



Benghal Dayflower (aka Tropical Spiderwort) in Georgia: A Review

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Benghal Dayflower/Tropical Spiderwort

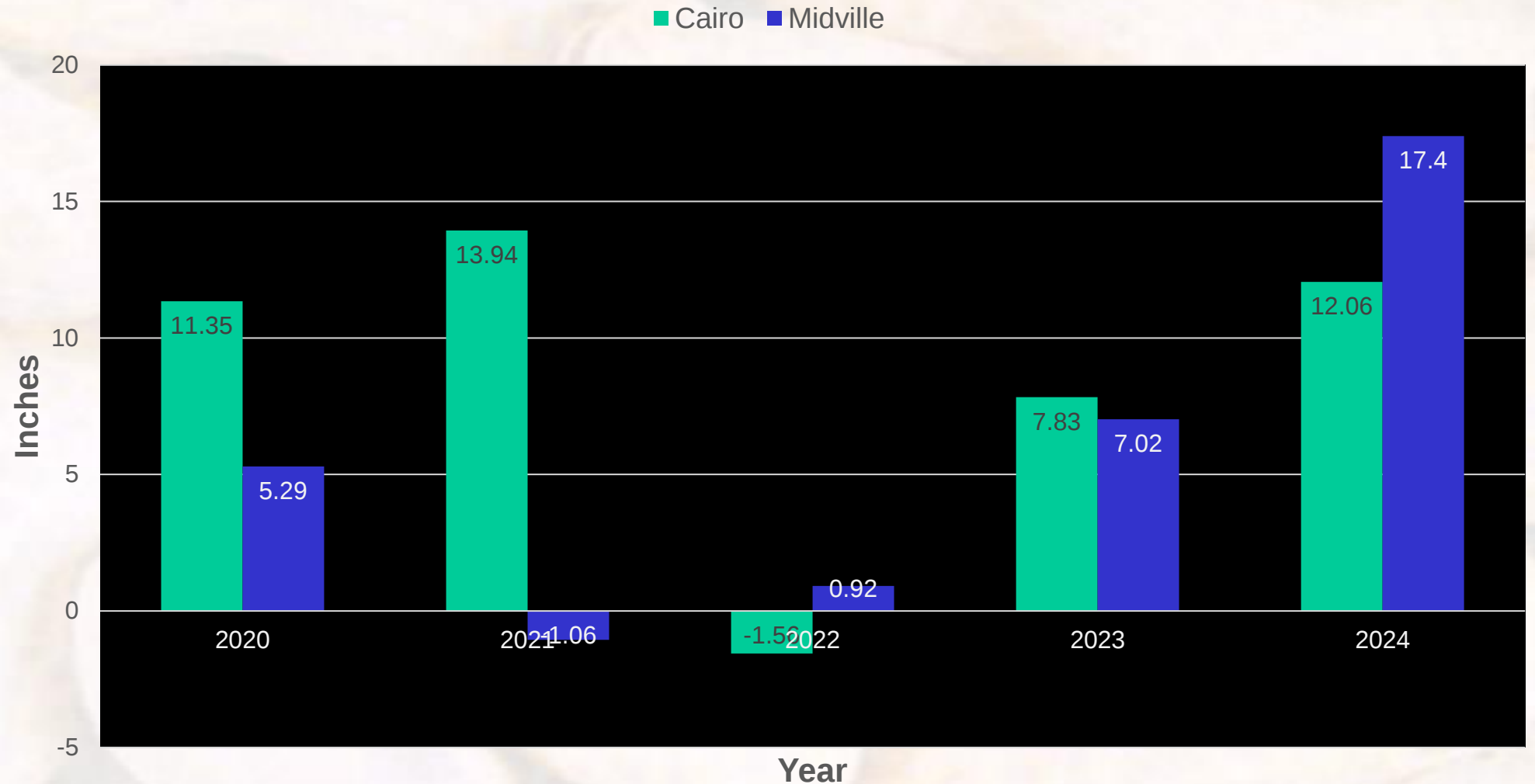
Commelina benghalensis



- noxious and invasive
- tropical Asia/Africa native
- annual or perennial
- seeds and rhizomes
- above and below ground flowers
- A “monsoon” weed
 - *rapid germination and completion of lifecycle when soil moisture is plentiful*
- 8,000-12,000 seeds/plant
 - *Seed to seed in 42 days*

Rainfall Departures From Normal (2020-2024)

April 1- October 1





The Other Spiderwort

Tradescantia spp.





Benghal Dayflower in Cotton





Benghal Dayflower in Peanut





Benghal Dayflower in Field Corn



Benghal Dayflower Following Corn Harvest

Dr. Ted Webster
USDA/ARS
1969-2016





Common Dayflowers and Look A-Likes in Georgia

Commelinaceae Plant Family (41 Genera, 650 species)

- *Commelina* spp. (6)

- Benghal dayflower
 - *C. benghalensis*
- Asiatic dayflower
 - *C. communis*
- Spreading dayflower
 - *C. diffusa*
- Slender dayflower
 - *C. erecta*
- Carolina dayflower
 - *C. caroliniana*
- Virginia dayflower
 - *C. virginica*

- *Murdannia* spp. (3)

- Marsh dayflower
 - *M. keisak*
- Doveweed
 - *M. nudiflora*
- Asiatic dewflower
 - *M. spirata*

Commelina spp.



Source: Stephanie Brundage



Source: https://www.illinoiswildflowers.info/prairie/plantx/sl_dayflower.htm



Source: <https://www.inaturalist.org/observations/61568115>

Commelina

**Scale:
much smaller**



**Asiatic
Dayflower:
2 Very Blue,
1 White**



**Spreading
Dayflower:
3 Blue**



**Tropical
Spiderwort:
2 Blue,
1 White**

Murdannia spp.



marsh dayflower



doveweed

(Source: A. Chandler, UF/IFAS)



Asiatic dewflower

(Source: J. Horn)



Commelina spp. vs. *Murdannia* spp.

- *Commelina* spp.
 - spathe (leaf-like bract)
 - Encloses flowers/fruit
 - flowers with 3 petals
 - 2 large/1 small
- *Murdannia* spp.
 - No spathe
 - Flowers with 3 petals
 - same size



Benghal dayflower



Marsh dayflower



Benghal Dayflower



Leaf Length: Leaf Width ~ 1.5
(Less than 3:1)

Underground Flowers





Other Fun Facts

- host for reniform, southern/peanut root knot nematodes
- host for southern stem rot (white mold)
- seed is spread by doves and other birds
- has some value as forage but.....





Forage Quality of Benghal Dayflower/Tropical Spiderwort

Forage	CP-%	TDN-%	RFQ
bermudagrass ¹	12.1	59	116 (good)
perennial peanut ¹	15.1	66	133 (good)
Benghal dayflower/tropical spiderwort²	10.5	61	102 (fair)

¹Winners of 2005 Tri-State Hay Contest

²Sampled on October 6, 2006; 12" tall and flowering



Some Important Research Data

- Planting Date
- Twin Rows
- Tillage
- Burrial Depth



T. Flanders, Retired Grady/Berrien CEA



Table 1. Benghal Dayflower Density (*in NTC*) As Influenced by Planting Date (~30 DAP)

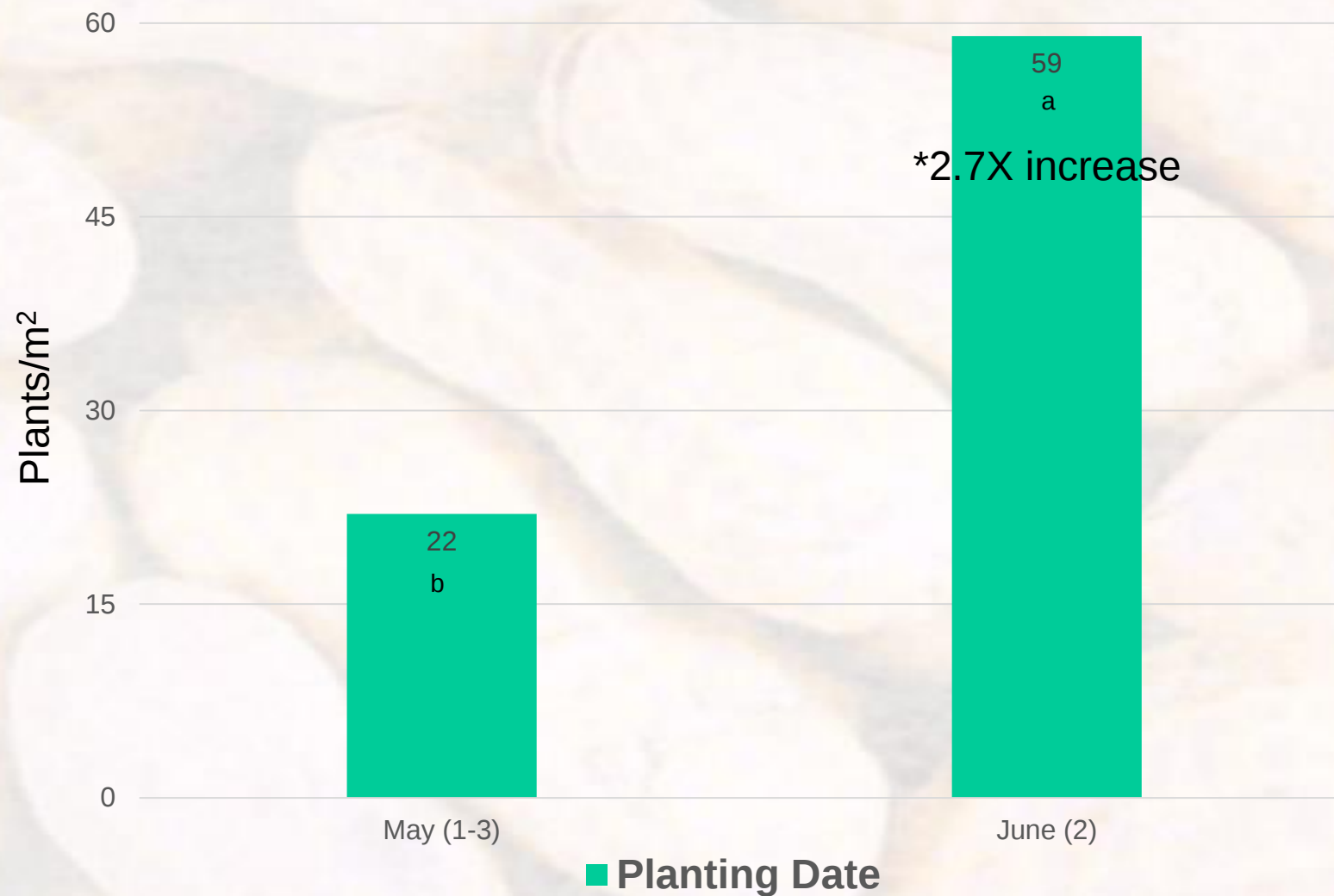


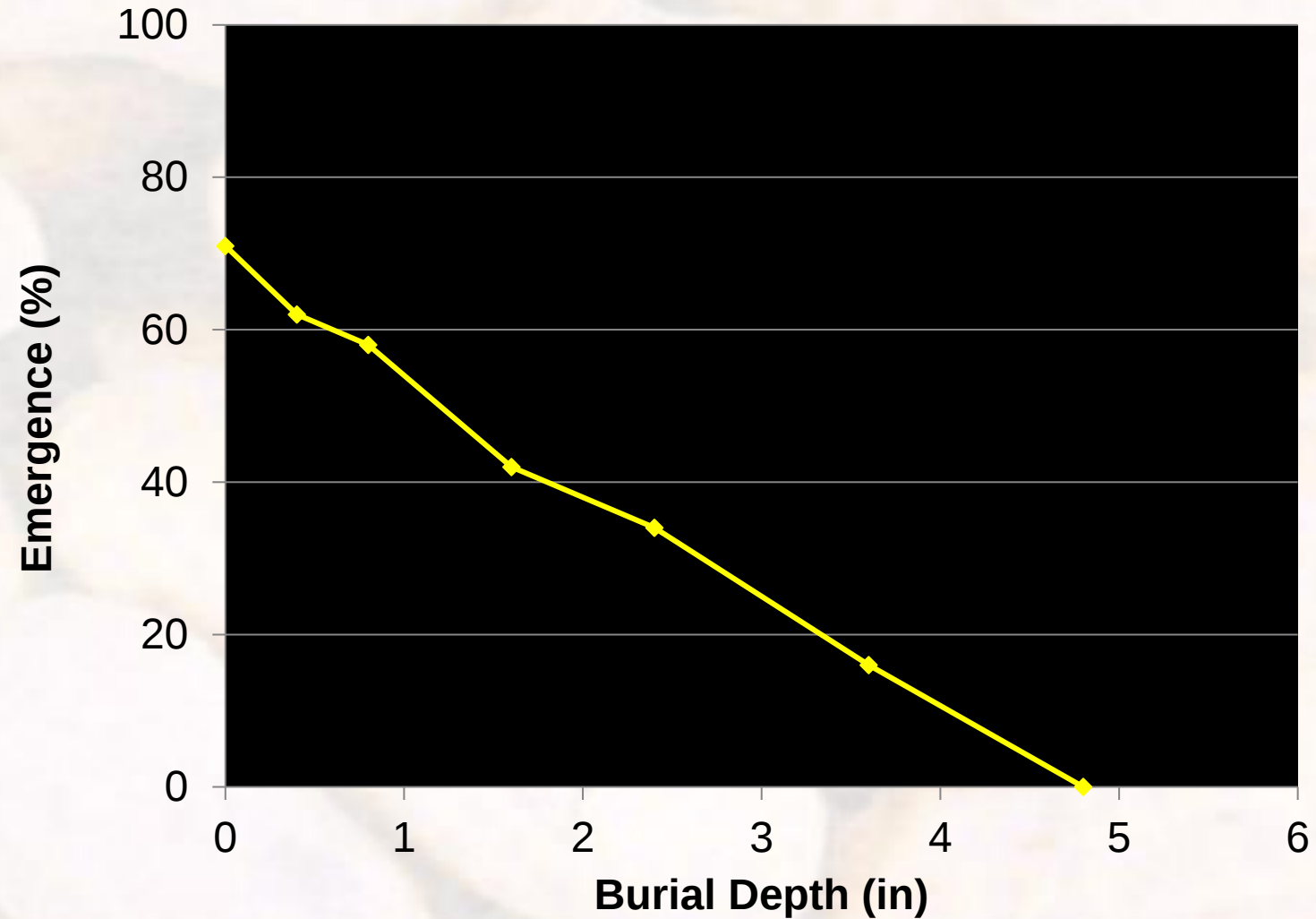


Figure 2. Tropical Spiderwort/Benghal Dayflower Control in Peanut As Influenced by Row Pattern





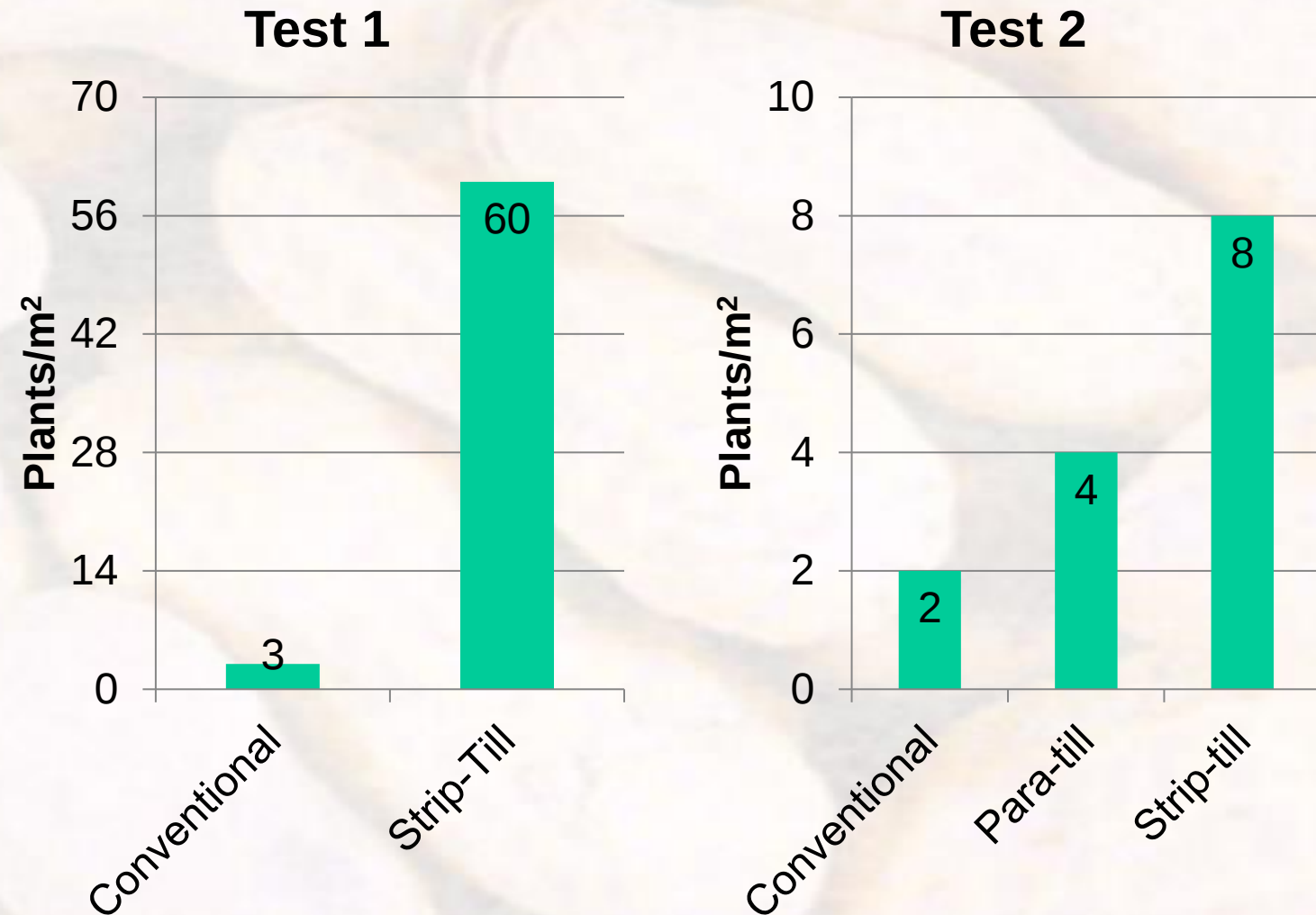
Figure 3. Tropical Spiderwort/Benghal Dayflower Emergence As Influenced by Burial Depth



Source: Sabila et al. 2012. Evaluation of factors that influence Benghal dayflower (*Commelina benghalensis*) seed germination and emergence. *Weed Science* 60:75-80.



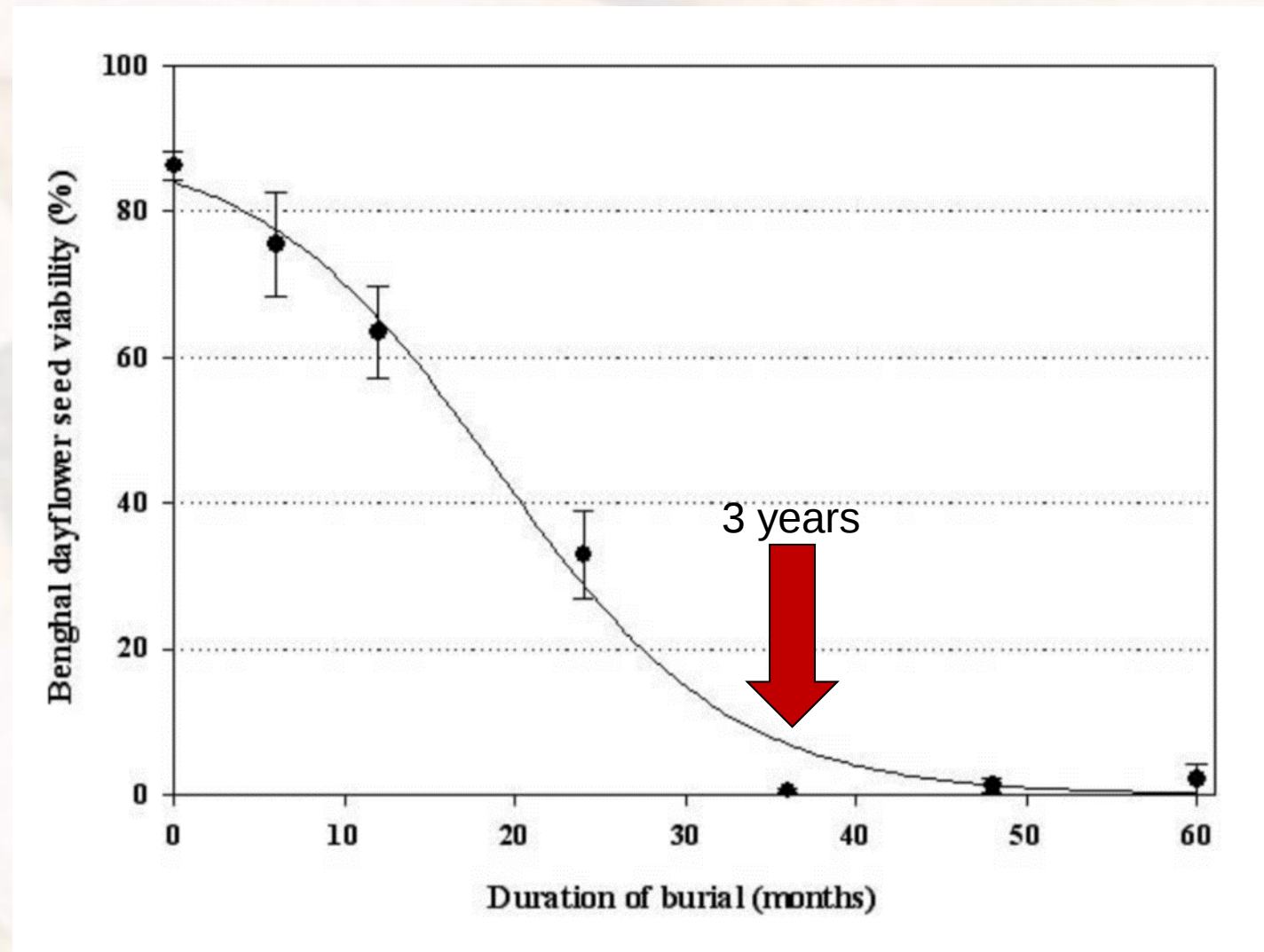
Figure 4 . Tillage Effects on Tropical Spiderwort/Bengal Dayflower Density



Source: Brecke et al. 2005. Impact of tillage and herbicides on Tropical Spiderwort. Proceedings of Tropical Spiderwort Symposium, Tifton, GA. November 29, 2005. (<http://gaweed.com/tsw2005/index.html>)



Figure 5. The Influence of Burial Duration (8" depth) on Tropical Spiderwort/Benghal Dayflower Seed Viability



Control





BD/TS in Peanut

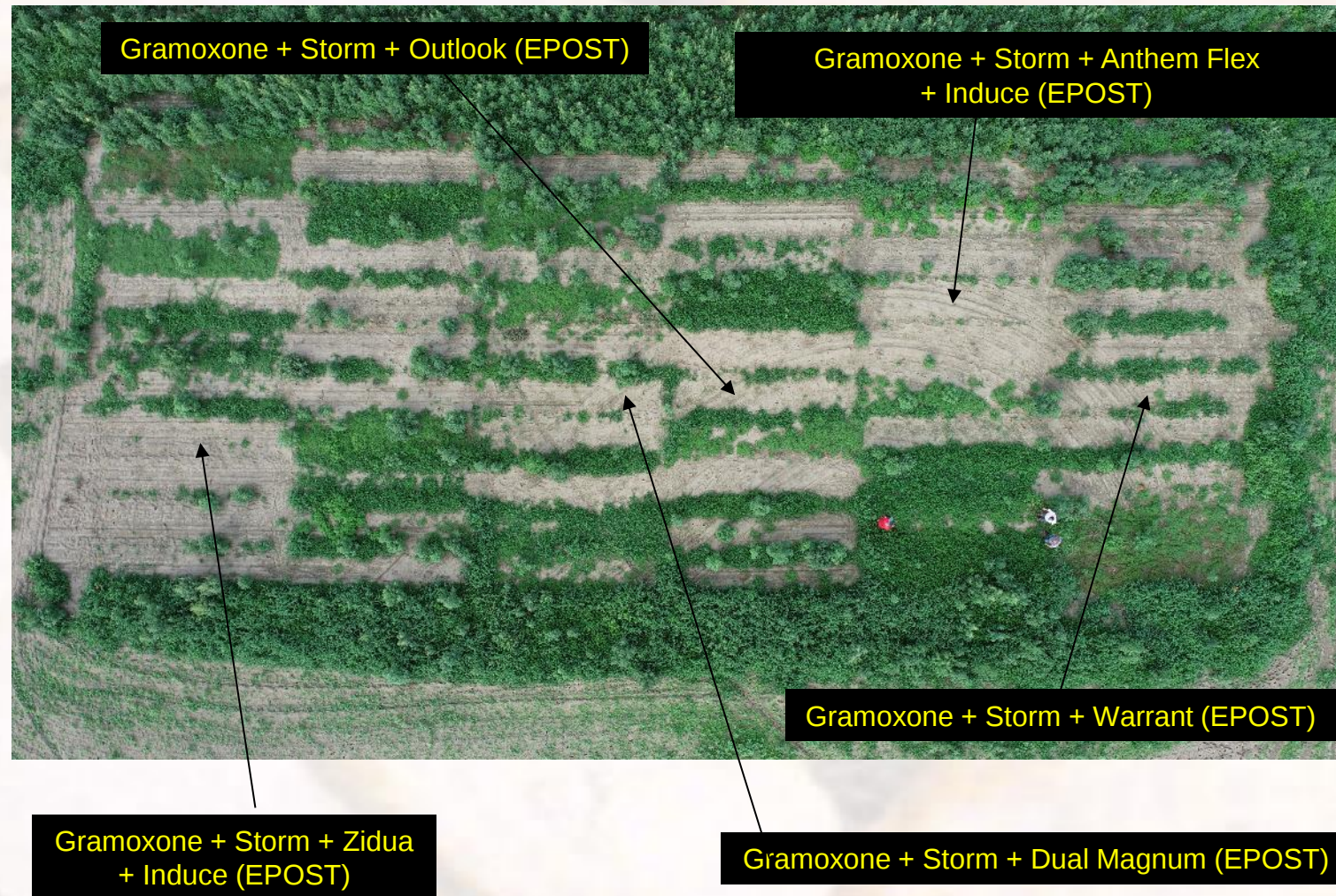
- 1) Plow (i.e. bury seed): 3-5 years (not every year)
- 2) Planting Date (May vs. June)
- 3) Twin Rows
- 4) **Group 15's (Dual Magnum, Warrant, Outlook, Zidua, Anthem Flex)**
- 5) Paraquat
- 6) Cadre?
- 7) Strongarm
- 8) Basagran





Benghal Dayflower/Tropical Spiderwort – 2022

Gramoxone + Storm + Group 15's



TSW-01-22
Sumter Co.
EPOST: July 26
PIC: August 30 (35 DAT)

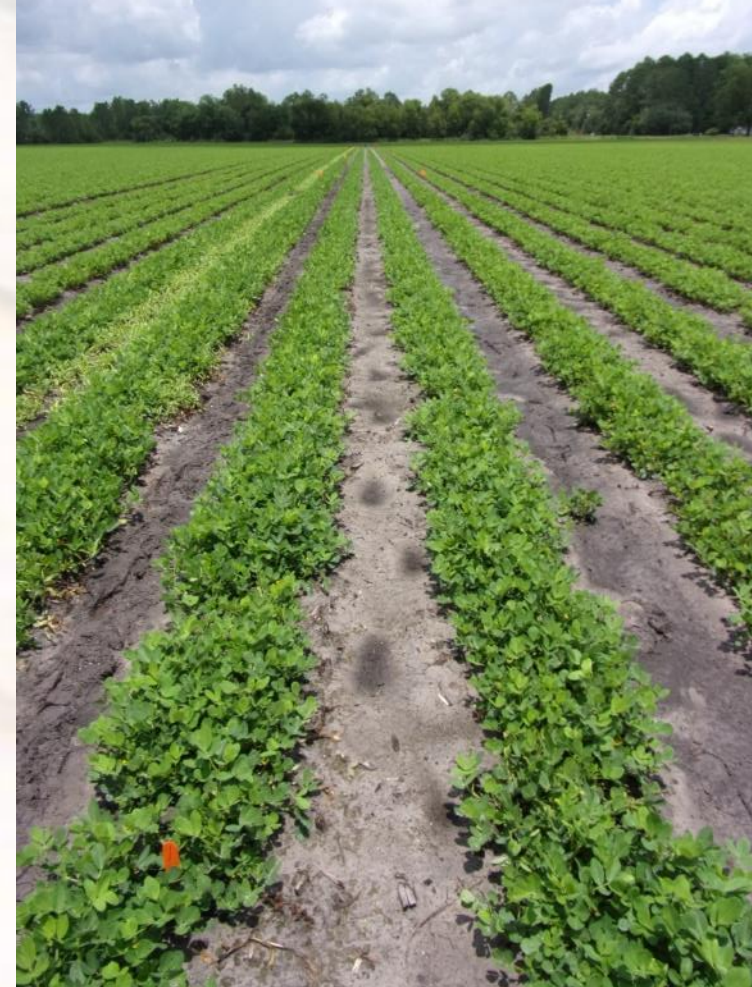
Storm or Basagran



Spreading Dayflower in Peanut - 2023



NTC



Strongarm 84WG @ 0.45 oz/A
Dual Magnum 7.62EC @ 16 oz/A



Spreading Dayflower in Peanut - 2023



NTC



Broadloom 4LC @ 32 oz/A
Dual Magnum 7.62EC @ 16 oz/A

BD/TSW Control in Field Corn



☐ Residuals

- ☐ Dual Magnum, Outlook, Warrant, Zidua, Anthem Maxx

☐ POST

- ☐ 2,4-D (crop injury issues)
- ☐ Basagran
- ☐ Halex GT/Callisto

☐ Lay-By/Hood

- ☐ Aim
- ☐ Evik
- ☐ Gramoxone

☐ Post-Harvest

- ☐ Gramoxone, 2,4-D, Aim, Reviton (?)

Benghal Dayflower/Tropical Spiderwort – HPPD's



Callisto 4SC @ 3 oz/A
Agridex @ 1% v/v

BD/TS Control in Field Corn



Untreated



Gramoxone Max 3SC @ 16 oz/A
Dual Magnum 7.62EC @ 1.33 pt/A
Herbimax @ 1% v/v
Lay-By

Post-Harvest Tropical Spiderwort Control – 2024

COMBE: 12-16" tall; flowering; POST1 = 09/10/24; POST2= 09/17/24



NTC



Gramoxone 3SL @ 32 oz/A
Induce @ 0.25% v/v
POST1 + POST2



Roundup P-MAX3 5.88 SL @ 32 oz/A
Enlist One 3.8SL @ 24 oz/A
POST1 + POST2

BD/TSW Control in Soybeans



- Residuals
 - *Dual Magnum, Outlook, Warrant, Zidua, Anthem Maxx*
- POST
 - *Basagran, Classic, FirstRate, Enlist Duo/One, Pursuit*
- Lay-By/Hood
 - *Gramoxone, Aim*



Benghal Dayflower/Tropical Spiderwort - 2022



Roundup PowerMax3 5.88SL @ 25 oz/A
Pursuit 2SL @ 4 oz/A



Roundup PowerMax3 5.88SL @ 25 oz/A
Classic 25DG @ 0.5 oz/A



Roundup PowerMax3 5.88SL @ 25 oz/A
FirstRate 84WG @ 0.3 oz/A

TSW-01-22
August 17
22 DAT



BDF/TS in Cotton

BENGAL DAYFLOWER...AKA TROPICAL SPIDERWORT



Residual Control:

Warrant : excellent
Dual Mag: excellent
Outlook: excellent

POST Control:

2,4-D: excellent
Gramoxone: excellent
Direx+MSMA: excellent
RU + Direx: very good
RU + Staple: good
RU + Aim: good
RU + Valor: good
RU + Dicamba: fair
Liberty: no good



Possible Bengal dayflower cotton program



PRE: Warrant

**POST Before UP:
Warrant/Dual/Outlook**

**POST After UP:
RU + Staple or RU +
Auxin; will need to get
residual in somewhere**

**Layby: Direx + MSMA +
Dual/Warrant/Outlook**





Benghal Dayflower Summary

- “monsoon” weed
- Late emerging
 - ~60+% *after June 1*
- Does not like tillage!
 - *Burial depth important*
 - *5”/3 years*
- Lots of seed
 - *Above/below ground flowers*
- Residual’s
 - *Group 15’s*
- Post-Harvest
 - *seed to seed in ~42 days*

