



Peanut Response to Soil-Applied Liberty® (Glufosinate)

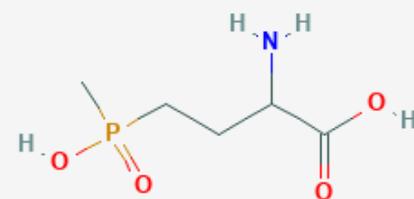
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Glufosinate

- First discovered in 1981
 - Commercialized in 1993
- phosphinic acid
- glutamine synthetase inhibitor
 - WSSA Group 10
- PPLNT burndown and POST in tolerant crops
- Many formulations are available.



Liberty[®]
Herbicide



FORFEIT 280





Preplant Liberty (glufosinate) for Peanut?

- Why?
 - *used extensively in GA cotton so its around the farm and growers are very familiar with it.*
 - *Could be helpful for horseweed, morningglory, and pigweed control prior to planting*
 - *Peanut control for replant*
 - *prevent off-label usage*
 - *Current labeled rotation = 180 days*

BASF We create chemistry

SPECIMEN Group 10 Herbicide

Liberty® 280 SL

Herbicide

LIBERTY LINK

Liberty® 280 SL herbicide is a nonselective herbicide that provides control of a broad spectrum of broadleaf and grassy weeds.

Liberty 280 SL is registered for use as:

- burndown treatment prior to planting or prior to emergence of canola, corn, sweet corn, cotton, soybean, and sugar beet
- postemergence weed control herbicide to be applied on LibertyLink® or glufosinate-resistant crops including LibertyLink canola, LibertyLink corn, LibertyLink sweet corn, LibertyLink cotton, and LibertyLink soybeans
- postemergence weed control herbicide to be applied on cotton with a hooded sprayer only

Active Ingredient:
glufosinate-ammonium* 24.5%**
Other Ingredients: 75.5%
Total: 100.0%

*CAS Number 77182-82-2
**Equivalent to 2.34 pounds of active ingredient per U.S. gallon.

EPA Reg. No. 7969-448 EPA Est. No.

KEEP OUT OF REACH OF CHILDREN
WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

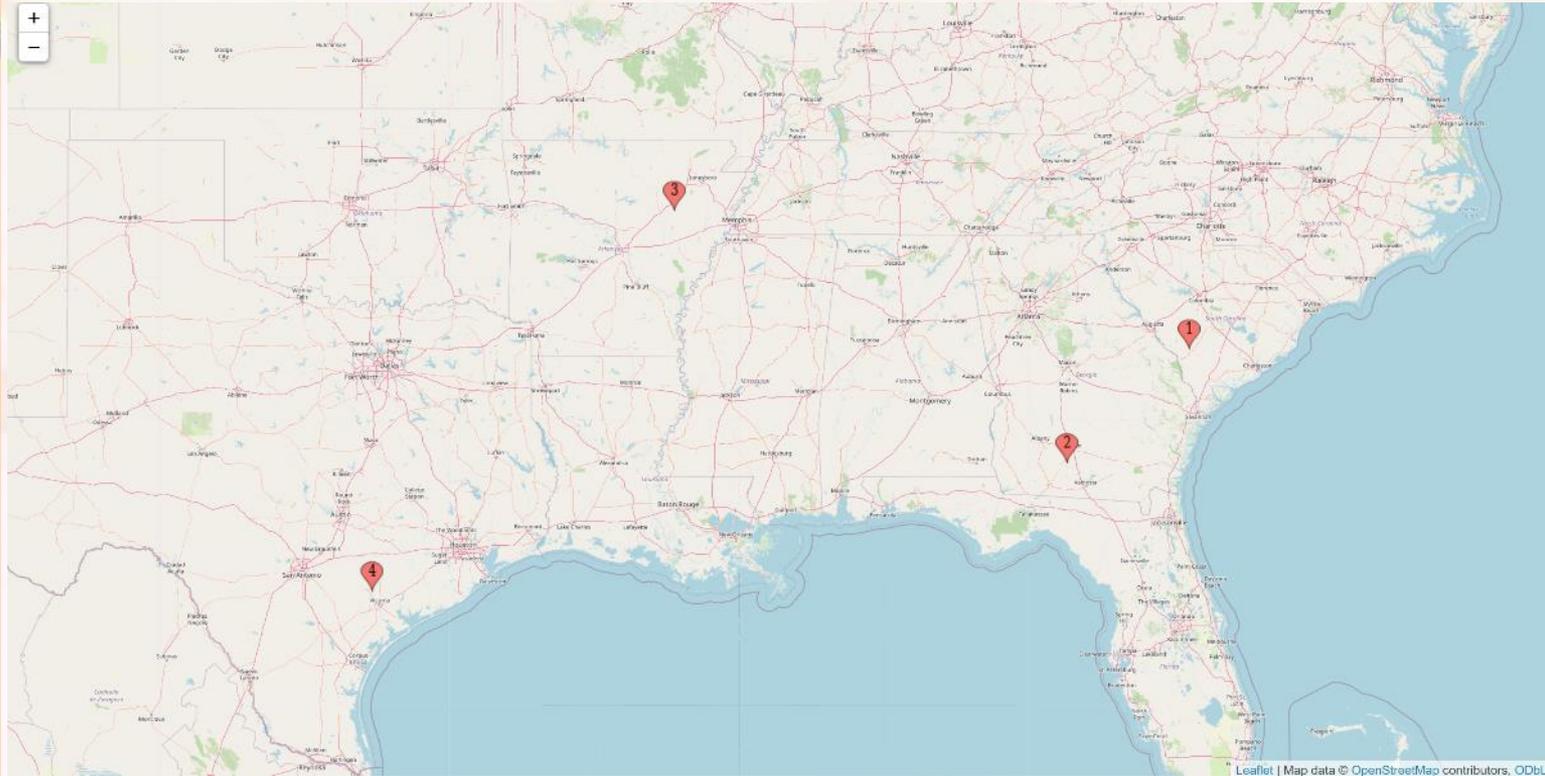
BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709

Objective



- Evaluate peanut response to soil-applied applications of Liberty (glufosinate)

Trial Locations - 2020



Blackville (SC)
Newport (AR)
Ty Ty (GA)
Yoakum (TX)



Material and Methods – I

General

- Standard small-plot techniques
- 3-4 reps
- RCB with factorial (2 X 3)
 - *Timing*
 - 1 DBP or 1 DAP
 - *Liberty 2.34SL Rates*
 - 0, 32, or 64 oz/A
- Weed-free
- Data Collection:
 - ***density (stand), height, width, yield***
- ANOVA (P=0.10)
 - Fisher's Protected LSD
 - No interactions between timing and rate (P≥0.1209)



Material and Methods - II

Cultivar/Planting Dates/Application Dates

Location	Cultivar	Planting Date	Application Dates^a
Arkansas	GA-06G	June 1	1 DBP/1 DAP
Georgia	GA-06G	May 26	7 DBP + 1 DAP 1 DAP
South Carolina	Sullivan	June 2	1 DBP/1DAP
Texas	GA-09B	June 18	1 DBP/1 DAP

^a*DBP = days before planting; DAP = days after planting*



Material and Methods – III

Soil Types

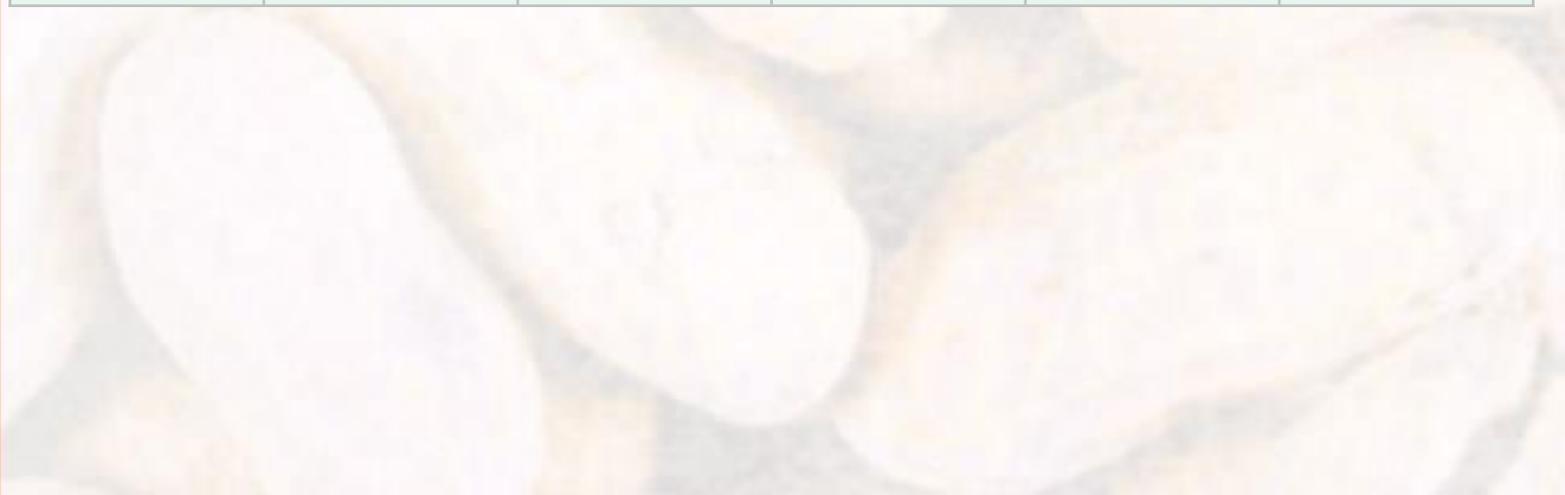
Location	Series	Sand (%)	Silt (%)	Clay (%)	OM (%)
AR	Dexter silt loam	37	44	19	2.2
GA	Tifton sand	94	4	2	0.78
SC	Dunbar sandy loam	77	15	8	2.2
TX	Tremona loamy fine sand	70	15	15	1.0



Materials and Methods – IV

Application Equipment

Location	Sprayer	GPA	Nozzle Type	Pressure (PSI)	Speed (MPH)
AR	BP	15	AIXR 110015	23	3.0
GA	BP	15	TTI 11002	40	3.5
SC	BP	15	XRC 8002	38	3.6
TX	BP	20	DG 11002	30	2.0



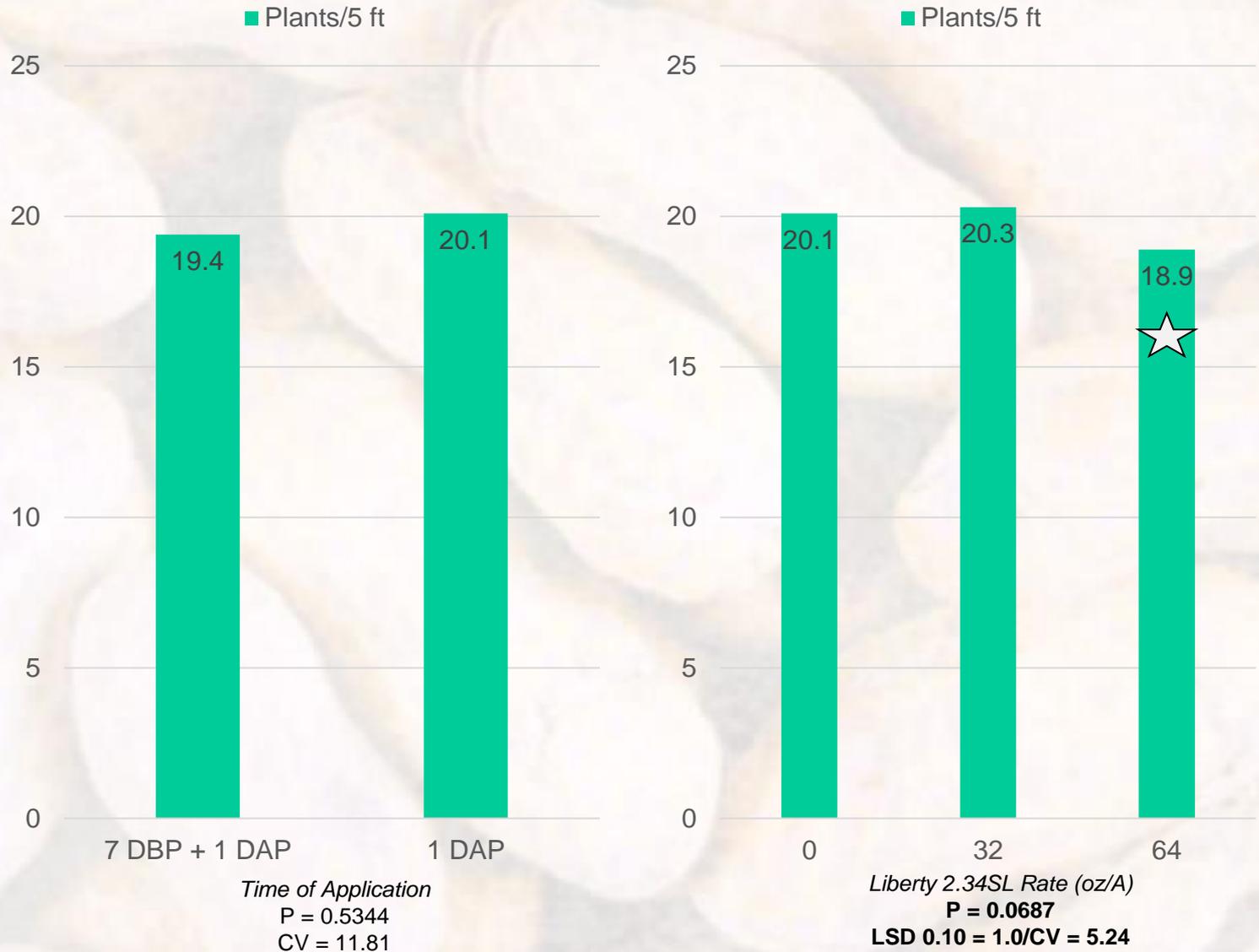


Results





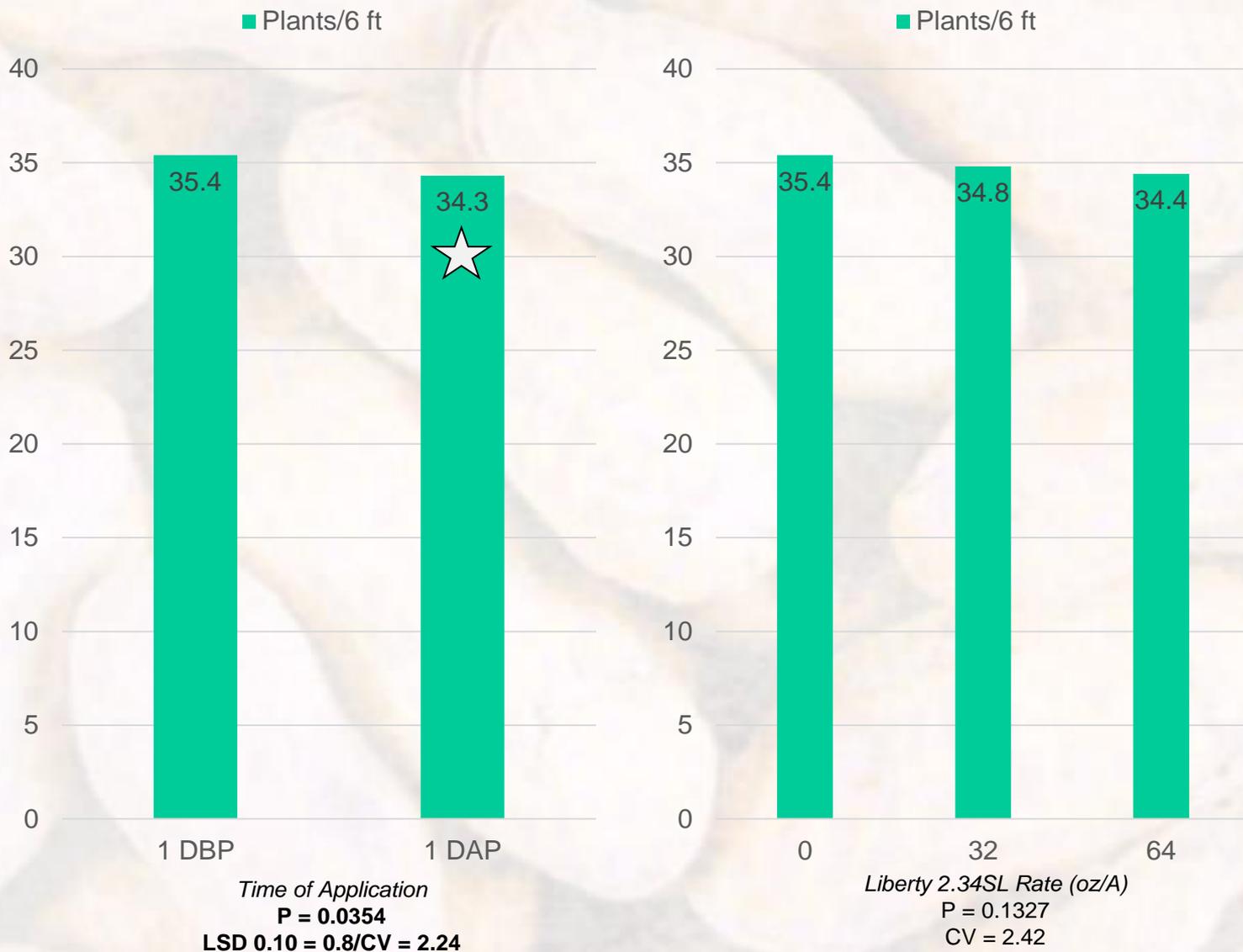
Liberty Timing and Rate Effects on Peanut Density - Georgia



20 DAP



Liberty Timing and Rate Effects on Peanut Density – South Carolina





Peanut Response to Liberty (GA)



No Liberty



Liberty @ 64 oz/A
7 DBP + 1 DAP

PE-21-20
June 25
30 DAP



Peanut Response to Liberty (GA)



No Liberty



Liberty @ 64 oz/A
7 DBP + 1 DAP

PE-21-20
July 20
55 DAP



Peanut Response to Liberty (GA)



No Liberty



Liberty @ 64 oz/A
7 DBP + 1 DAP

PE-21-20
August 20
86 DAP



Peanut Response to Liberty (GA)



No Liberty



Liberty @ 64 oz/A
7 DBP + 1 DAP

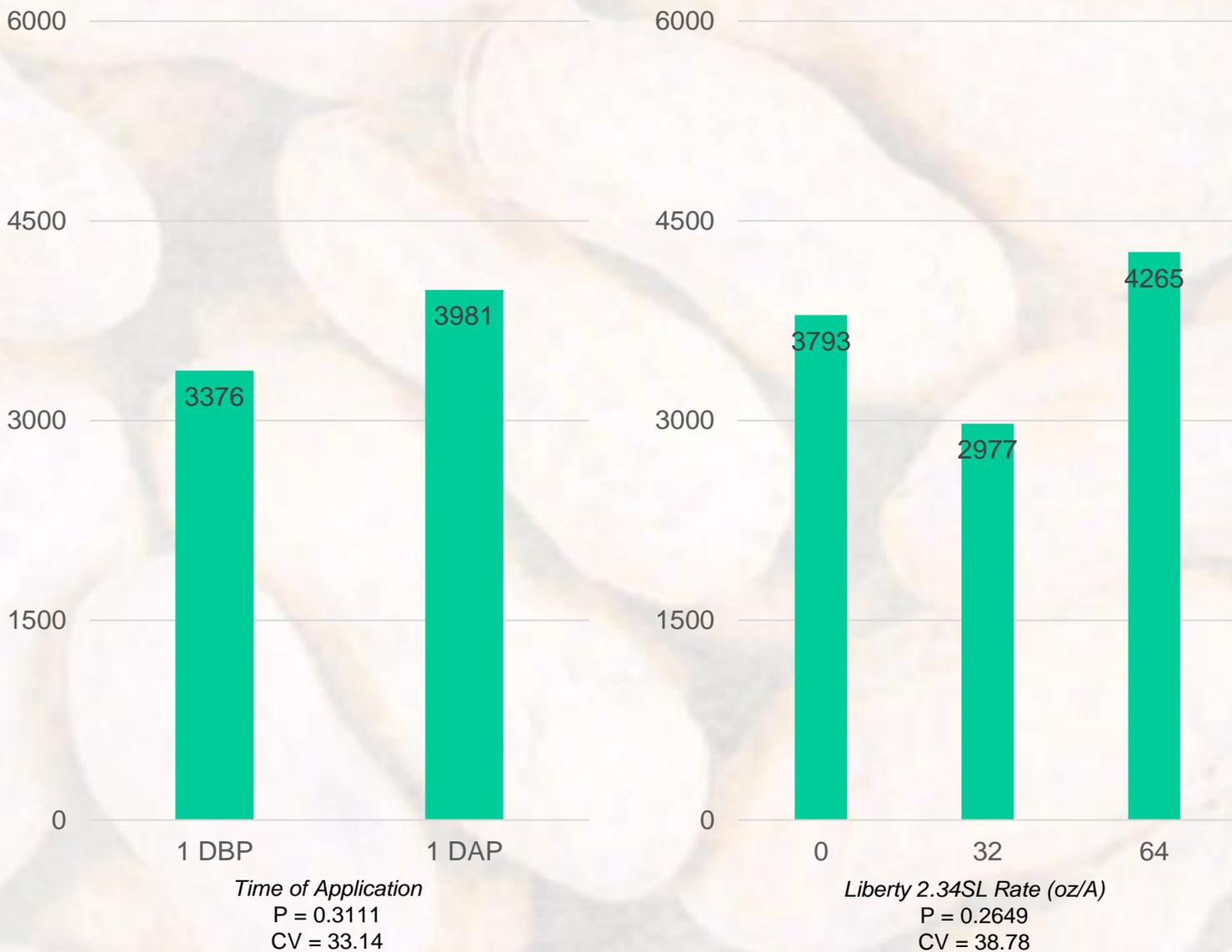
PE-21-20
September 21
118 DAP

Yield



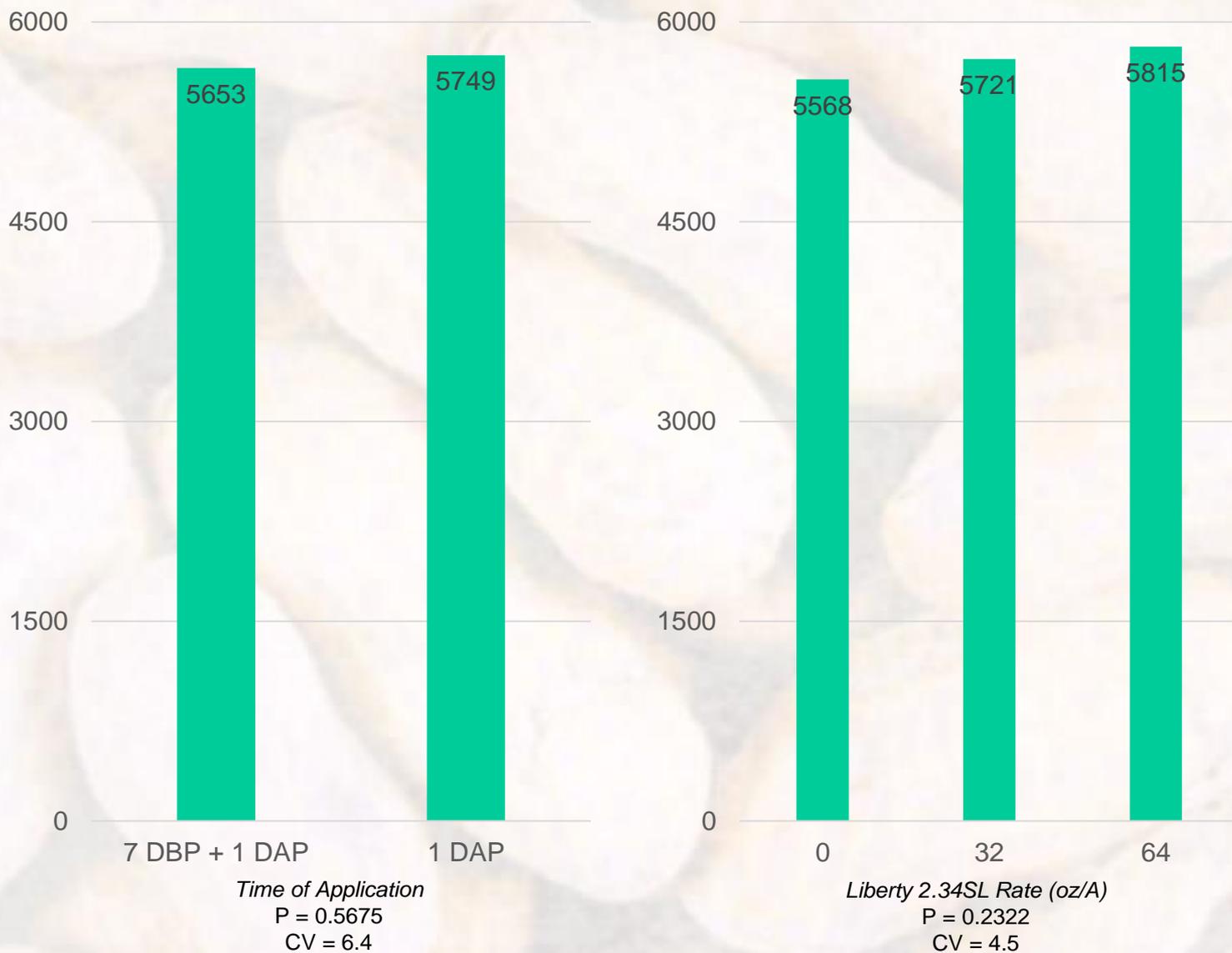


Liberty Timing and Rate Effects on Peanut Yield (lbs/A) - Arkansas





Liberty Timing and Rate Effects on Peanut Yield (lbs/A) - Georgia





Liberty Timing and Rate Effects on Peanut Yield (lbs/A) – South Carolina





Liberty Timing and Rate Effects on Peanut Yield (lbs/A) - Texas





Summary/Conclusions



- Generally, peanut tolerance to Liberty was very acceptable
- No interactions between timing and rate ($P \geq 0.1209$)
- Peanut Stand
 - **Rate Effect (GA)**
 - Reduced 6% by 64 oz/A
 - **Timing Effect (SC)**
 - Reduced 3.1% by 1 DAP
- No negative effects of timing or rate on peanut yield
 - 32 oz/A = 64 oz/A > 0 oz/A (SC)



Questions/Comments?

