0	0	0	Purple bluestem
St. Cloud	5.5	2	22	44	281	0	0	0	Broomsedge bluestem

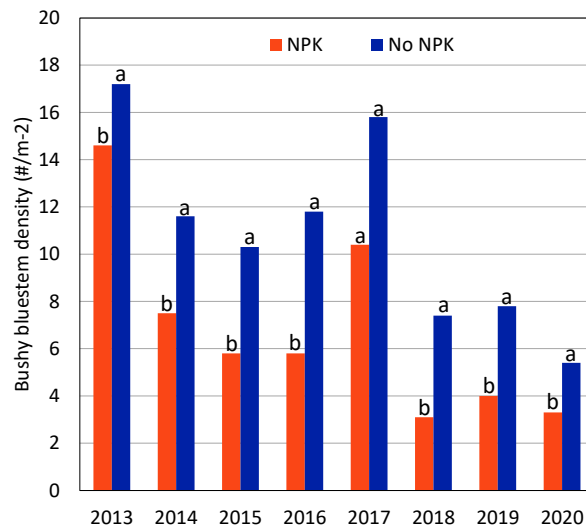


9

Results - Arcadia



- NPK response
- No response:
 - S
 - Micros

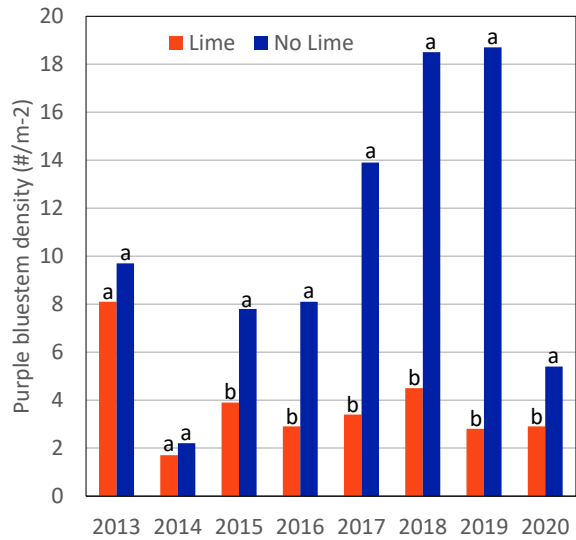


10

Results - Ona



- Lime response
- No response:
 - NPK
 - Micros



11

Macronutrient Study - 2017



- Lime applied as needed
- Rates:
 - N – 50 lb/A
 - P – 25 lb/A
 - K – 50 lb/A
- Locations
 - Ona
 - Buck Island

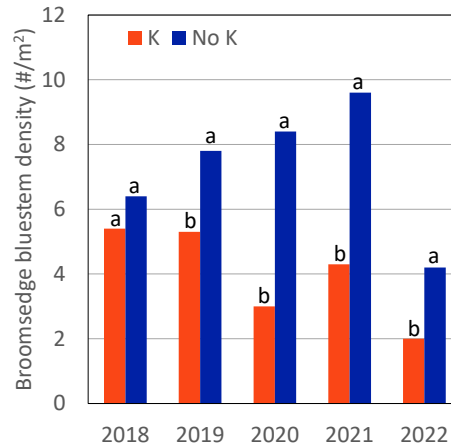
Rep 1	N + P	UNT	P	N + K	K	N + P + K	N	P + K
Rep 2	P + K	K	N	N + P + K	N + P	P	UNT	N + K
Rep 3	P	N + P	P + K	N + P + K	N	UNT	N + K	K
Rep 4	N	P	K	N + P	N + K	P + K	N + P + K	UNT

12

Results – Buck Island

UF UNIVERSITY of FLORIDA

- K response
- No response:
 - P
 - N

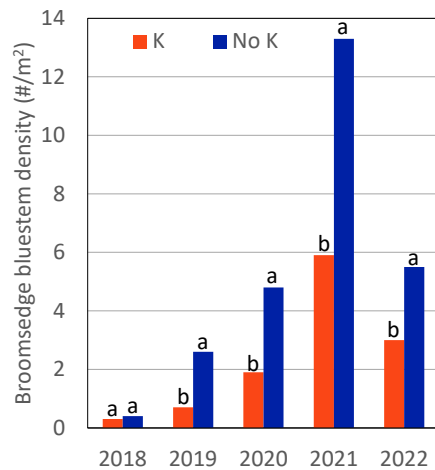


13

Results - Ona

UF UNIVERSITY of FLORIDA

- K response
- No response:
 - P
 - N
- Hexazinone in 2017



14

Discussion

- St. Cloud location: why no impact?
- Why is P having an impact in other states, but not here?
- Liming: soil test first!
- Multi-pronged approach:
 - Fertility
 - Defoliation
 - Tillage?
 - Herbicide (spot-treat or wiping)

15

Using a Wiper

- Usually a 10% v/v solution (glyphosate)
- Wipe in two directions
- Practice makes perfect
 - Use of foam marker solution



16

Wiping Broomsedge

UF UNIVERSITY of FLORIDA



17

Wiping Broomsedge – 2 years

UF UNIVERSITY of FLORIDA



18

Summary



- In some respects, increasing soil fertility will help – SOIL TEST
- This approach will take time and doesn't eliminate
- Wiping is an option
- More research
 - Roller chopping followed by fertilization?
 - Multiple mowing cycles?
 - Increased grazing pressure?

19

Questions



- sellersb@ufl.edu
- 863-735-1314

20