Updates on Peanut Production and Pest Management

NC Peanut Production Meetings, 2022

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Peanut Team at NC State

- Entomology (Brandenburg, phased retirement)
- Plant Pathology (Shew, retired)
- Weed Science (Jordan)
- Nematology (Gorny)
- Agronomy (Jordan)
- Engineering (Roberson and Ward)
- Breeding and Genetics (Dunne and Andres)
- Food Science (Dean, USDA)
- Economics (Brown and Washburn, NCSU)
- NC State Extension Agents
- NCDA&CS

Seems like I did everything right, BUT

- Often compared with last year or a neighbor (just not the same)
- Rainfall patterns (just a few miles can matter)
- Variety mix (generally, Bailey II is better than Sullivan)
- Got about 3 plants per foot of row overall (some areas might have lower populations)
- Inoculant (worth 5% even on rotated ground)
- Tillage (reduced till can be lower in some parts of fields in some years)
- Soil-borne pathogens and disease (difficult to see these above ground)

Seems like I did everything right, BUT

- Average pH for the field is on the low side (areas with low pH can yield even lower when gypsum is applied)
- Potassium was a little high (interferes with calcium uptake)
- Zinc index was marginal (average of 250 means some spots might be higher)
- Postemergence herbicides applied during flowering under stressed conditions (Cobra and Ultra Blazer)
- Thrips injury and Gramoxone injury (can handle one but not both)
- Wet year and rootworms (low areas might have some damage)
- Dug a week earlier than I should have (5%)

Table 3-3. Peanut Response to Soil pH and Gypsum Rate[a]

Approximate Soil pH	Peanut Yield Relative Gypsum Rate		
	0	0.5×	1.0×
	Percent of Maximum Yield		
4.5	42 f	55 e	55 e
5.2	55 e	56 e	59 e
5.6	78 c	78 c	69 d
6.0	84 b	97 a	95 a

[a]Means followed by the same letter are not significantly different at p = 0.10. Data are pooled over three years.

Southern corn rootworm

Southern corn rootworm is an insect pest that feeds on developing pods in the soil

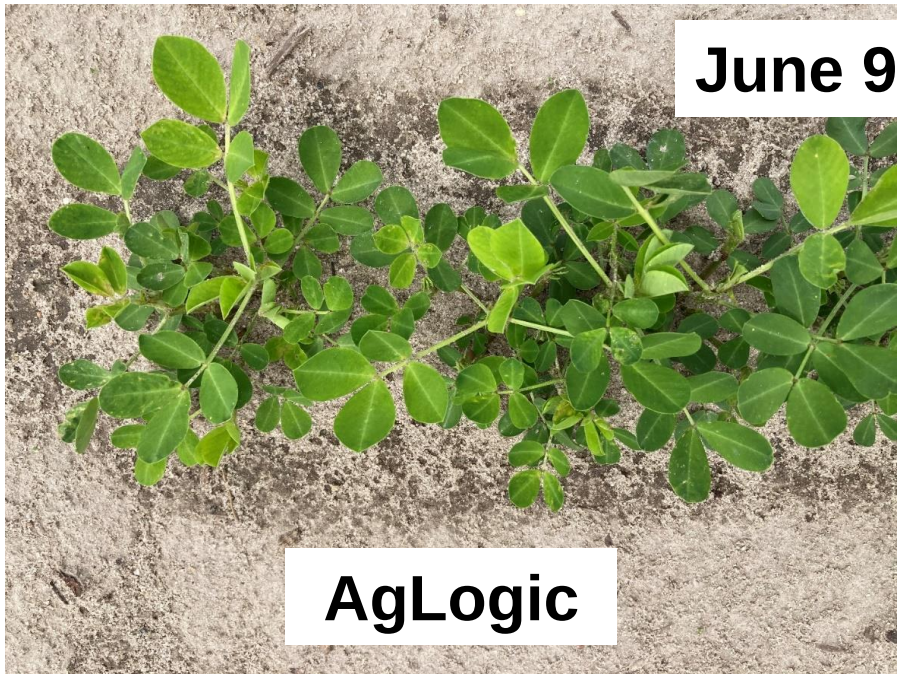
Southern Corn Rootworm Control without Lorsban

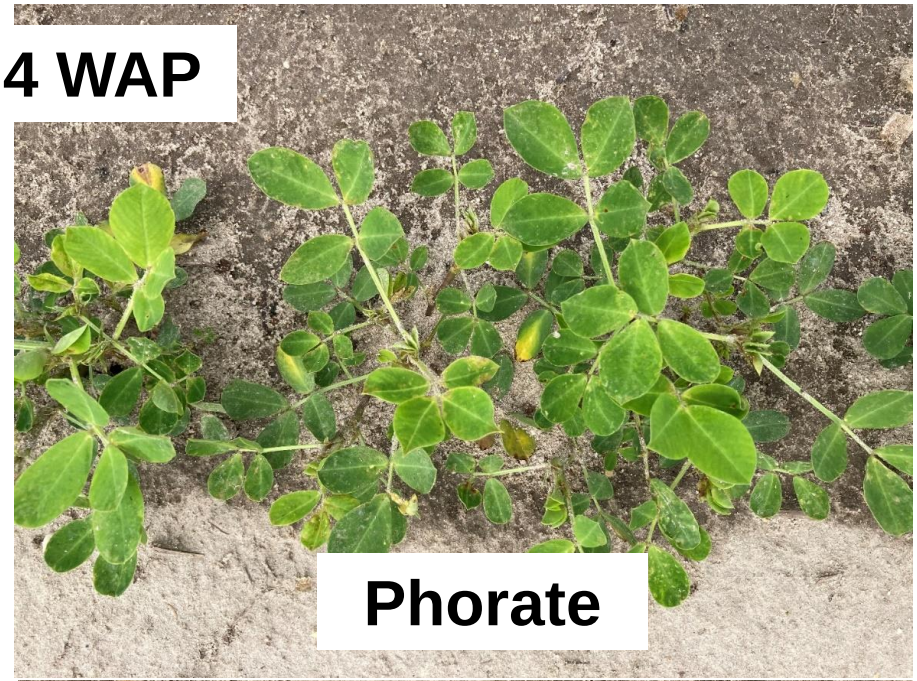
- SCR Risk Index can help avoid high risk fields
- Consider avoiding poorly drained fields
- Generally need 20% or more scarring to have measurable yield loss due to puncturing of pods
- Consider planting higher risk fields early (finer-textured soils that are poorly drained as well as irrigated fields)
- Greatest risk – finer-textured soils with irrigation
- Controlling adults to control rootworms is erratic at best
- AgLogic, Thimet, and Lorsban are no not registered for SCR

Category	Criteria	Points
Soil texture	Loamy sand	5
	Fine sandy loam	10
	Loam	15
Drainage class	Well drained	5
	Moderately well drained	10
	Somewhat poorly drained	15
	Poorly drained	20
Damage history	None	0
	Low	5
	Moderate	10
	High	15
Planting date	Before May 1	5
	May 2 – May 15	10
	After May 15	15
	After June 1	25
Cultivar resistance	Bailey II, Emery, GA 06G, Sullivan, Wynne, TUF 297, TUF 511	20
Irrigation	No irrigation	0
	Periodic irrigation or frequent rainfall	20
	Intensive Irrigation	45
Total score	**50 or less, low risk: 55-65, moderate risk: 70 or more, high risk**	

Runners will be at more risk due to later maturity than shown here

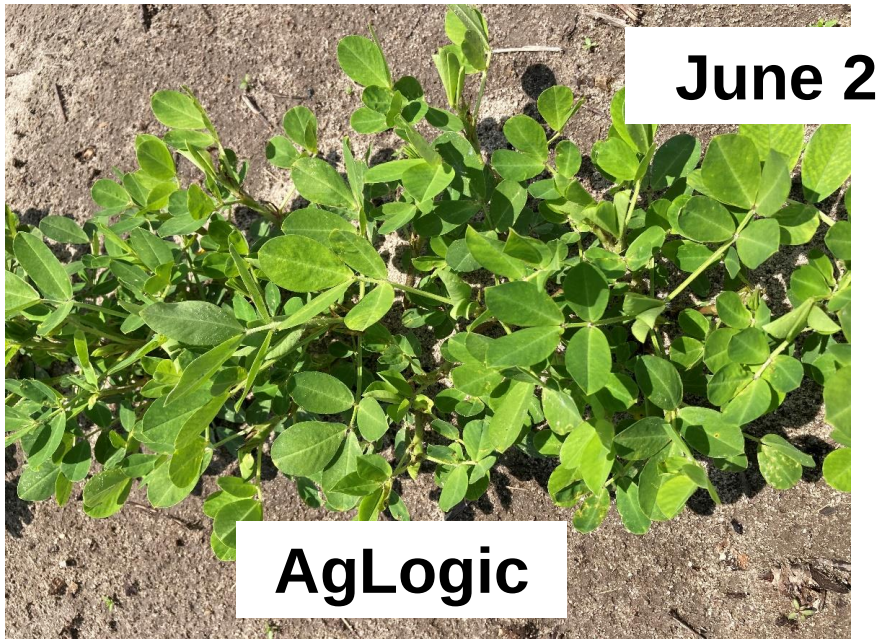
Opposite of Risk for TSW
Make sure plant population is adequate and thrips control program is effective if planting early

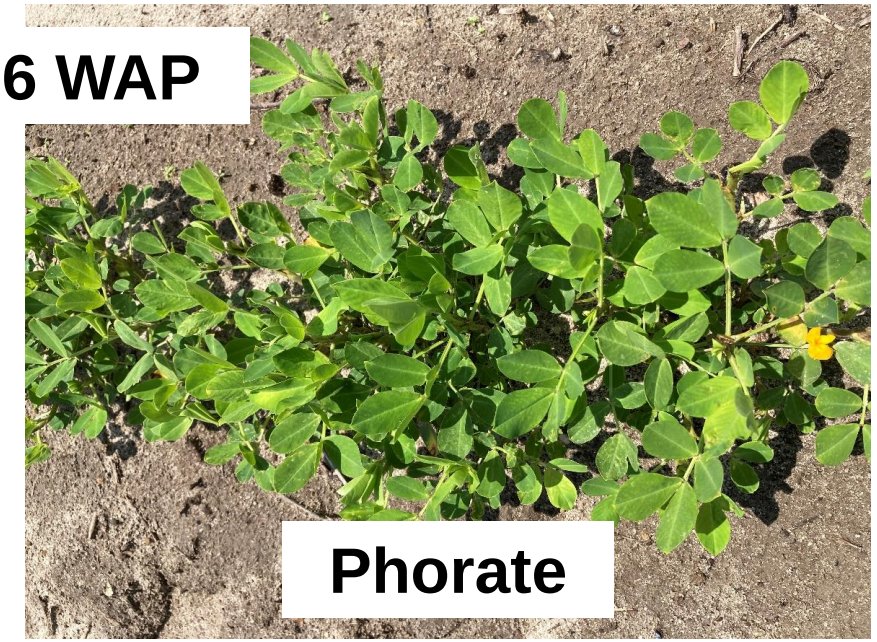

June 9, 4 WAP
AgLogic


Phorate


Admire Pro


Non-treated


June 21, 6 WAP
AgLogic


Phorate


Admire Pro


Non-treated

Okay to spray Gramoxone on these

Do not spray Gramoxone on these. Control thrips first with acephate, get some regrowth and then spray Gramoxone (will take more than a week). Mixture of Gramoxone and acephate is okay but not good enough to prevent yield loss.

Vydate

Promoted for thrips control and suppression of nematodes

Activity against thrips and nematodes but has not been tested recently in NC

Not currently recommended in NC because it has not been tested

Results from Disease Management Trials

Fungicide Programs and Varieties

Bailey II, Emery, Sullivan

Miravis program (NCSU)

Chlorothalonil-Miravis plus Elatus (4 wks)-Provost Silver-Chlorothalonil

Advisory program

Chlorothalonil-Provost Silver-Revytek-Lucento- Chlorothalonil

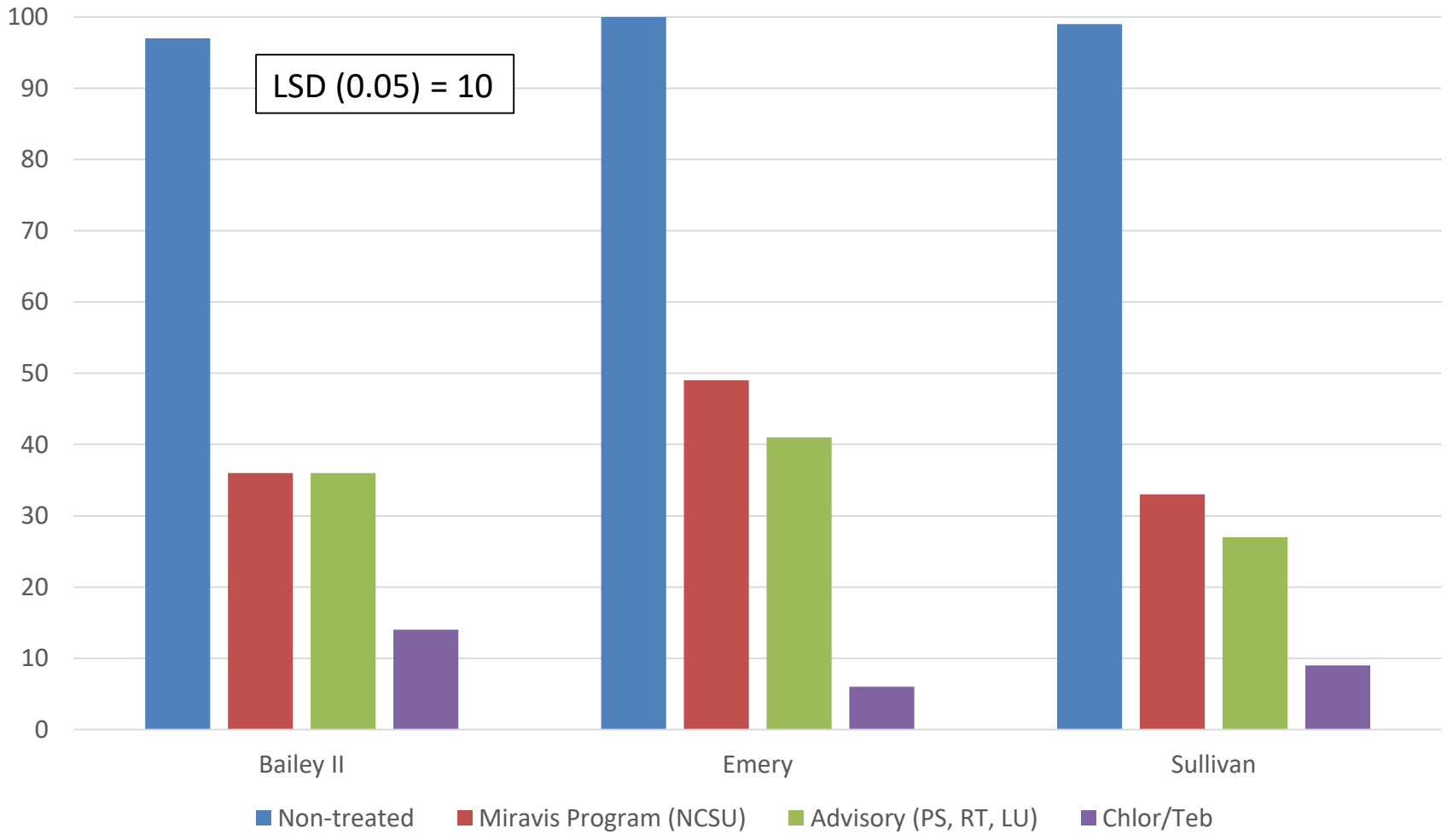
Inexpensive yet old

Chlorothalonil-Chlorothalonil plus tebuconazole (3 sprays)-Chlorothalonil

Non-treated control

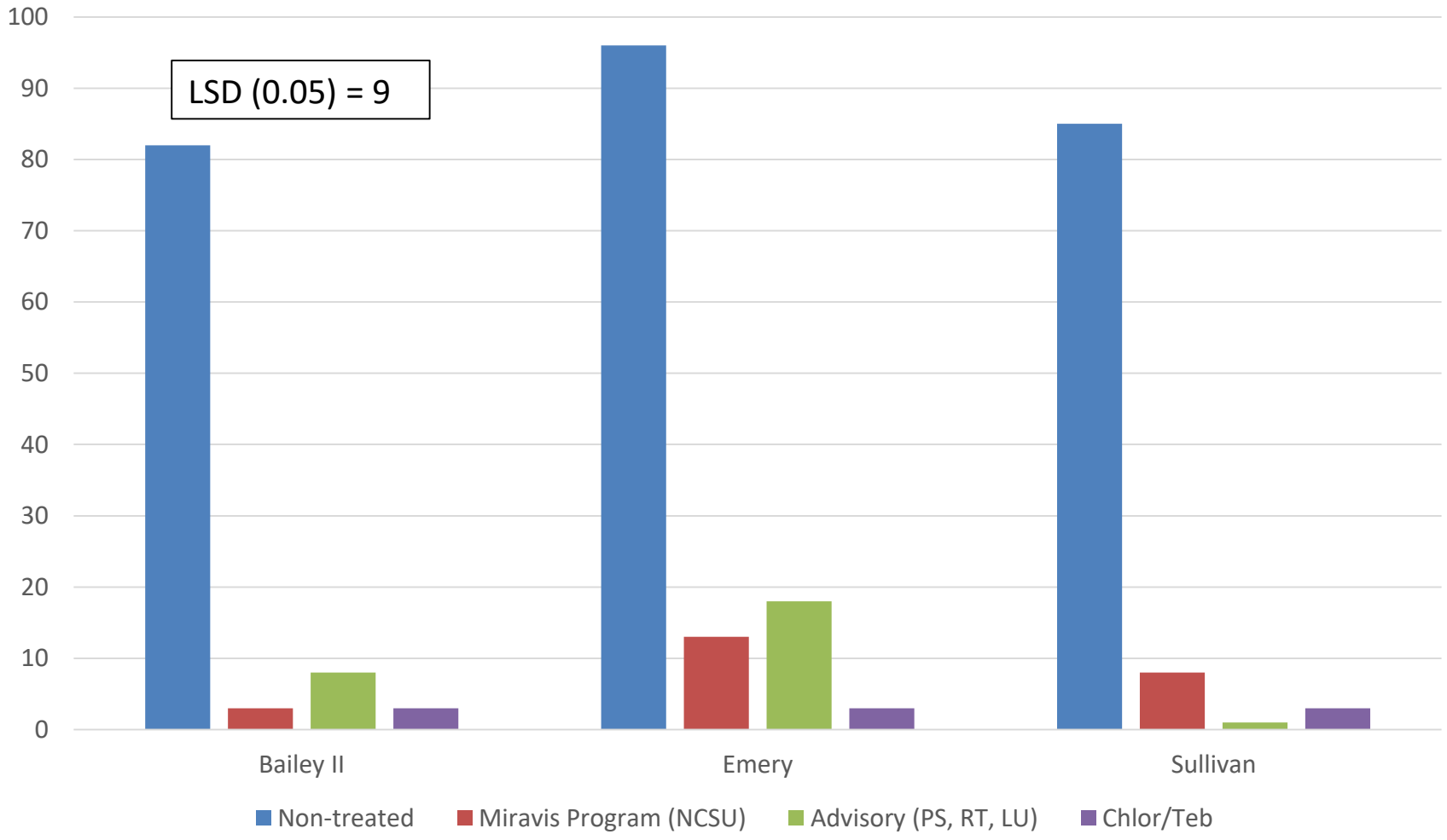
Leaf Spot Incidence (Percent of Leaves with Lesions) at Harvest

Data are pooled over three locations in 2021



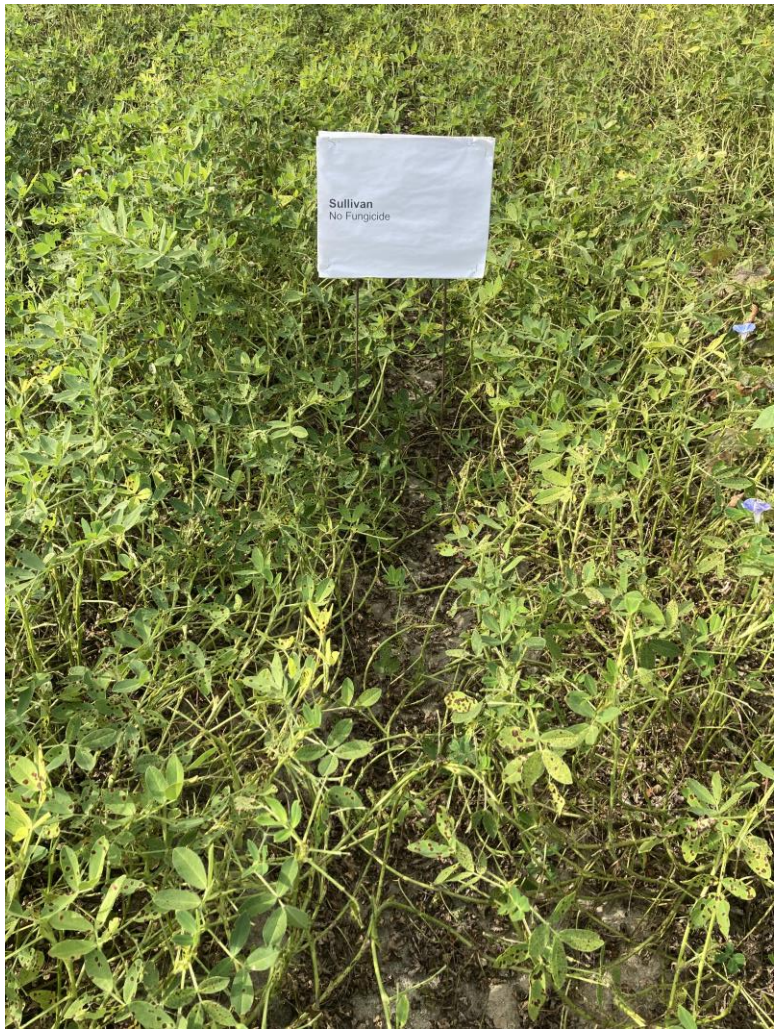
Canopy Defoliation (Percent of Leaves Lost) at Harvest

Data are pooled over three locations in 2021



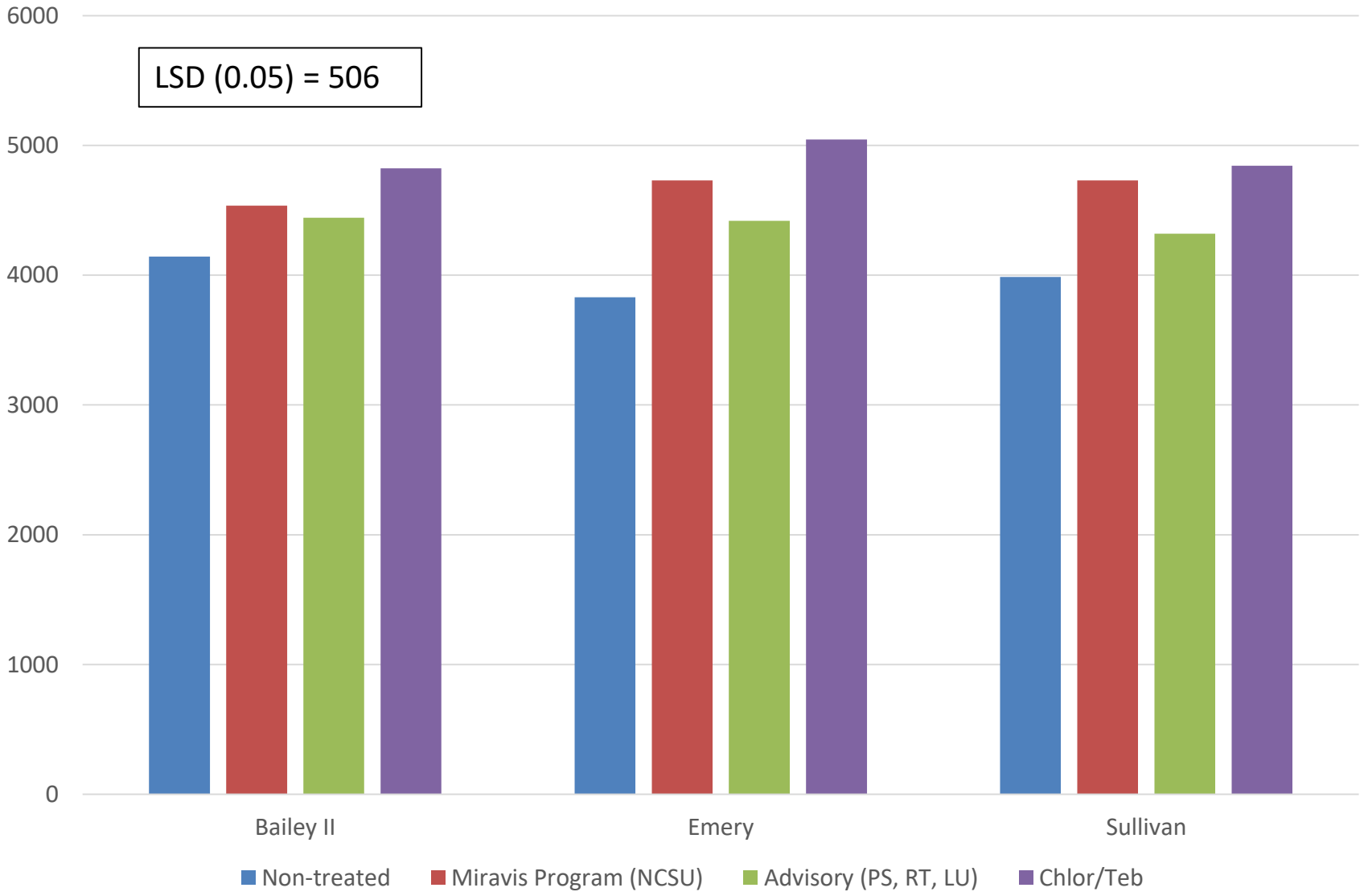

Bailey II
No Fungicide


Emery
No Fungicide


Sullivan
No Fungicide

Peanut Yield (pounds per acre) with Fungicides and Varieties

Data are pooled over three locations in 2021



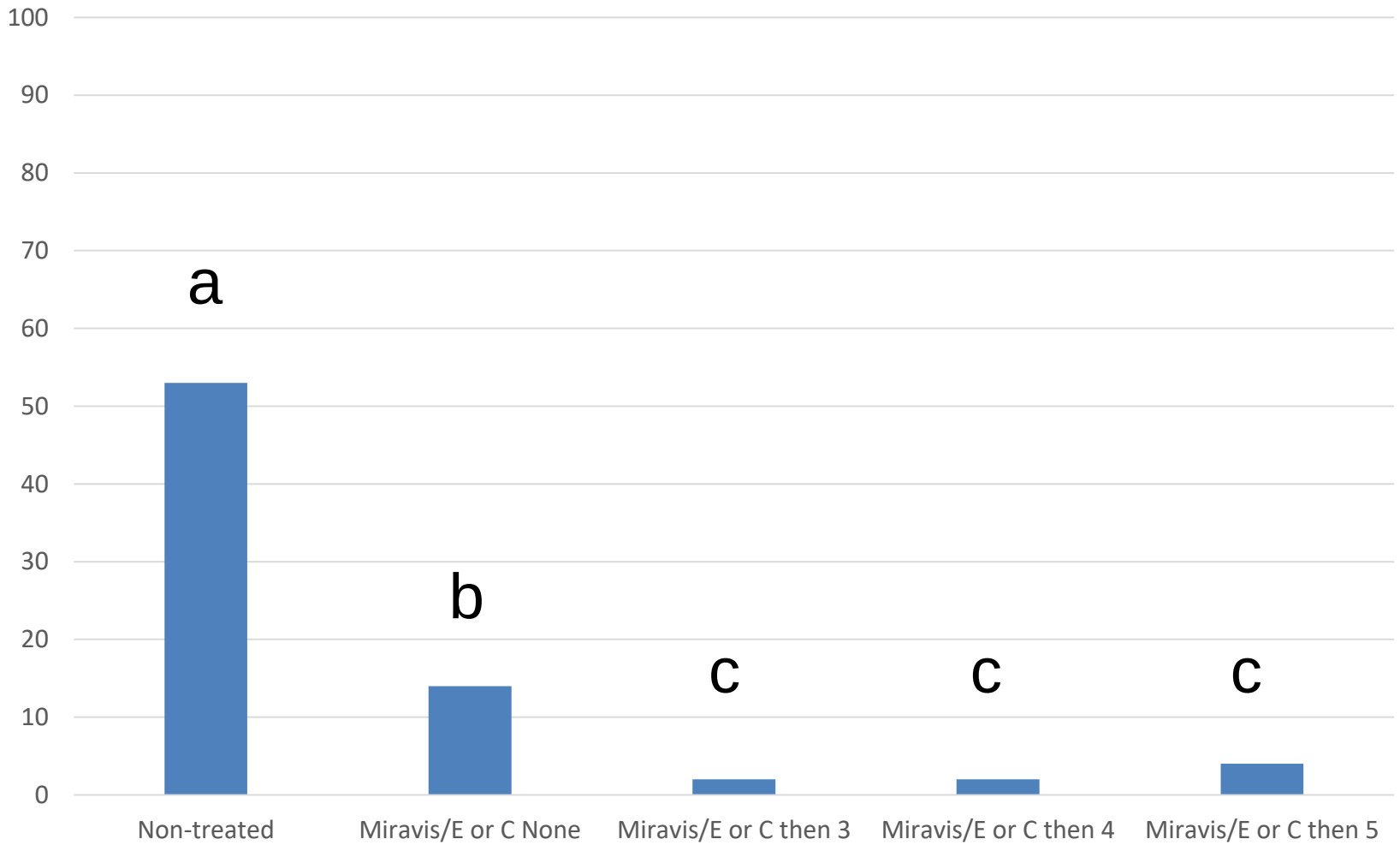
Miravis plus Elatus or Convoy Applied at Spray 2

- Non-treated
- No follow up after spray 2
- Follow up 3 weeks after spray 2
- Follow up 4 weeks after spray 2
- Follow up 5 weeks after spray 2

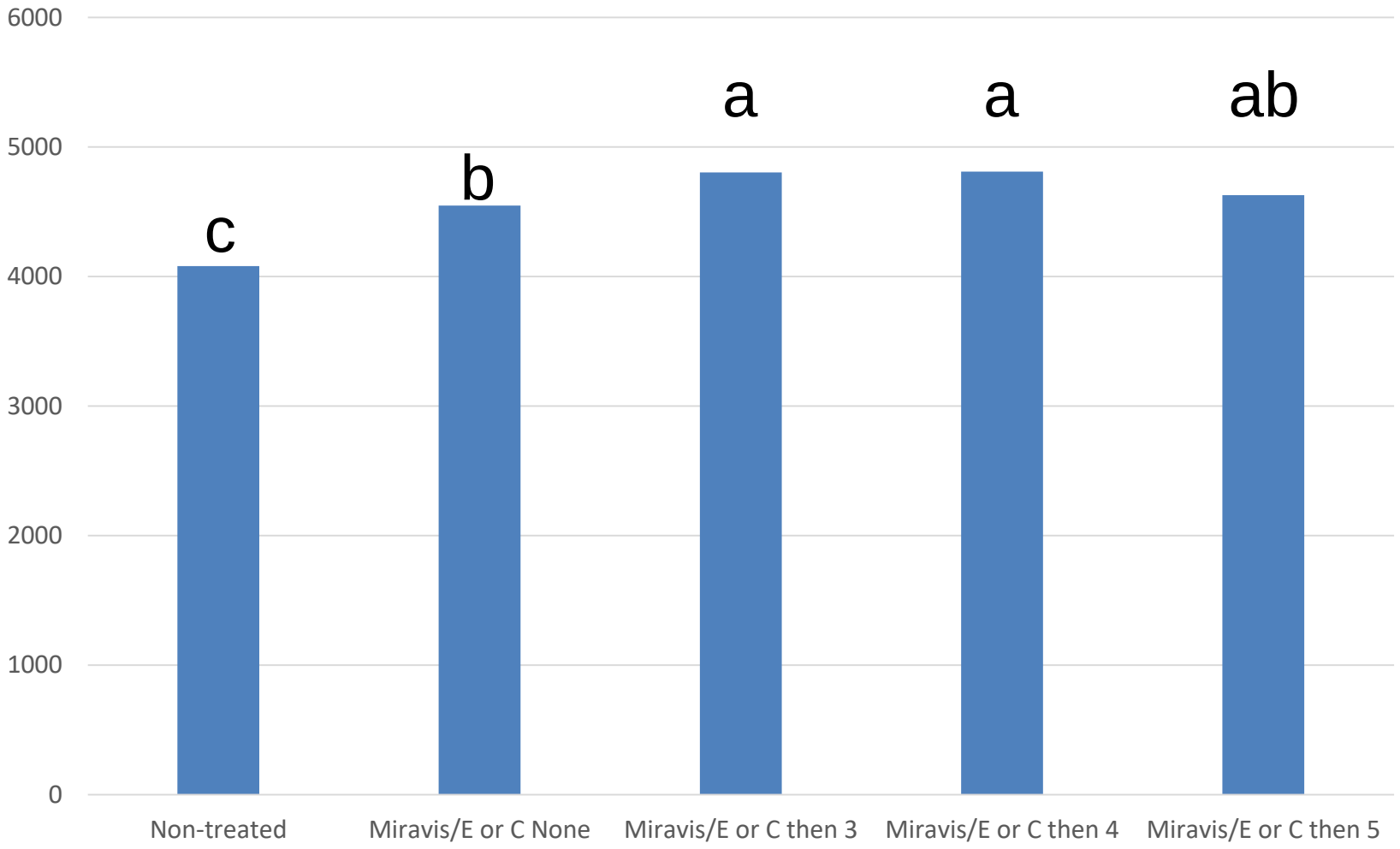
*Spray 1 was chlorothalonil

**Follow up was chlorothalonil plus Abound or tebuconazole (through August) then chlorothalonil (through mid September)

Canopy Defoliation (percent of leaves fallen) at Digging with Bailey or Bailey II Based on the Interval of Follow up after Miravis plus Elatus or Convoy. Study 1. Data are pooled over 10 site/years (2019-2021.)

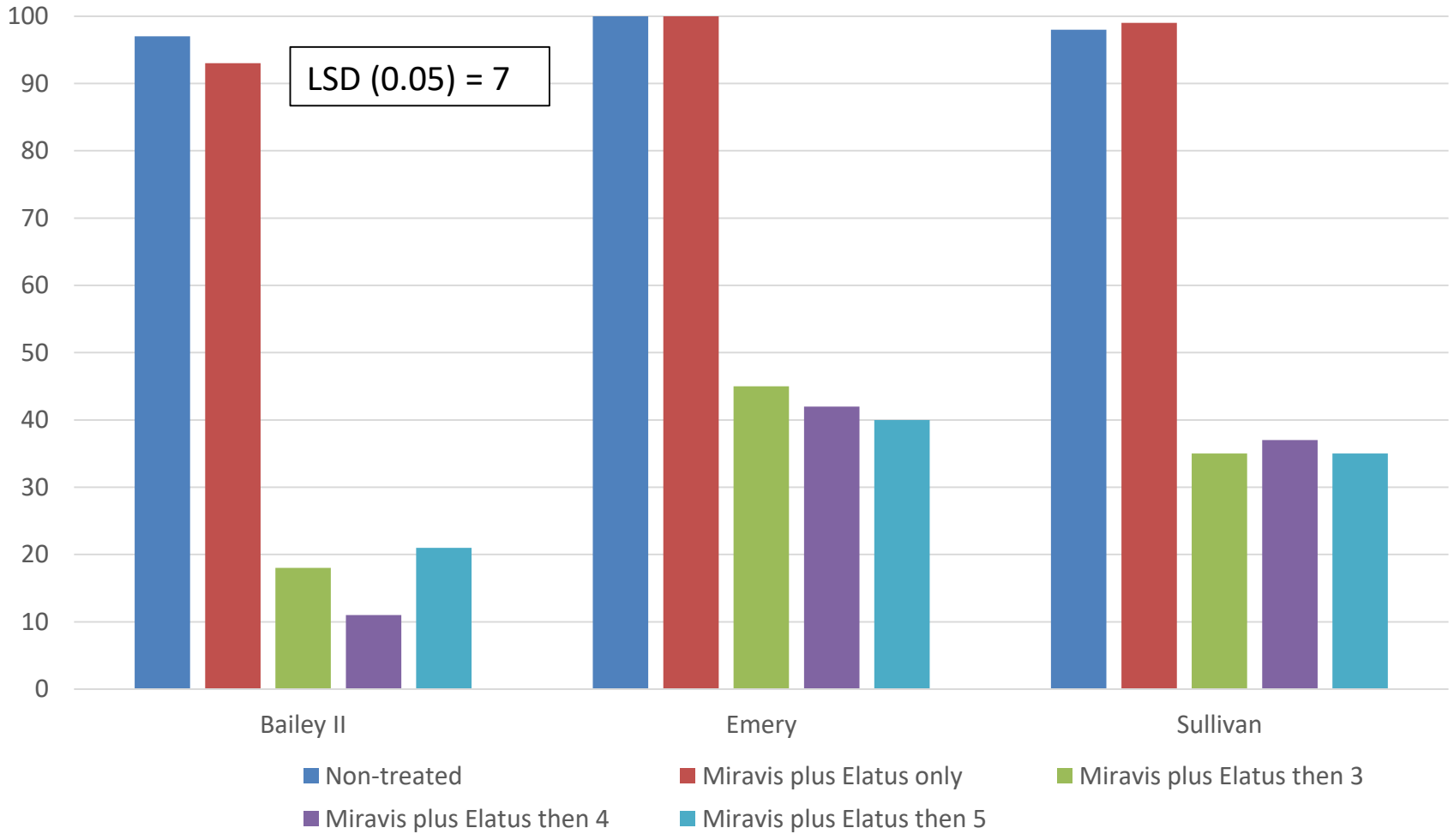


Peanut Yield (lbs/acre) with Bailey or Bailey II Based on the Interval of Follow up after Miravis plus Elatus or Convoy.
Study 1. Data are pooled over 10 site/years (2019-2021.)



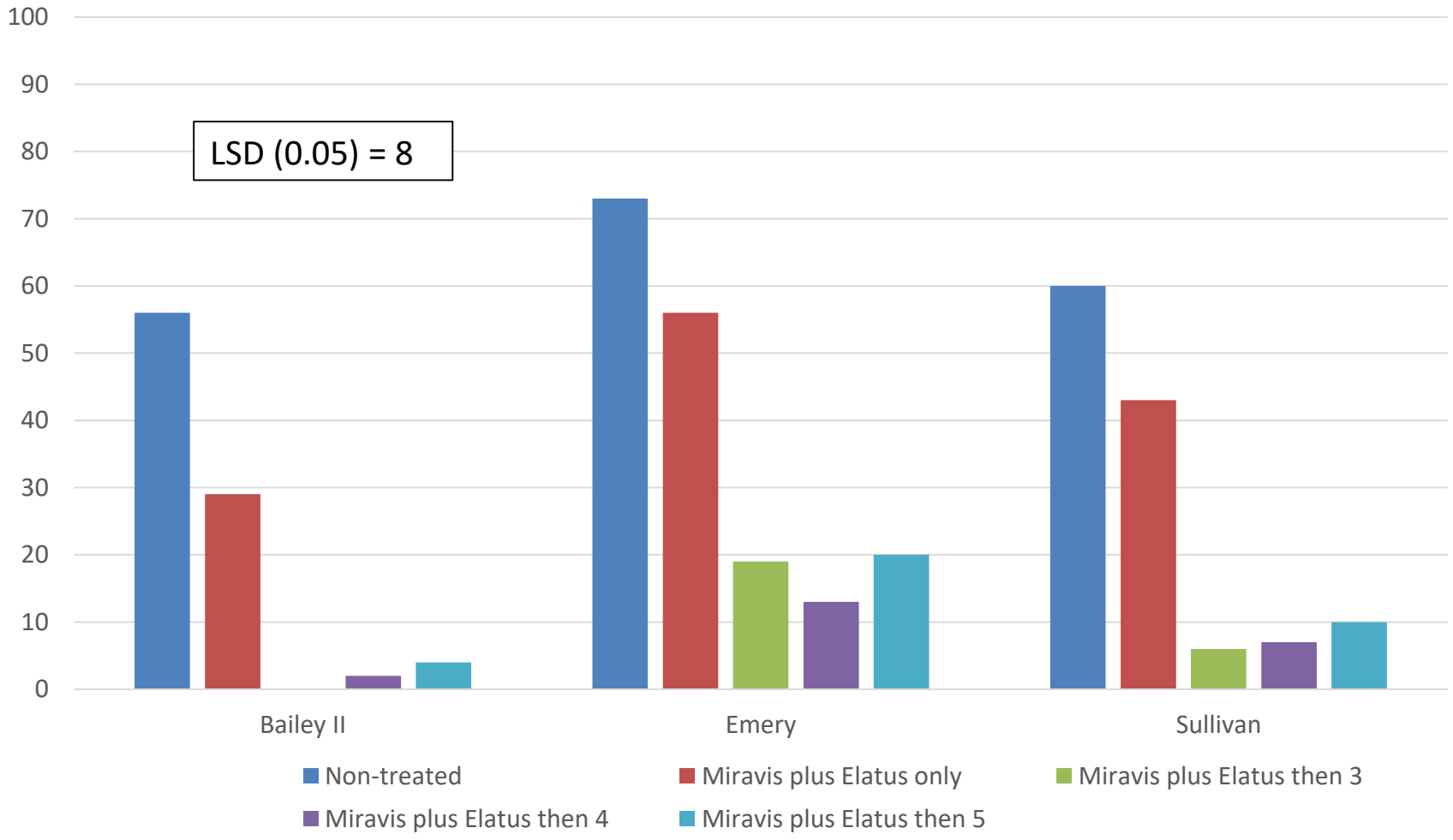
Leaf Spot Incidence (Percent of Leaves with Lesions) at Harvest

Data are pooled over three locations in 2021



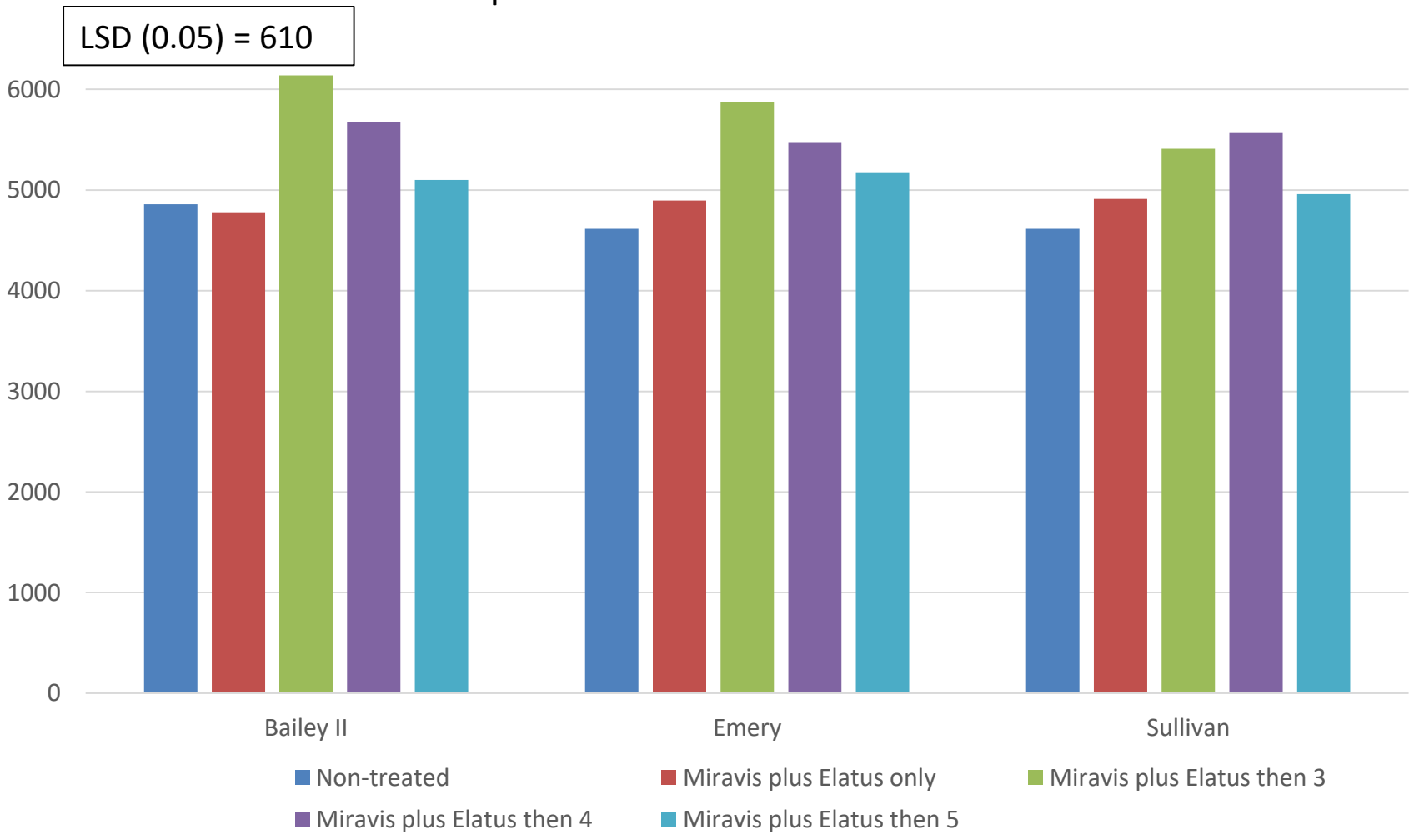
Canopy Defoliation (Percent of Leaves Fallen) at Harvest

Data are pooled over three locations in 2021



Peanut Yield (lbs/acre)

Data are pooled over three locations in 2021



Summary

- Recommendations on follow up timing (generally and for these varieties)
- Concern over lesions at end of the season
- Financial competitiveness if follow up interval needs to be 3 weeks
- *Miravis and Elatus contributions to Sclerotinia blight control (yes)*

Weed Science

- Resistance management
- Residual herbicides with Contact herbicides

Contact and Residual Herbicides

Gramoxone (3.0 lb) 8 oz plus Basagran (8 oz)

Dual Magnum 16 oz

Warrant 48 oz

Outlook 13 oz

Zidua 2.5 oz

Anthem Flex 2.7

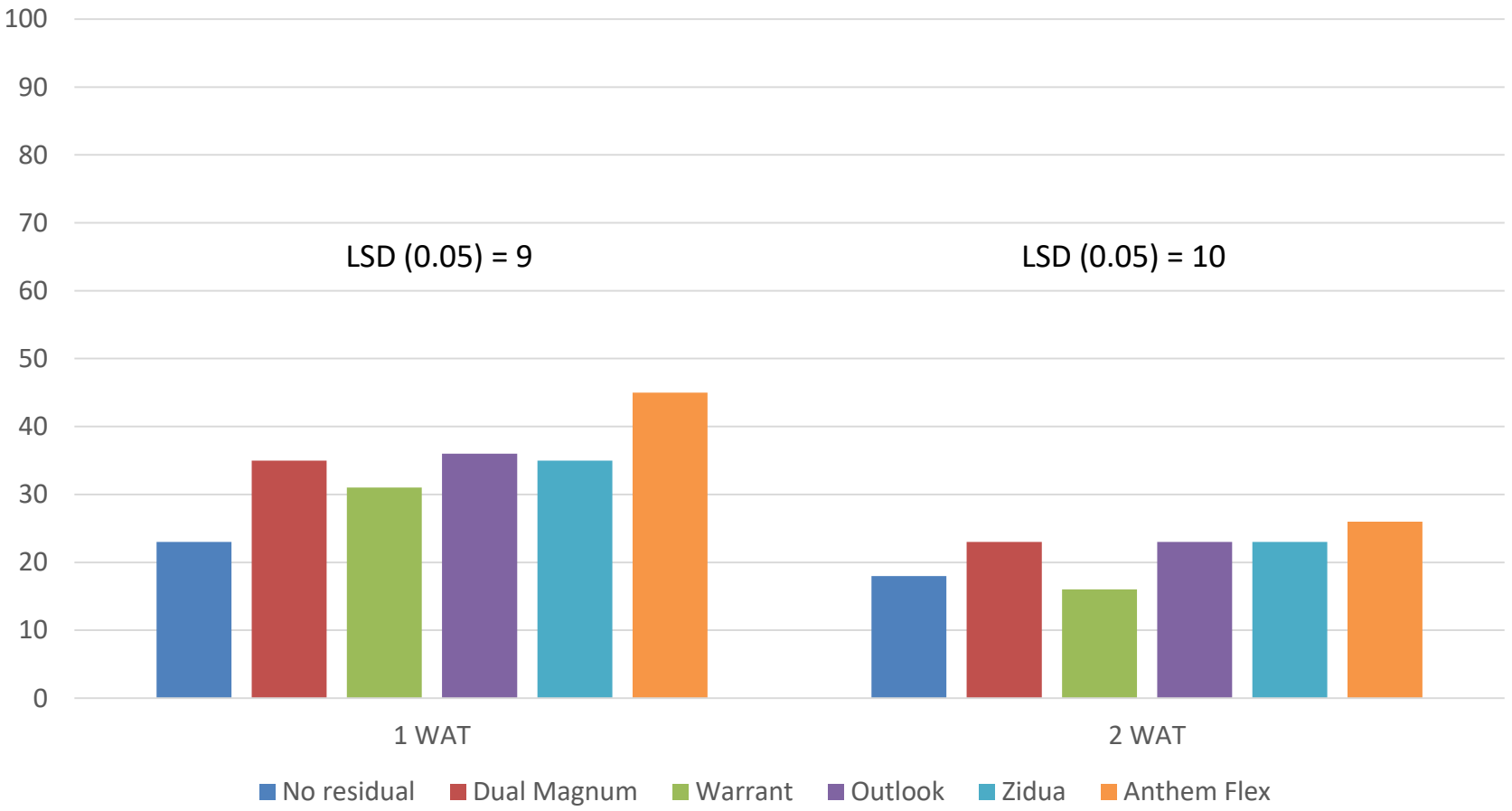
Paraquat 3 lb ai/gal, apply 8 oz/acre

Paraquat 2.5 lb ai/gal, apply 11 oz/acre

Nonionic surfactant (1 pint/100 gallons)

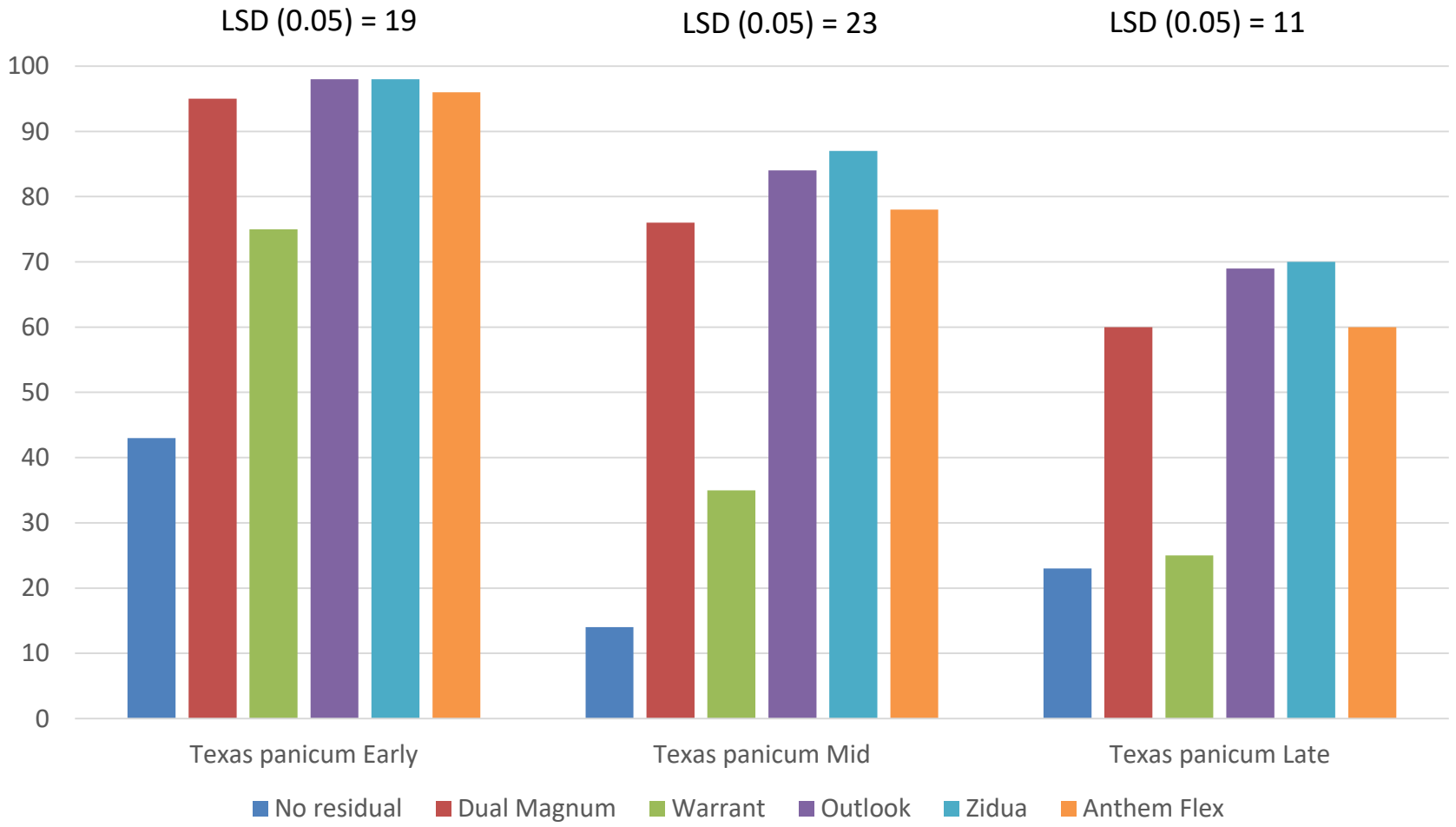
*Clethodim at 16 oz applied across all plots in early August

Peanut response (percent injury) at Rocky Mount with Gramoxone plus Basagran plus nonionic surfactant alone or with residual herbicides



Texas panicum control

Gramoxone plus Basagran plus nonionic surfactant



Palmer amaranth and common ragweed control about the same

Images from Lewiston with a focus on Texas panicum control Mid and Late

Non-treated control

Gramoxone @ 8 oz/acre
Basagran @ 8 oz/acre
NIS @ 1 pint/100 gal

Gramoxone @ 8 oz/acre
Basagran @ 8 oz/acre
Dual Magnum @ 16 oz/acre
NIS @ 1 pint/100 gal

Gramoxone @ 8 oz/acre
Basagran @ 8 oz/acre
Warrant @ 48 oz/acre
NIS @ 1 pint/100 gal

Gramoxone @ 8 oz/acre
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Gramoxone @ 8 oz/acre
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NIS @ 1 pint/100 gal

Gramoxone @ 8 oz/acre
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Anthem Flex @ 2.7 oz/acre
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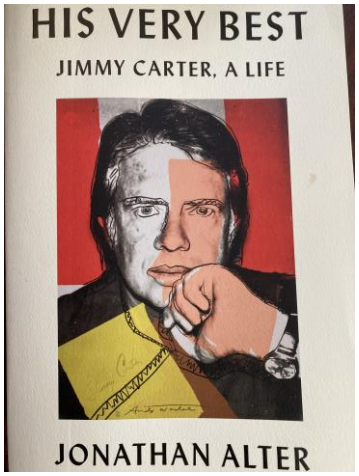



Shoveling peanuts on his farm.

way for his nephew to learn.

For his first year, Carter, not yet thirty, was the sole year-round employee of Carter's Warehouse. The business was a mess. The IRS audited several years of Earl's returns, and the resulting penalties consumed whatever cash was left in the estate. By the end of 1953, Jimmy felt his new responsibilities made building a nuclear reactor in a submarine seem simple by comparison.

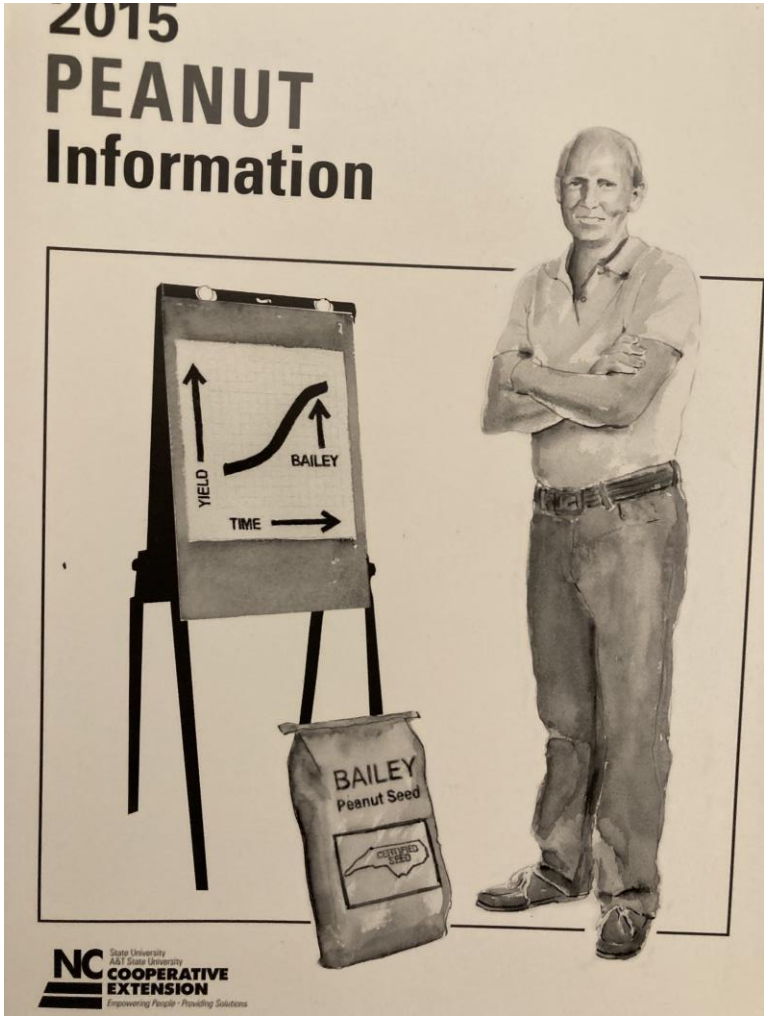
An even rougher patch lay ahead. Jimmy received a $10,000 loan to plant crops, but southwest Georgia was struck with one of the worst droughts on record. The Carter lands were parched and the crops worthless, with the exception of one field of peanuts planted with a new variety called Virginia Bunch 67. Jimmy was too proud to ask Lillian or Uncle Buddy to cosign a new loan, which left his farm's total income for 1954 at a mere $280. He was living off war bonds and thanked God that the rent on their public housing unit was only $31 a month.

For two years, Jimmy worried constantly about bankruptcy. He dreaded having to return to a middling navy desk job or take a position with a military contractor. "No matter what happened—if it was a beautiful day or if [illegible] his report card . . . underneath it was gnawing

Bailey

Bailey II

Bailey III ?

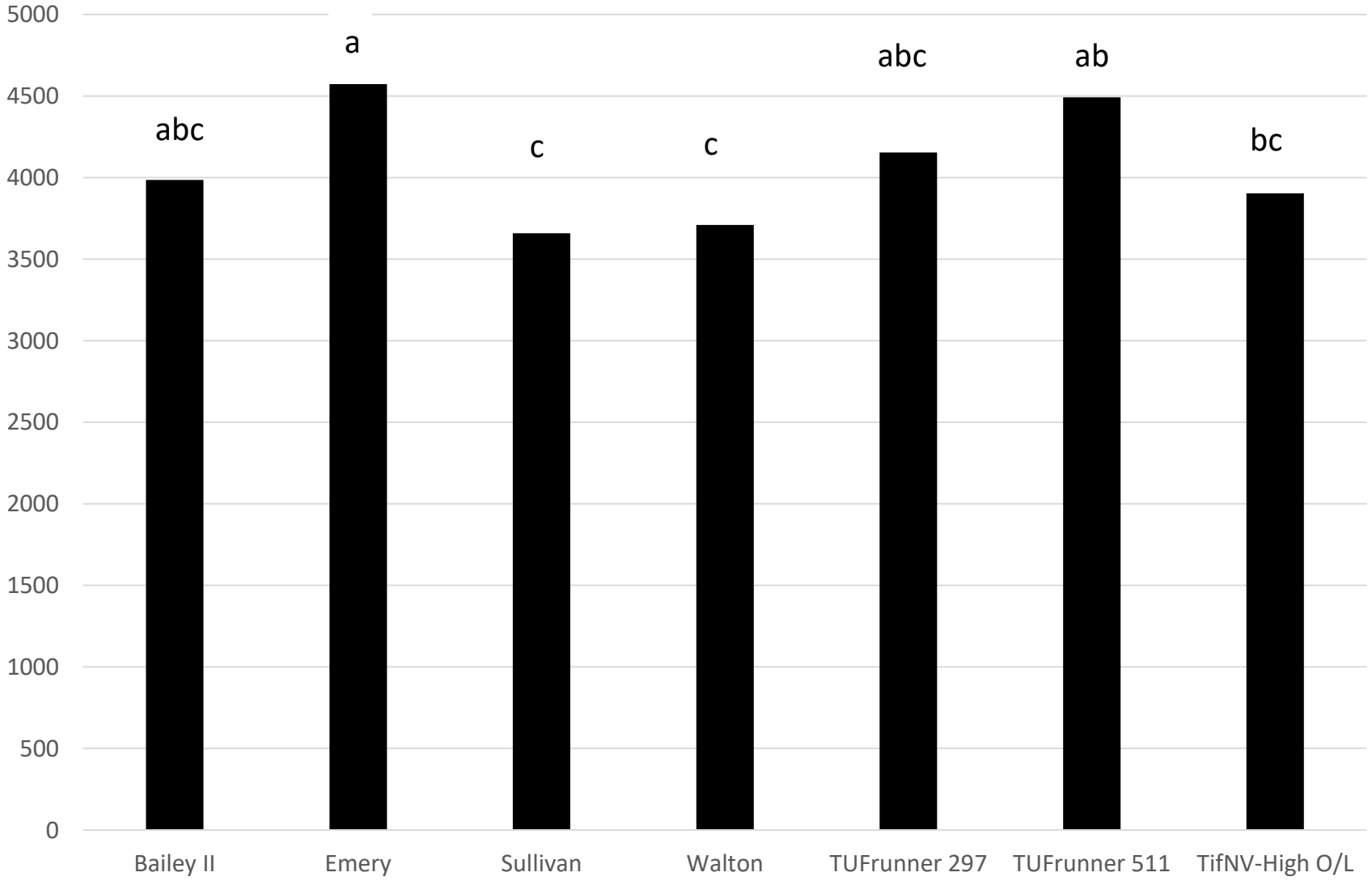


Jack (Bailey) passed away 20 years ago

Table 2-2. Percentage of Acres of Varieties Certified in North Carolina, 2015 – 2021

Variety	2015	2016	2017	2018	2019	2020	2021
Bailey	64.7	47.4	40.5	36.6	32.1	13.0	0
Gregory	2.1	0	0.4	2.7	0	0	0
Sugg	9.7	1.9	0.1	0	0	0	0
Sullivan	4.8	28.7	40.2	46.1	49.9	28.9	23.8
Wynne	5.3	13.5	7.5	5.2	3.6	3.9	2.9
Emery	0	0	0.1	0.2	2.4	5.9	6.5
Bailey II	0	0	0	0.3	3.8	43.6	57.1
Georgia 09B	9.9	6.2	10.5	5.0	1.1	0	0
TUFRunner 511					2.9	0.1	3.1
TUFRunner 297					4.6	3.6	3.5
FLORUN 331							2.0
Walton							0.3

Peanut Yield (pounds per acre) of Virginia and Runner Market Type Peanut Varieties



Cost

50% NCPGA

25% Extension Administration

5% DEPP (Shew)

5% CSS (Jordan)

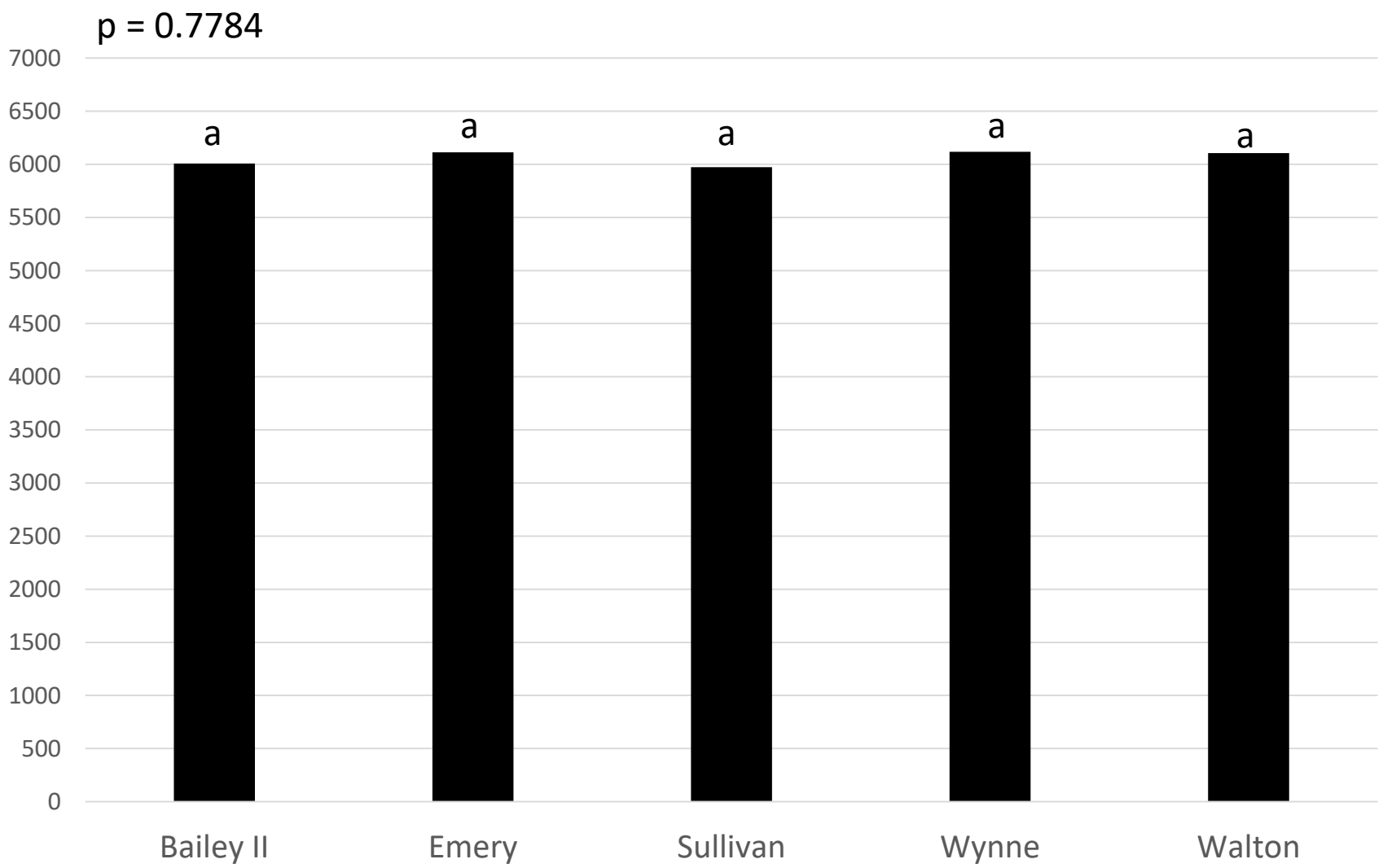
5% Birdsong

5% Severn

5% BASF, Bayer, Syngenta

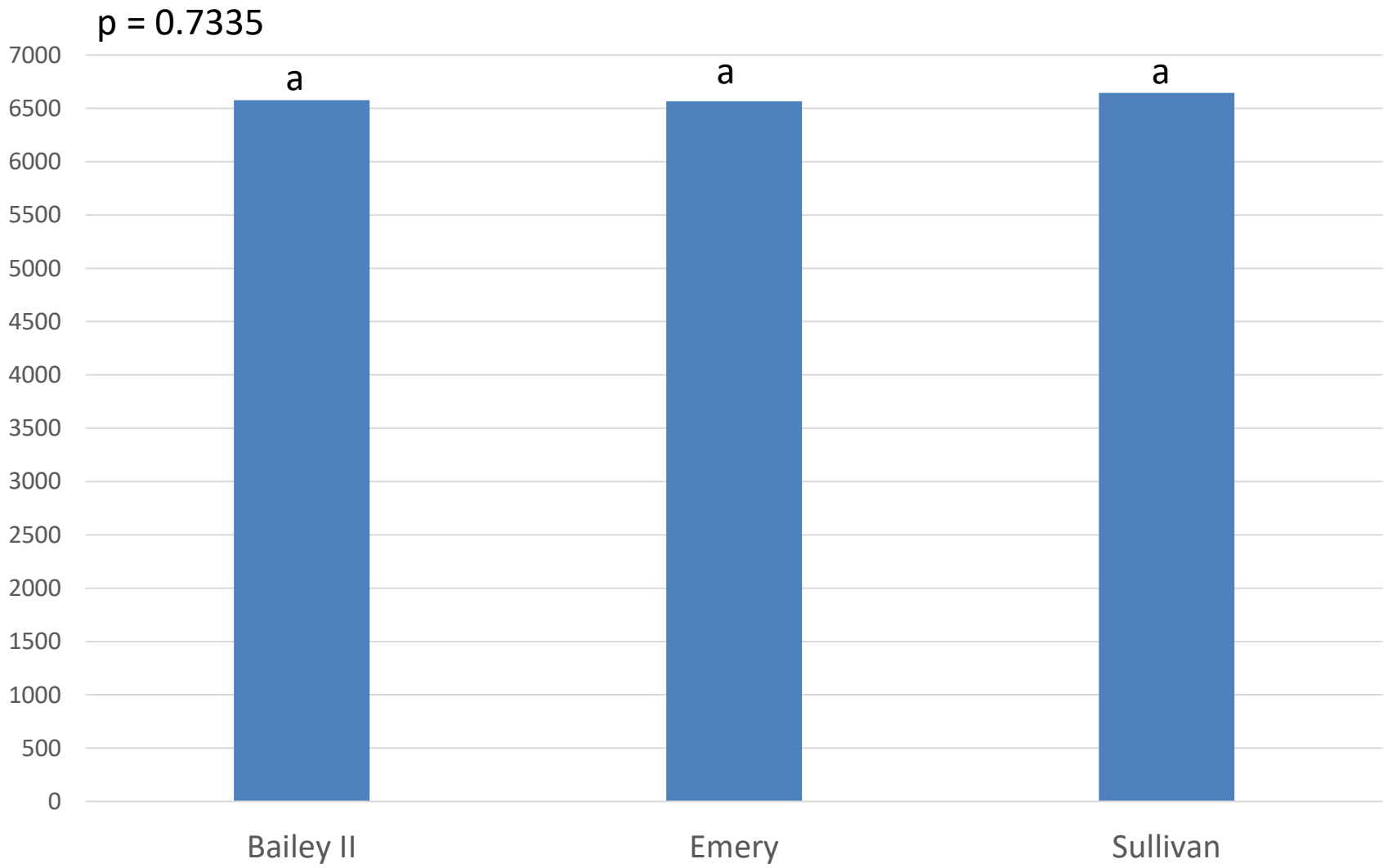
Yield (lbs/acre) of Bailey II, Emery, Sullivan, Wynne and Walton

Bertie County, David Leggett and Billy Barrow



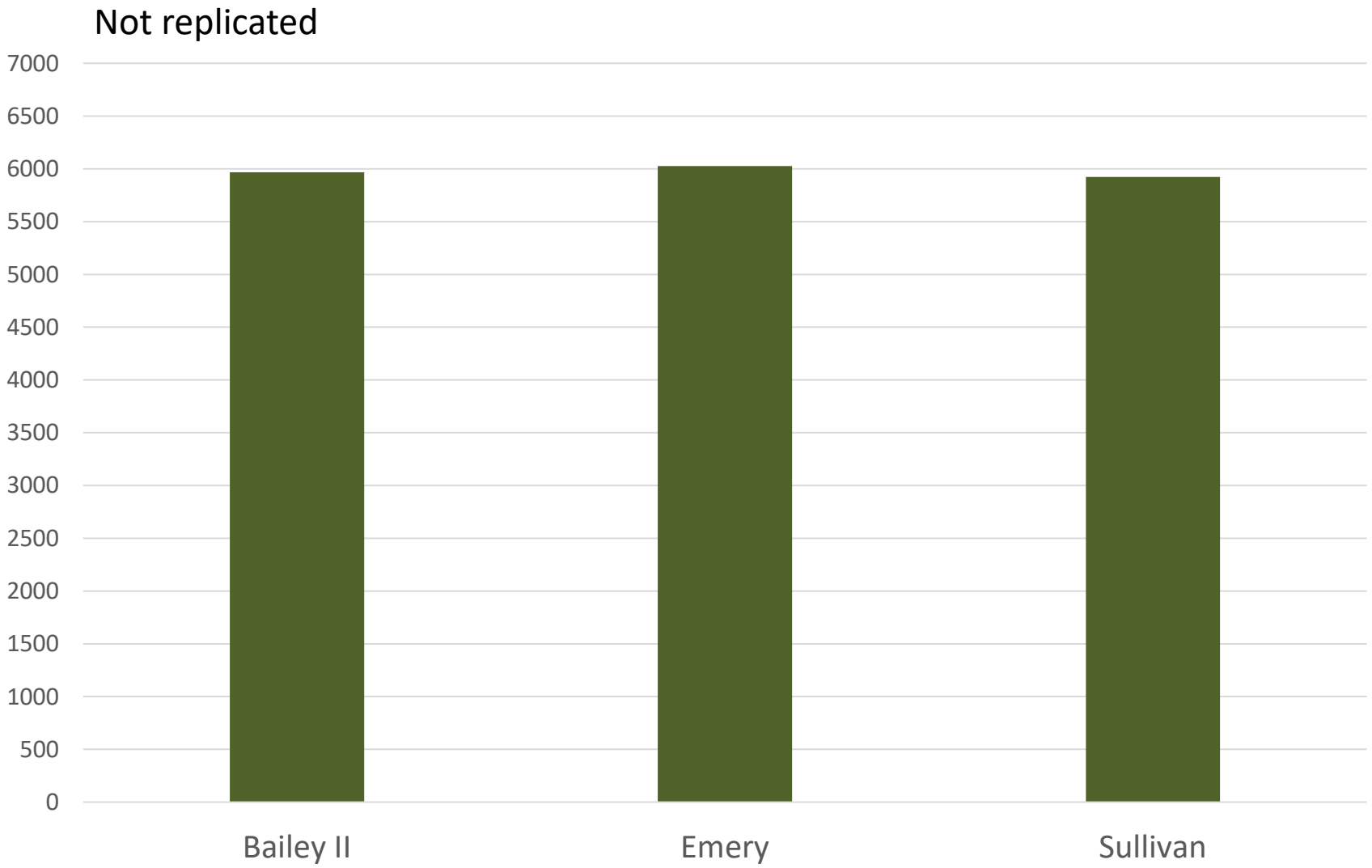
Yield (lbs/acre) of Bailey II, Emery and Sullivan

Martin County, Ben Cowin and Lance Grimes



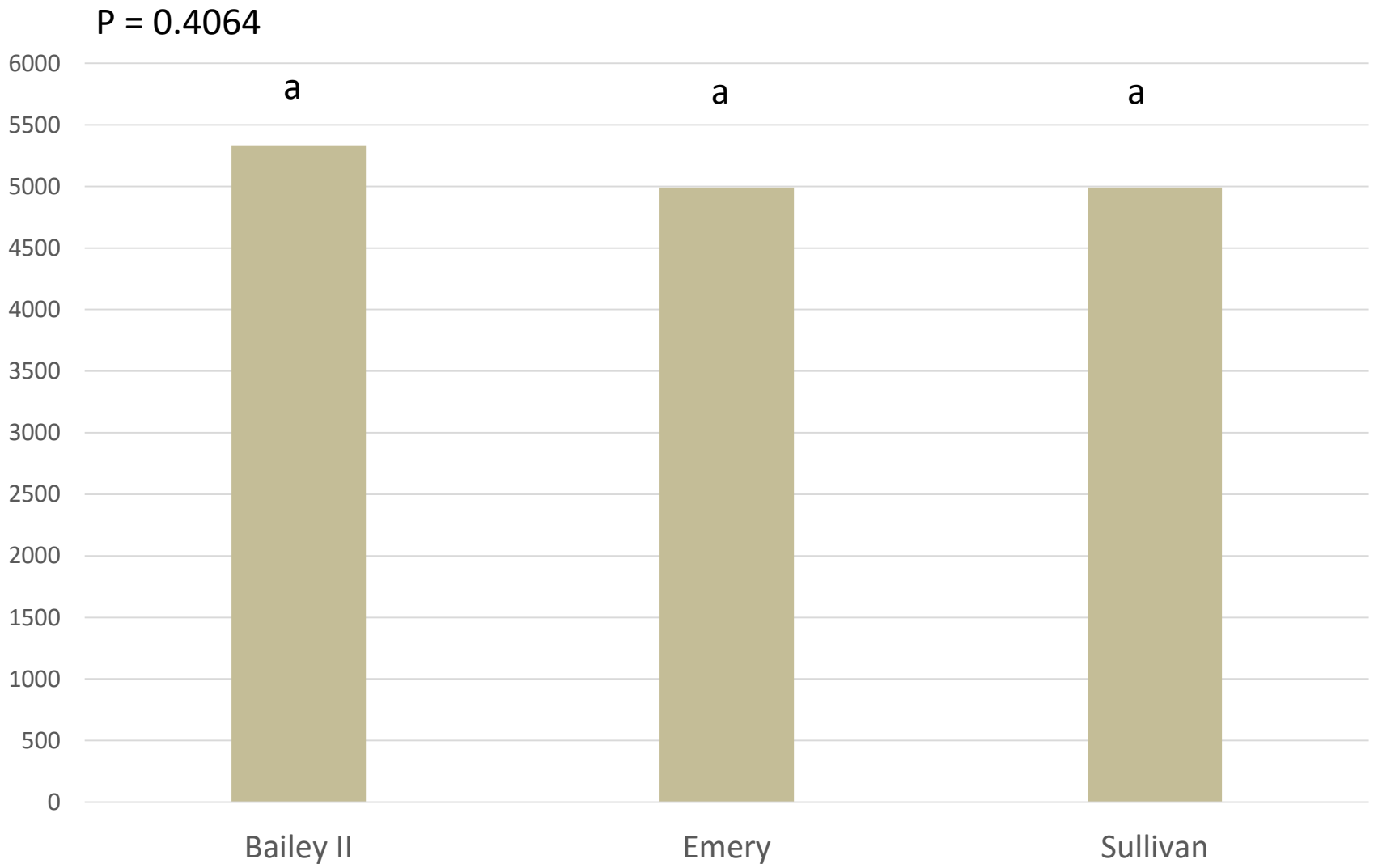
Yield (lbs/acre) of Bailey II, Emery and Sullivan

Columbus County, Ellis Jordan and Lydia Miles



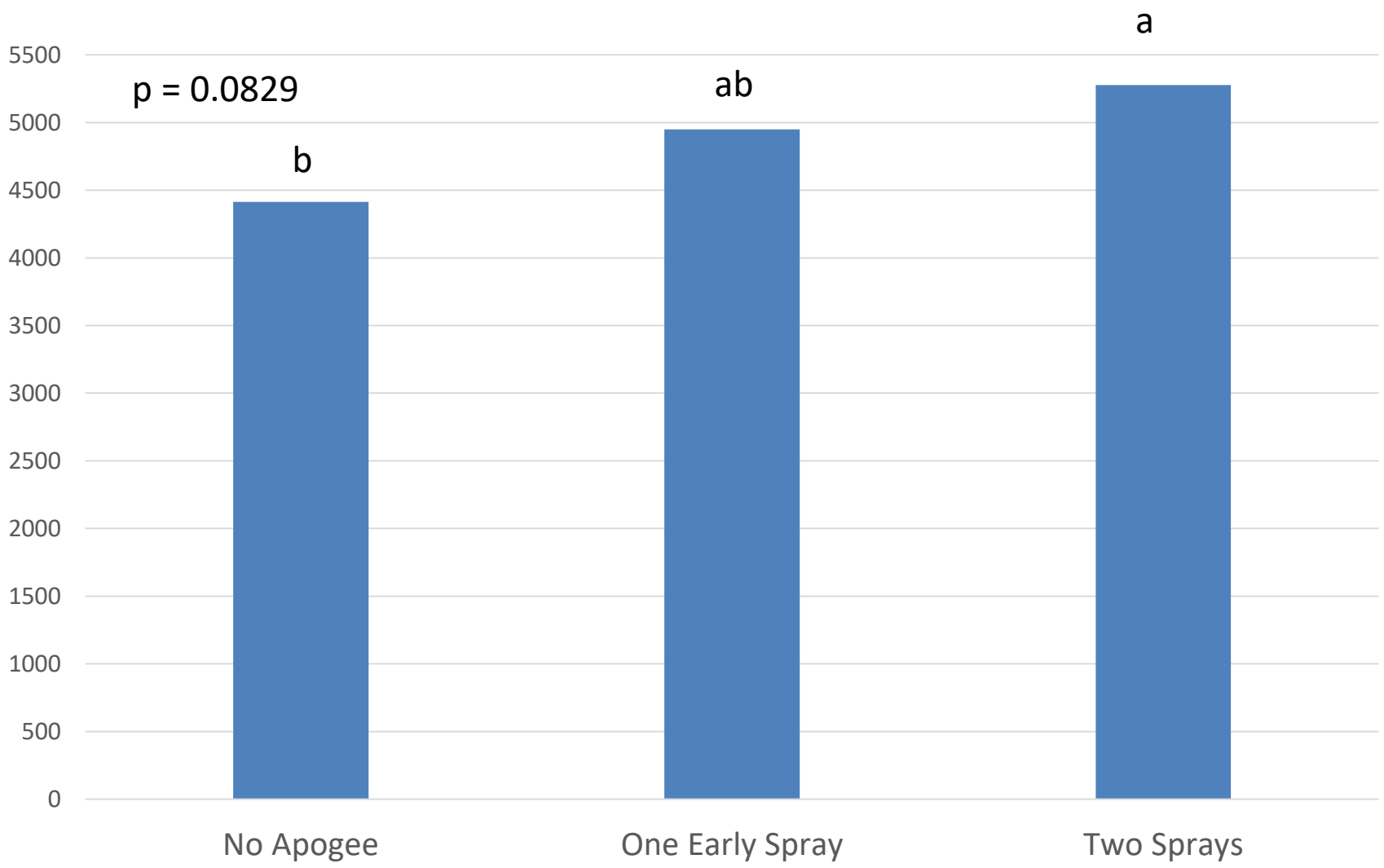
Yield (lbs/acre) of Bailey II, Emery and Sullivan

Chowan County, Beech Fork Farms and Matthew Leary



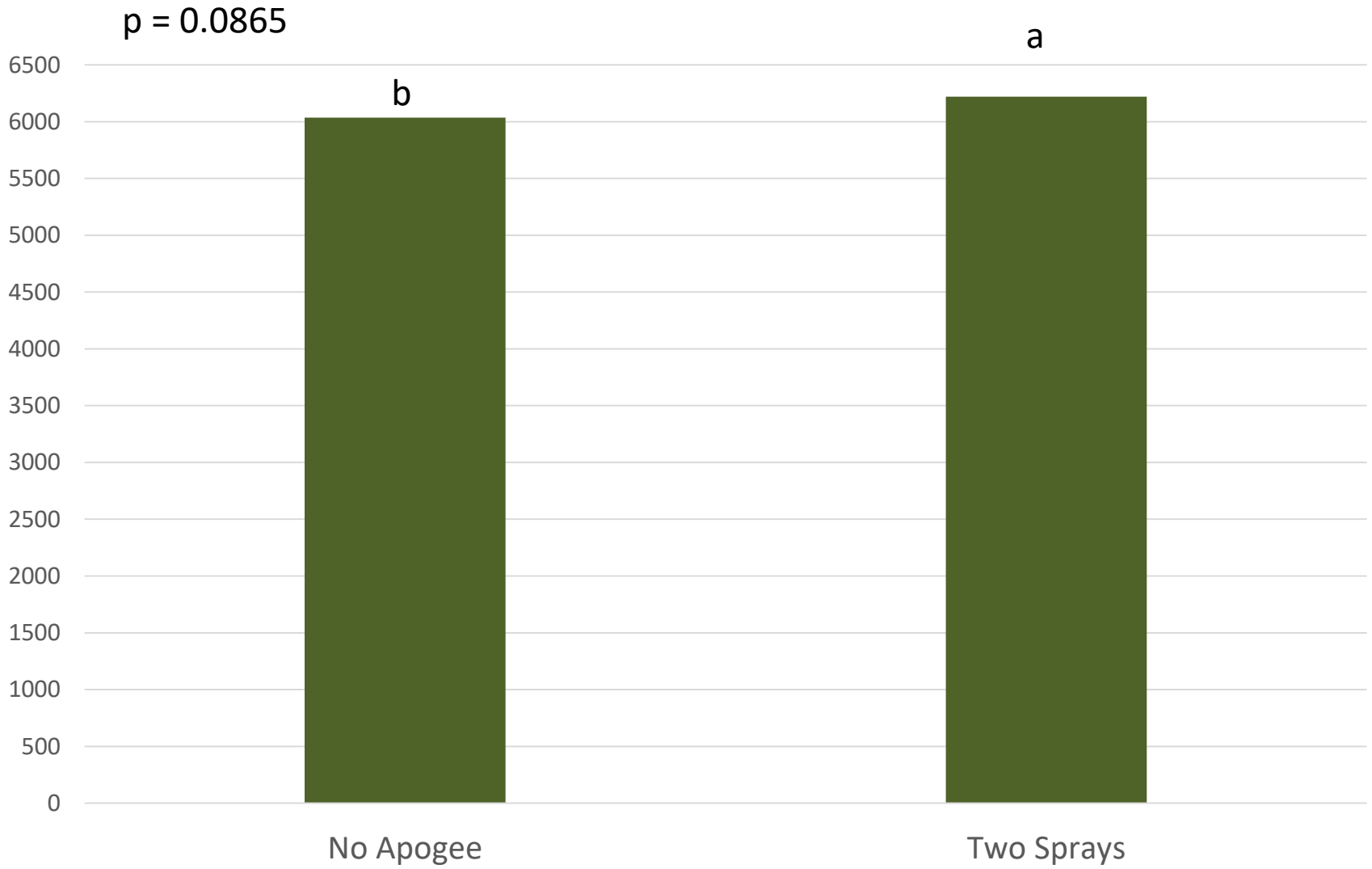
Peanut Yield (lbs/acre) Response to Apogee

Martin County, John David Williams and Lance Grimes



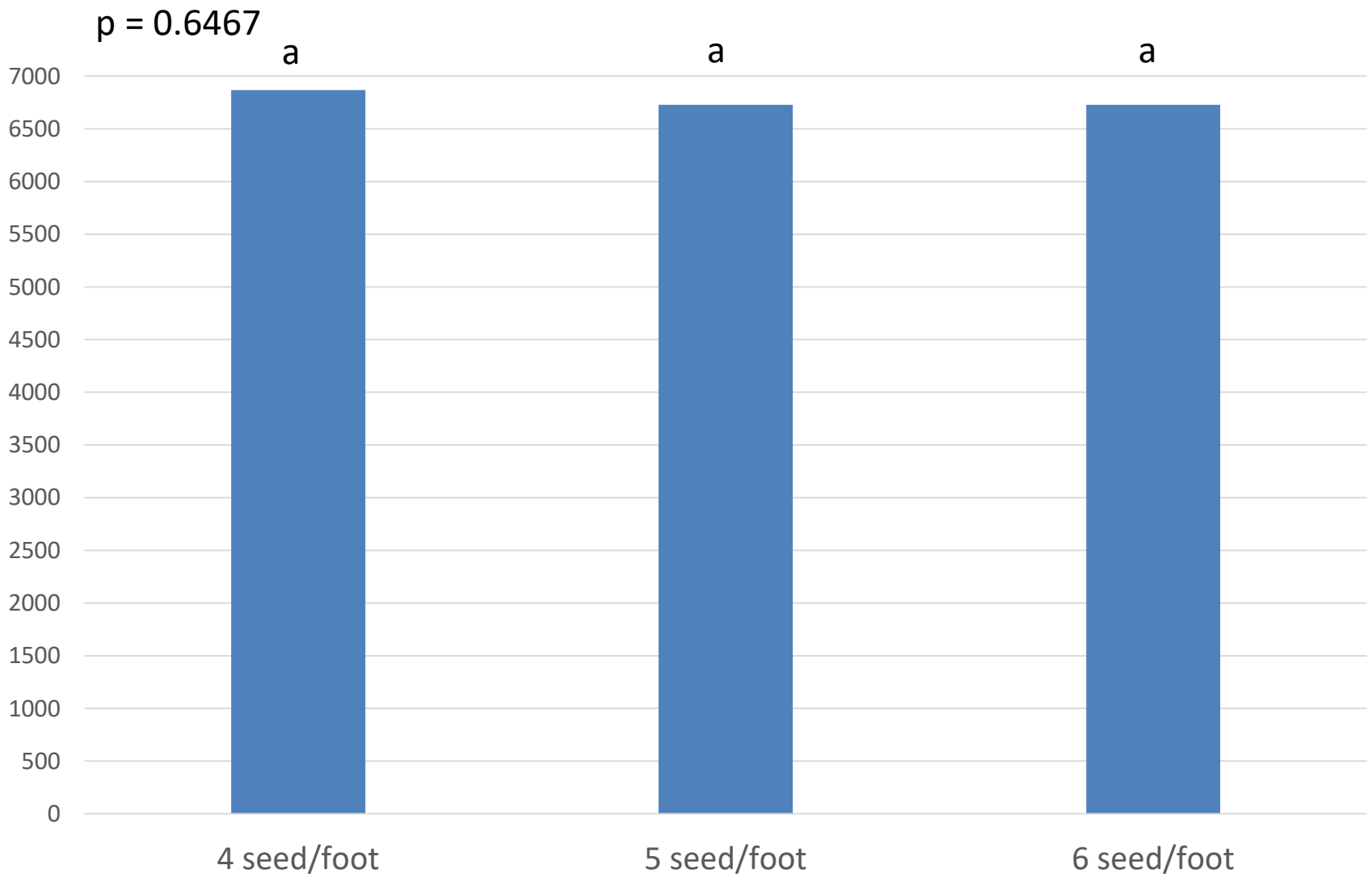
Peanut Yield (lbs/acre) Response to Apogee

Columbus County, Ellis Jordan and Lydia Miles



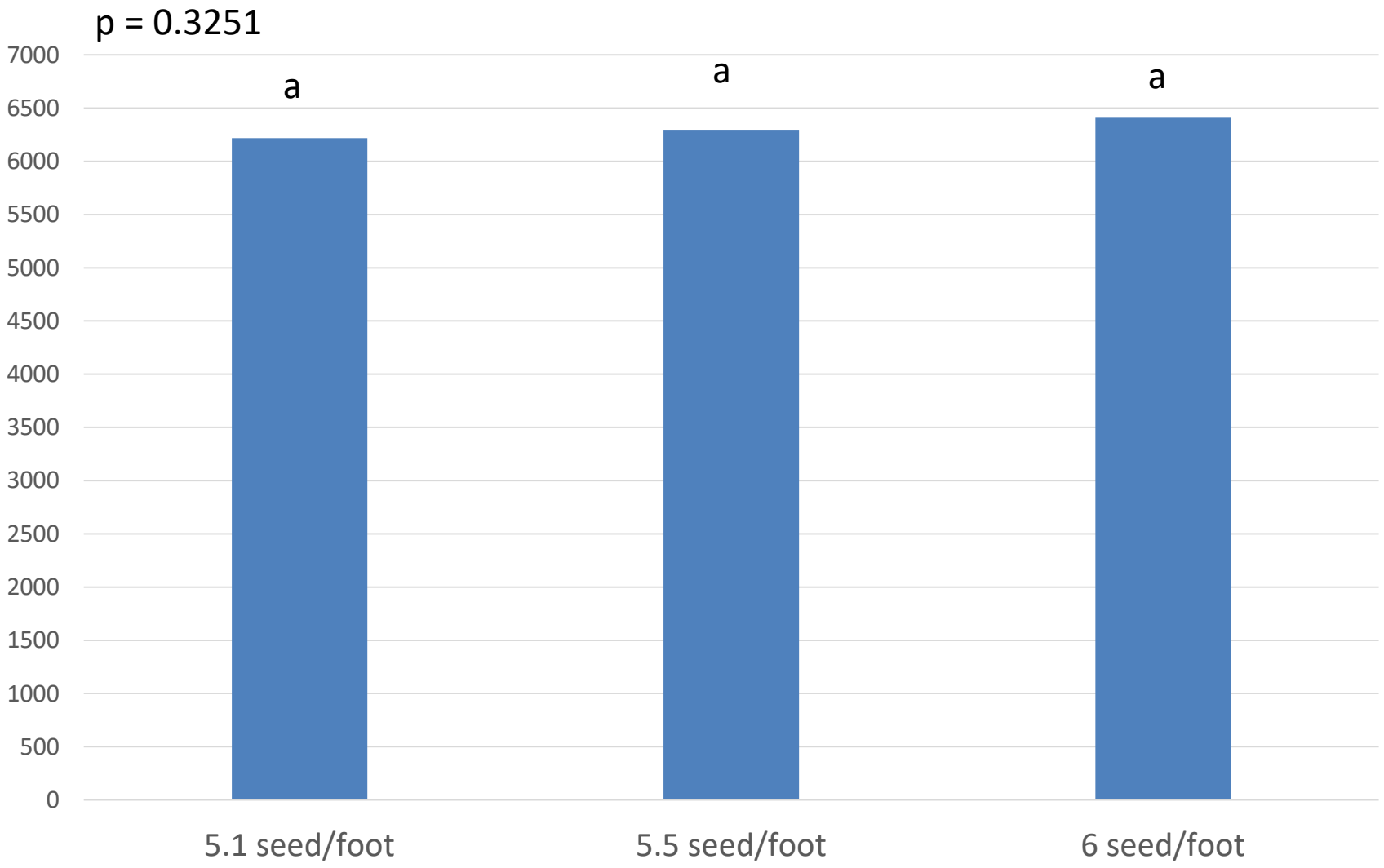
Peanut Yield (lbs/acre) Response to Seeding Rate

Bertie County, Joey Baker and Billy Barrow



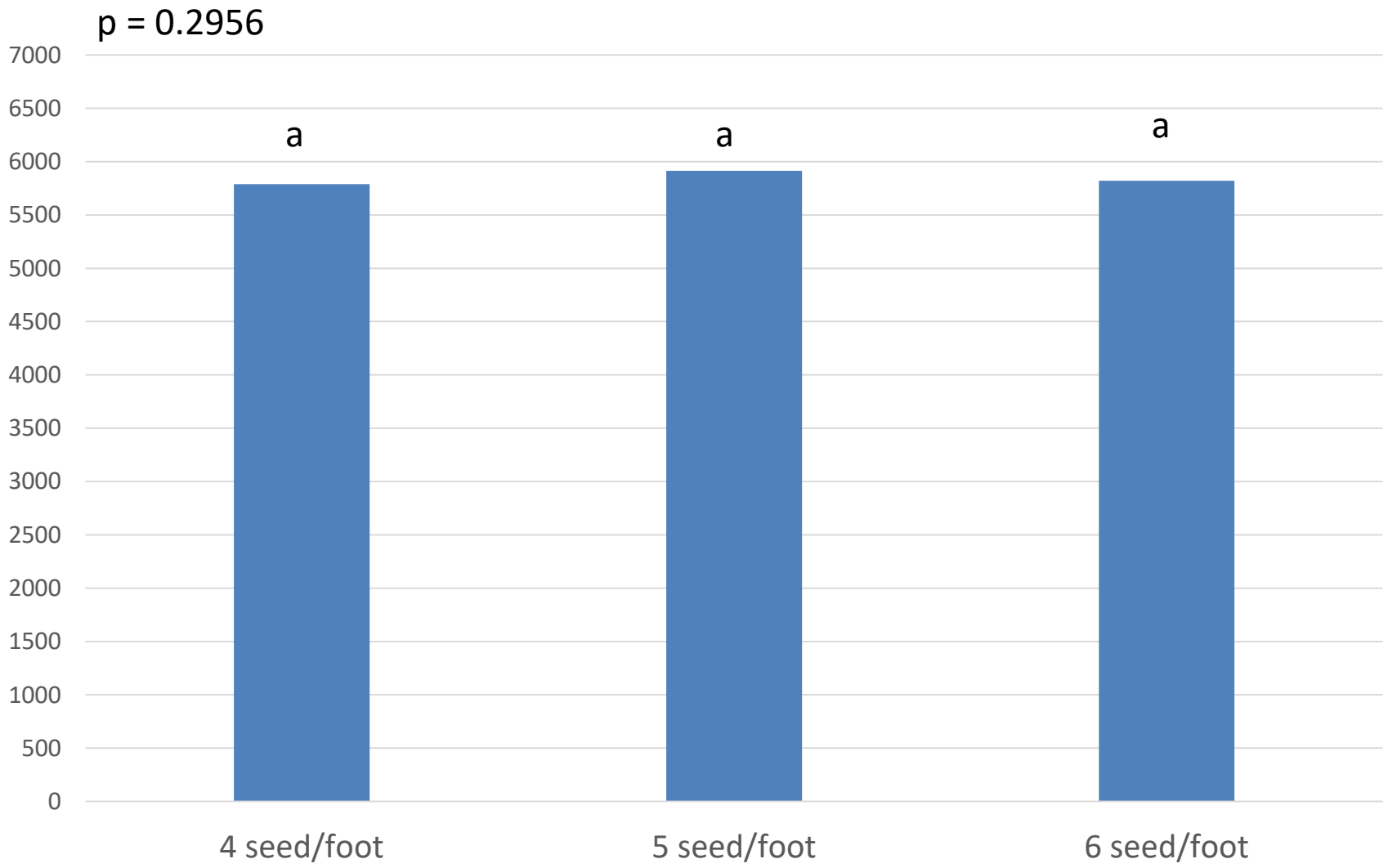
Peanut Yield (lbs/acre) Response to Seeding Rate

Northampton County, Mike and Brandon Belch and Craig Ellison



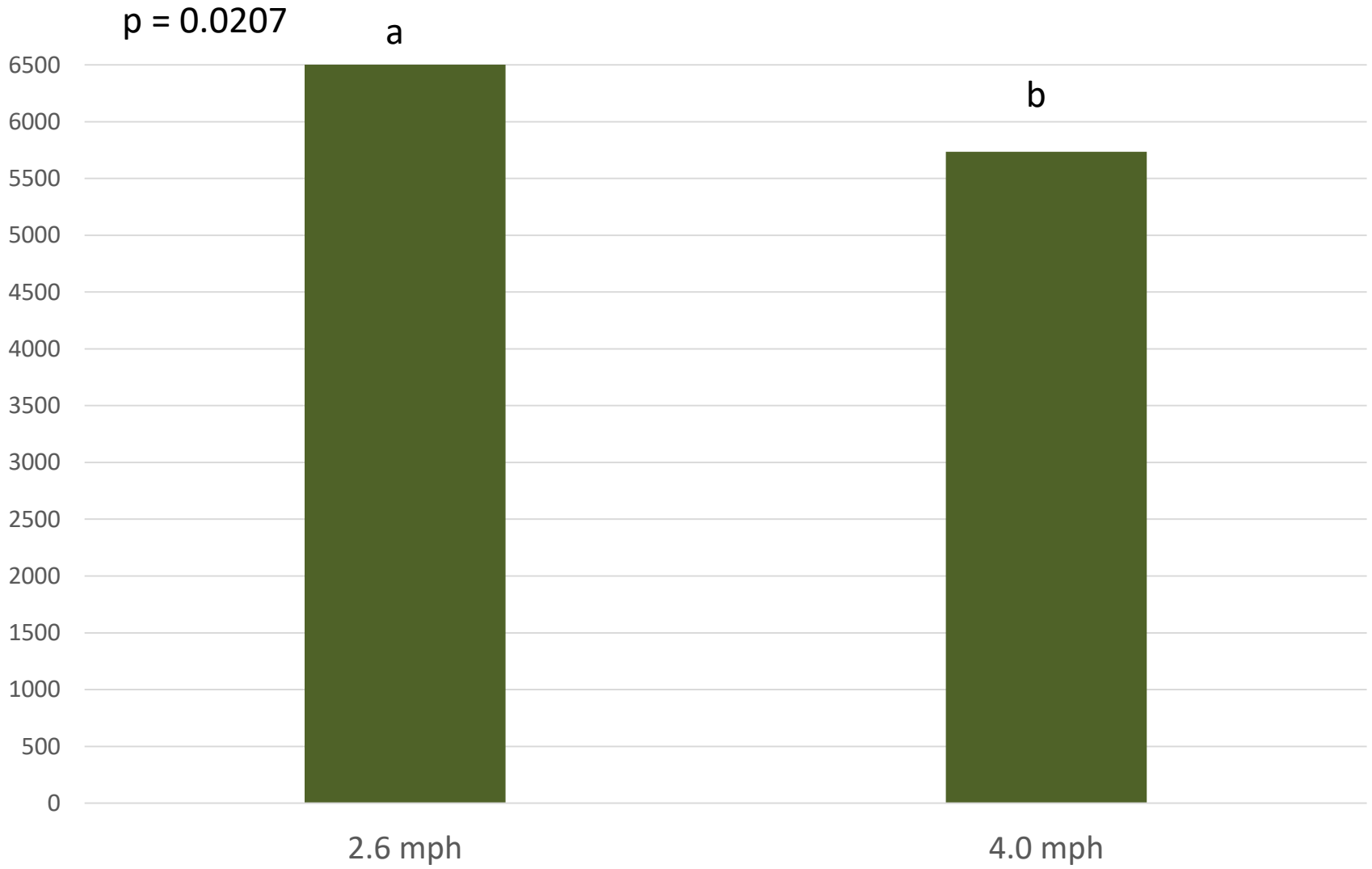
Peanut Yield (lbs/acre) Response to Seeding Rate

Martin County, Geoffrey Corey and Sons Farms, Inc. and Lance Grimes



Peanut Yield (lbs/acre) Response to Digging Speed

Columbus County, Ellis Jordan and Lydia Miles



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- Equipment Information
  Peanut Digger-Shaker-Inverter (DSI)
- Field Days
  2020 NC Peanut Virtual Field Day 2020

en Español

For timely guidance and resources, visit:
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News and Updates

Rain coming 9:08 PM 12/11/2021