Soybean Disease Management Update – LATMC ‘17

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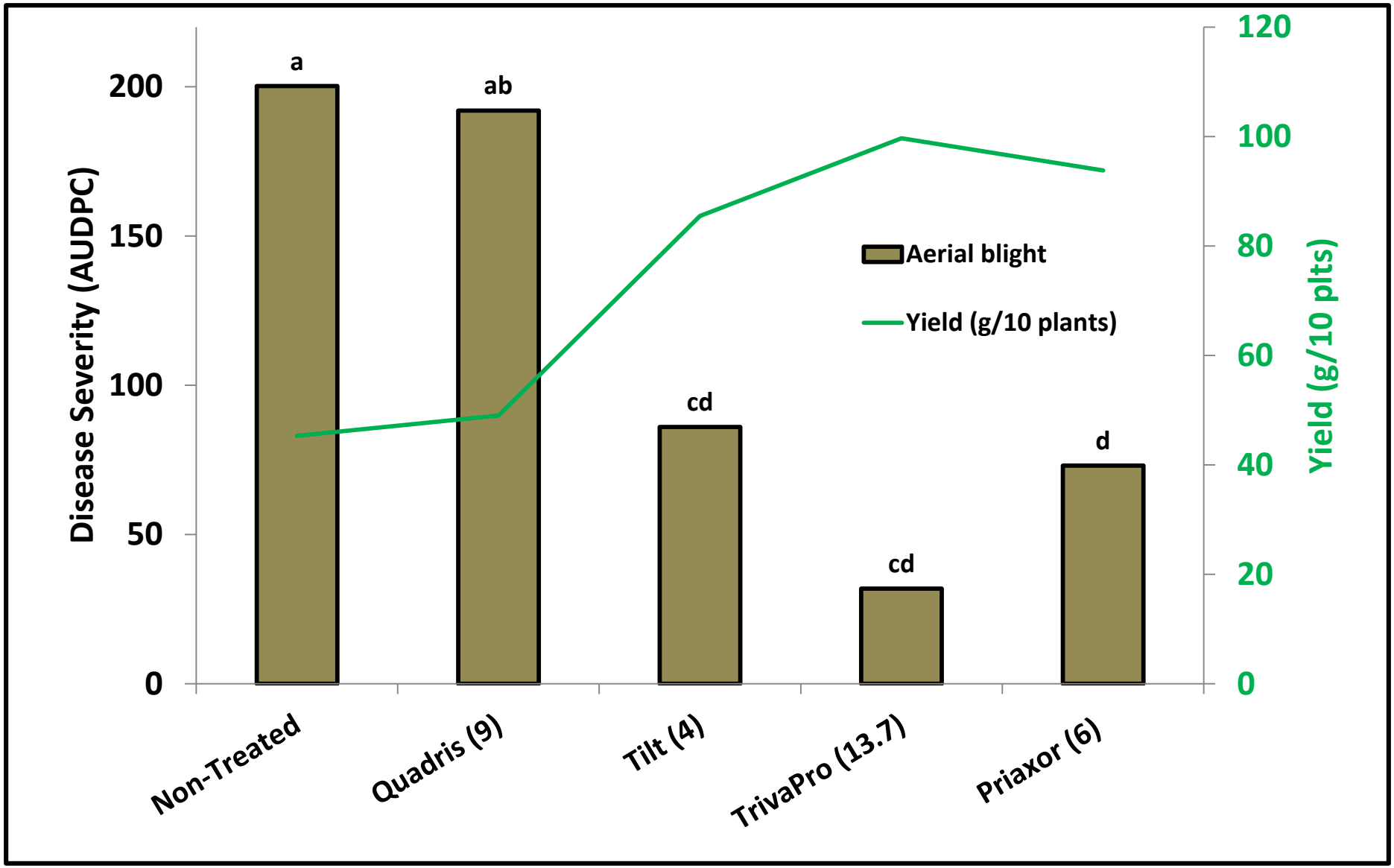


Effect of experimental and commercial fungicide application on aerial blight and yield – 2016.

MROS1601

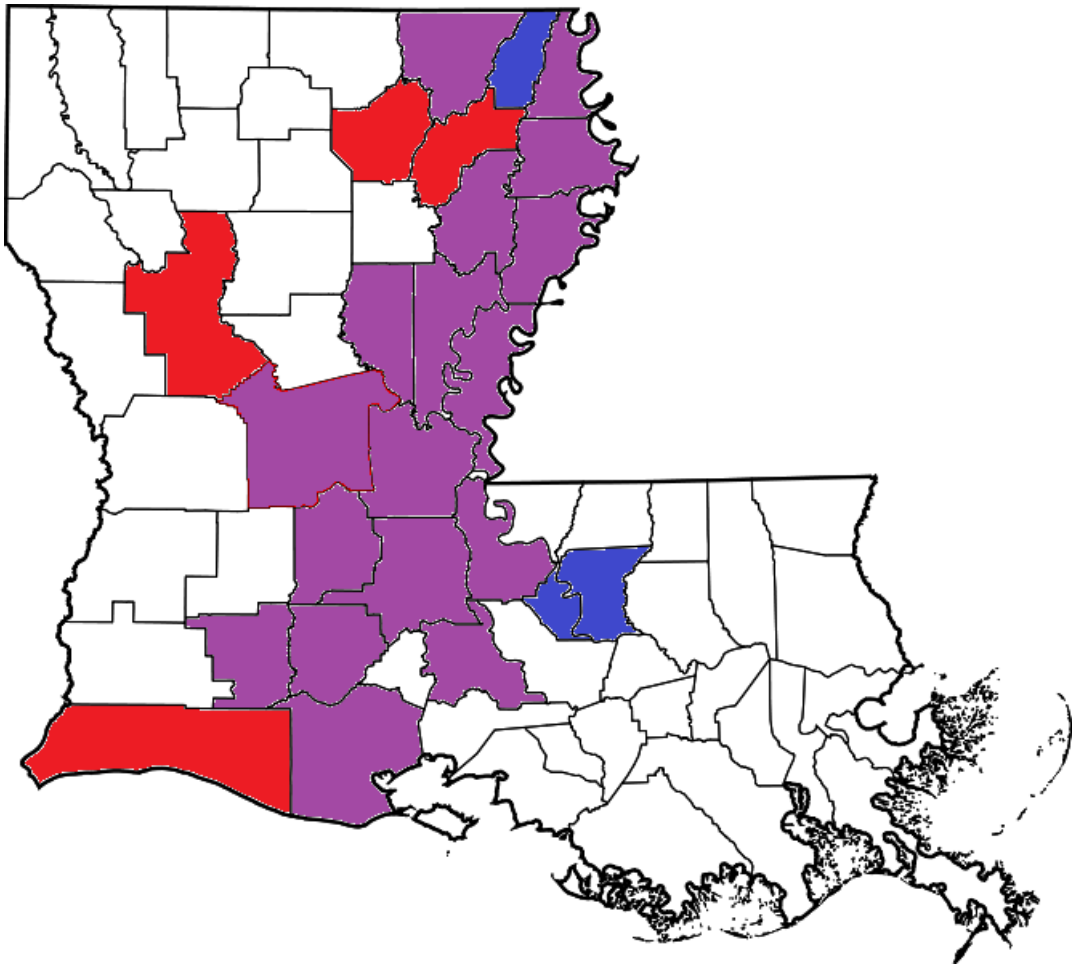
Cercospora Leaf Blight – Fungicide Resistance

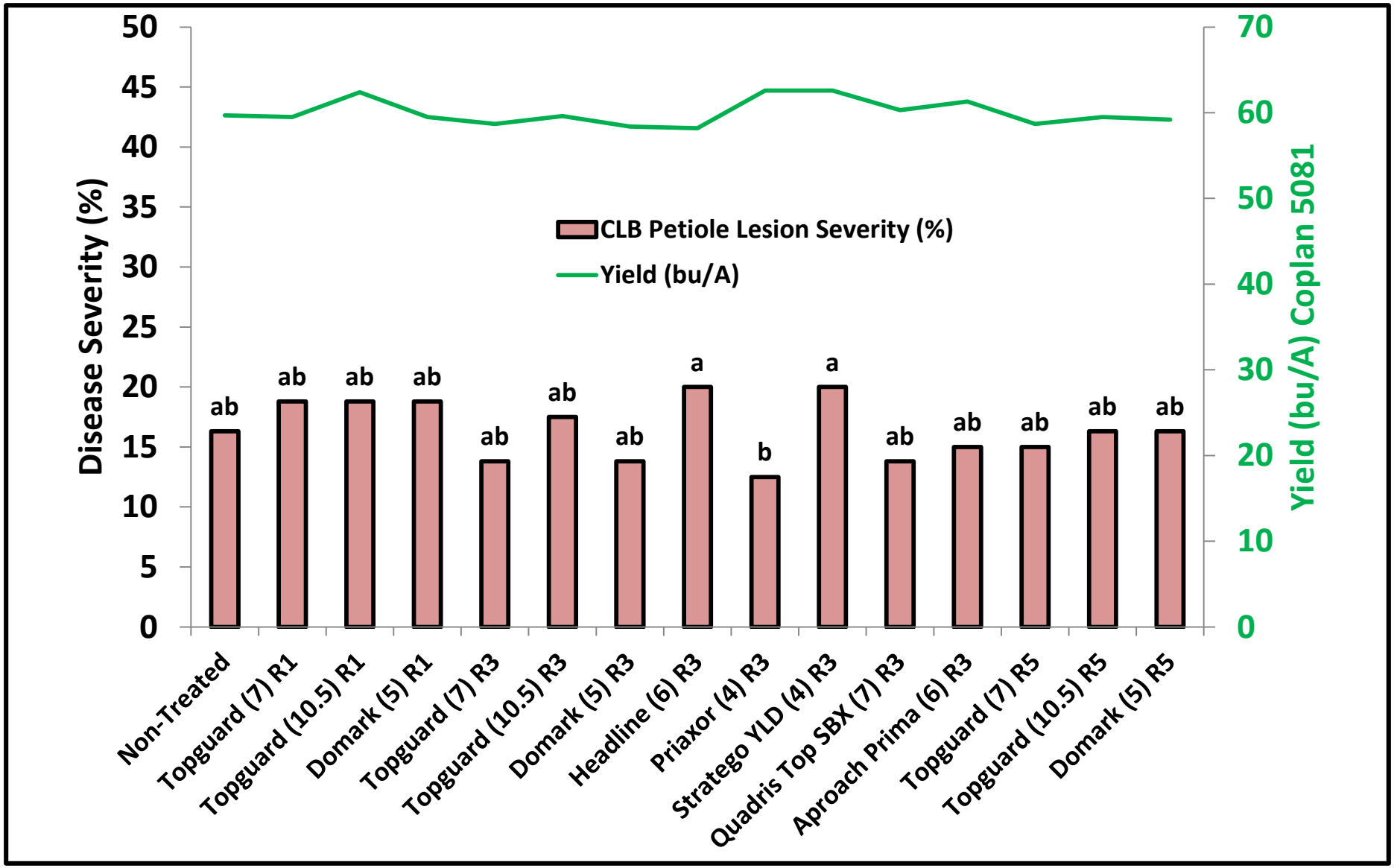
Strobilurin Resistance
Thiophanate-methyl
BOTH

~90% resistant to strobilurins

~33% resistant to thiophanate-methyl

Triazoles? SDHIs?





LA Application Timing Trial – St. Joseph 2016. Fungicides had minimal effect on CLB severity.

NESB1602

2016 USB/MSSB Project Locations

Cooperator	Location #	Location (s)	Status	Disease (s)
Allen	2	Stoneville, MS Verona, MS	Completed Completed	CLB, FLS, SBS, TS
Buckley	1	Bossier City, LA	Completed	CLB
Faske	1	Newport, AR	Completed	CLB, FLS, TS
Hollier	2	Baton Rouge, LA Crowley, LA	Flooded Flooded	- -
Kelly	1	TN	Completed	CLB, SBS
Price	2	Alexandria, LA St. Joseph, LA	Completed Completed	FLS, CLB, TS, RKN, FeX, TRD, AB, & SBR
Rupe	2	Marianna, AR Stuttgart, AR	Completed	CLB, TS
Shannon	1	Portageville, MO	Completed	No Disease
Sikora	1	Shorter, AL	Completed	CLB
Spurlock	1	Rohwer, AR	Completed	CLB
Zhou	1	Beaumont, TX	Flooded	-

Petiole Rating

0-10 Scale or 0-100

Estimate % of affected petioles in the plot.

1 = 10
2 = 20
3 = 30…etc.

Purple/Bronze Rating

0-10 Scale or 0-100

Estimate % of bronzed/purpled/ leathery leaf area in the plot

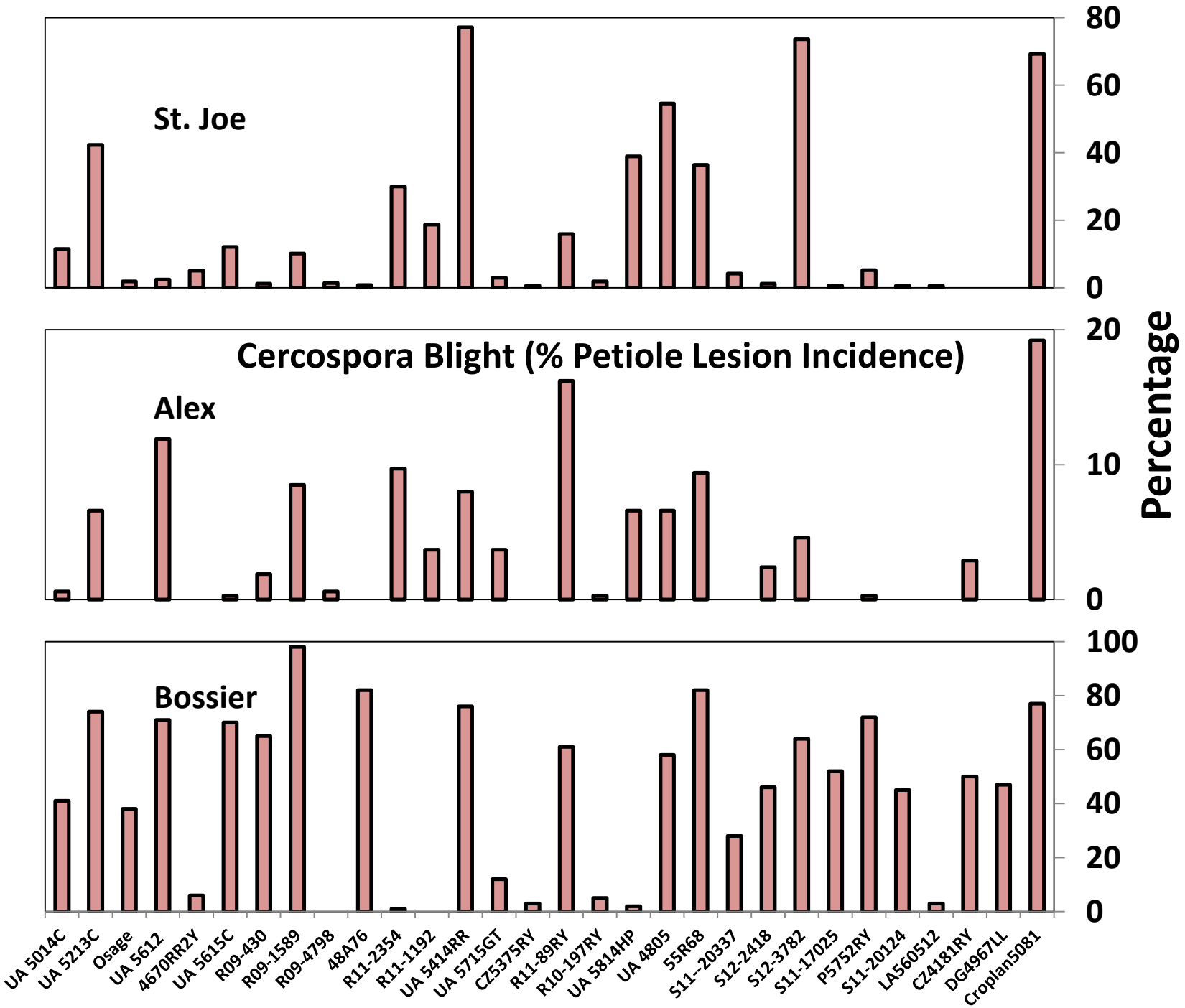
1 = 10
2 = 20
3 = 30…etc.

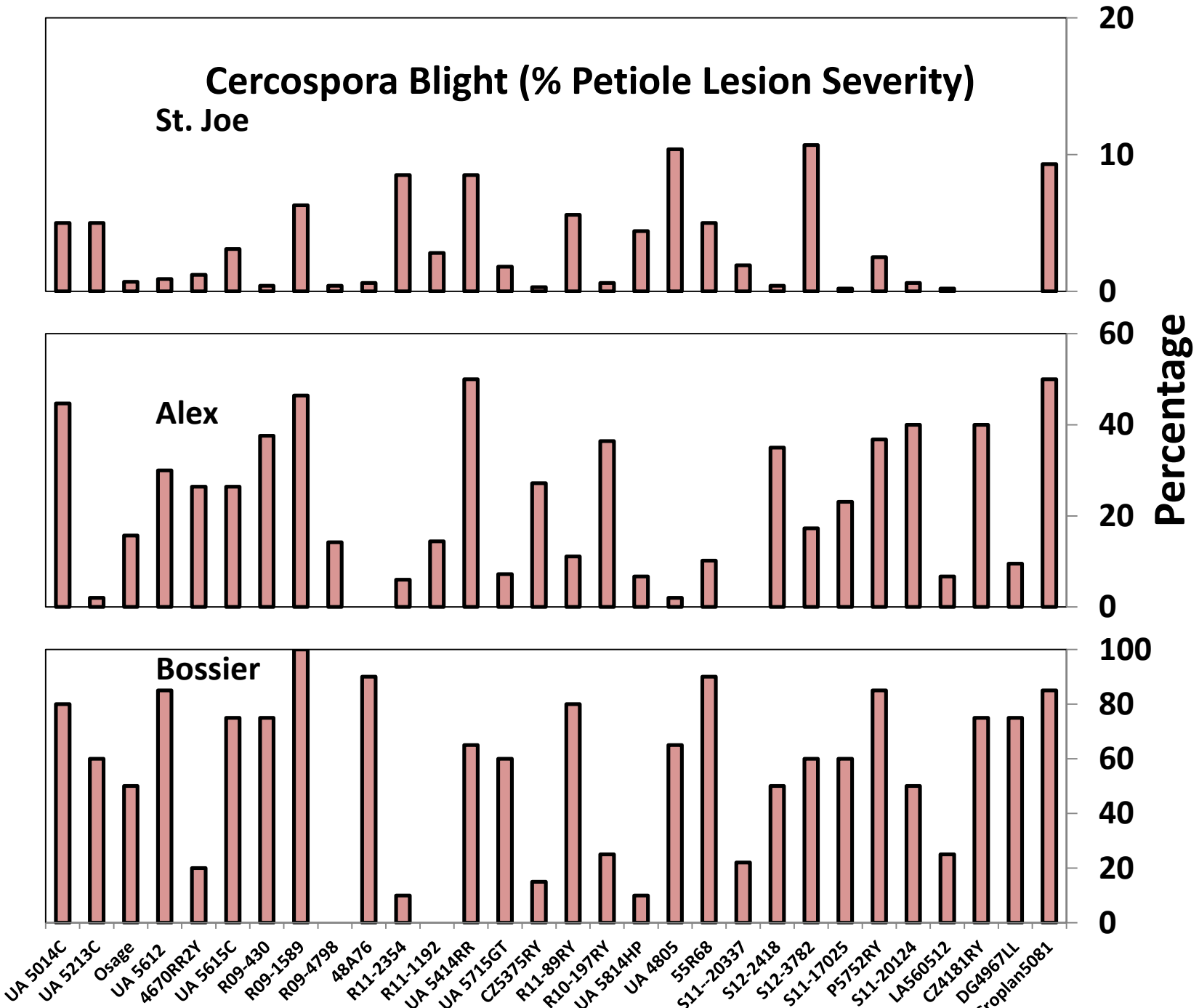
Blight Rating

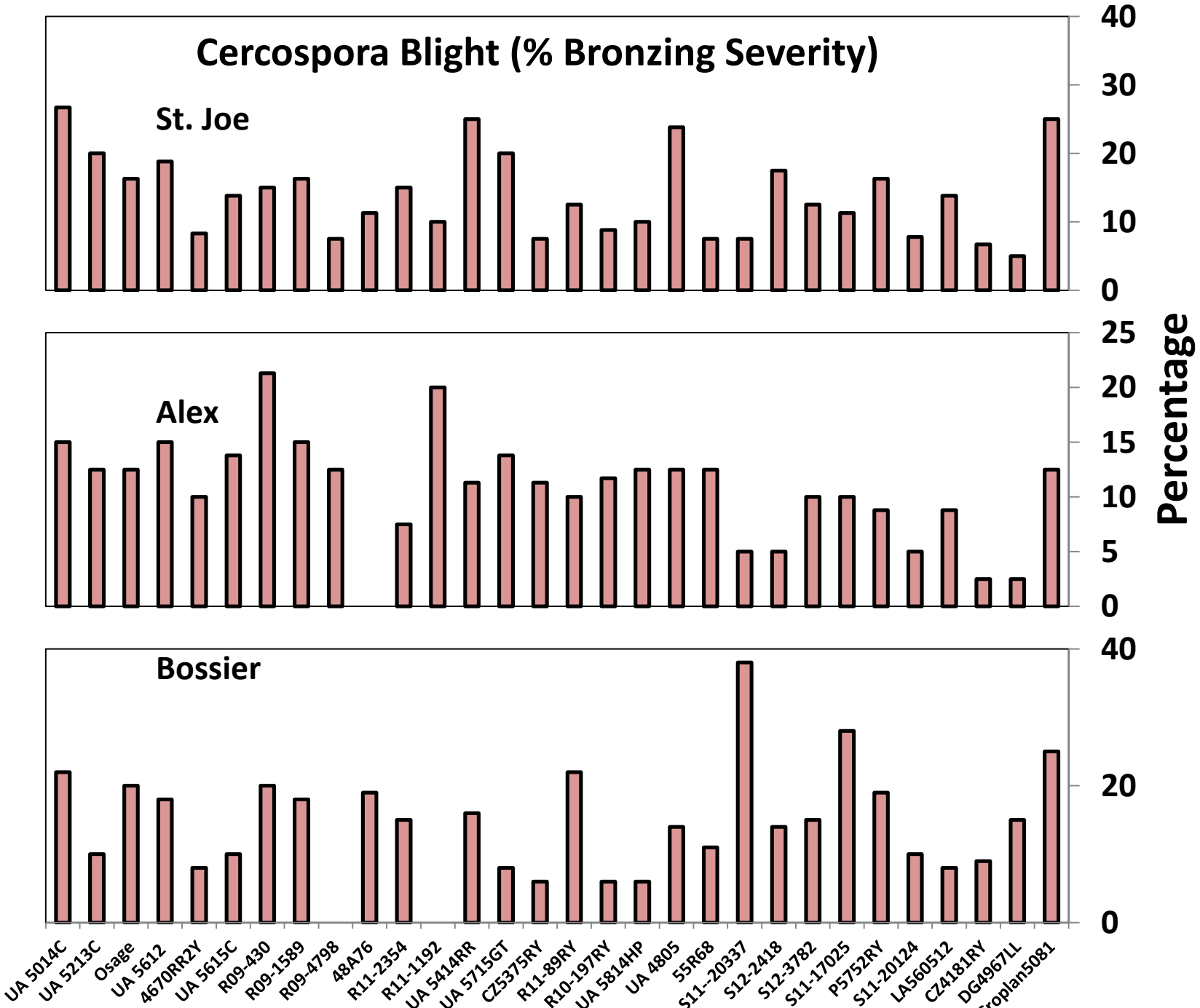
0-10 Scale or 0-100

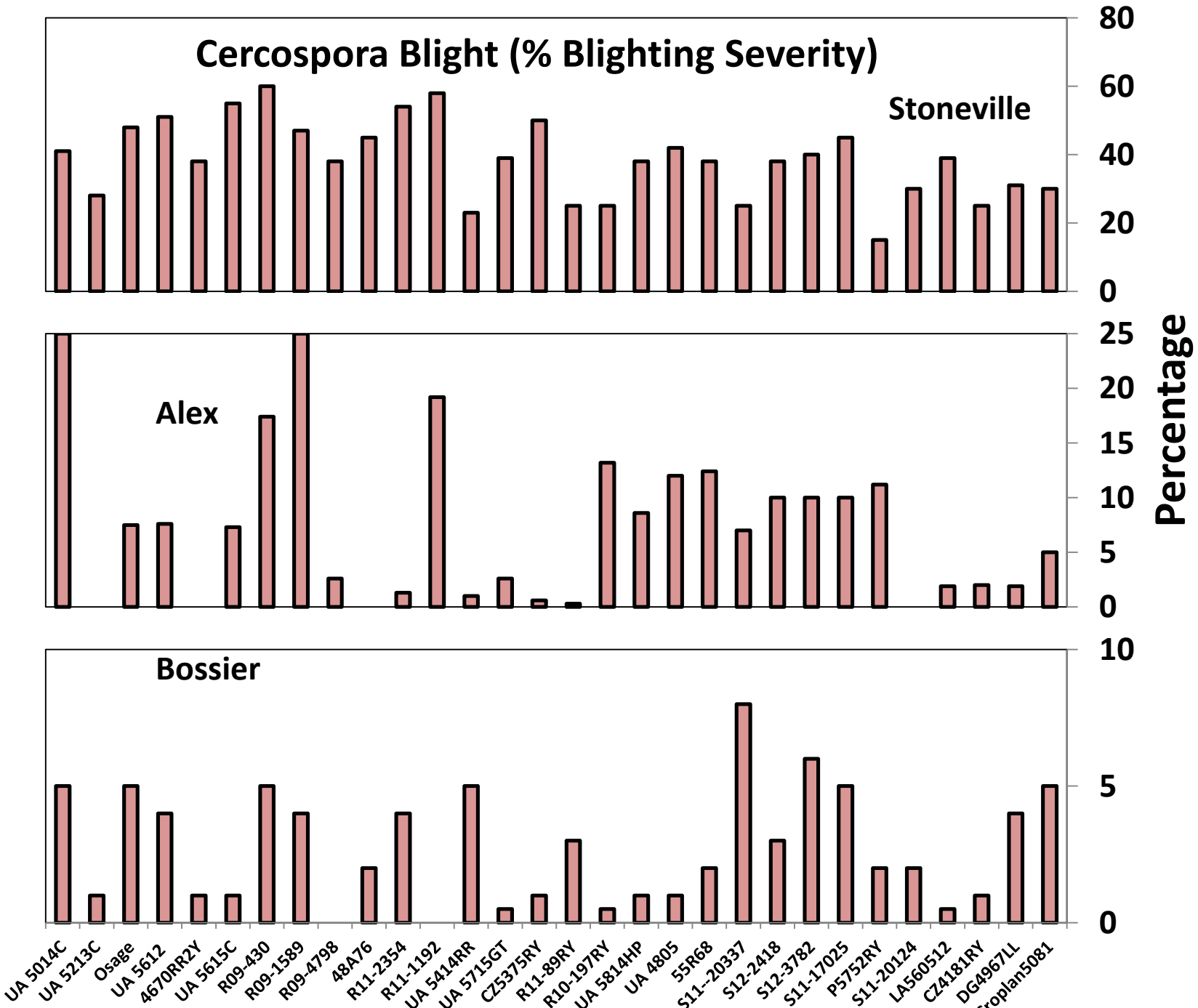
Estimate % of blighted leaf area in the plot.

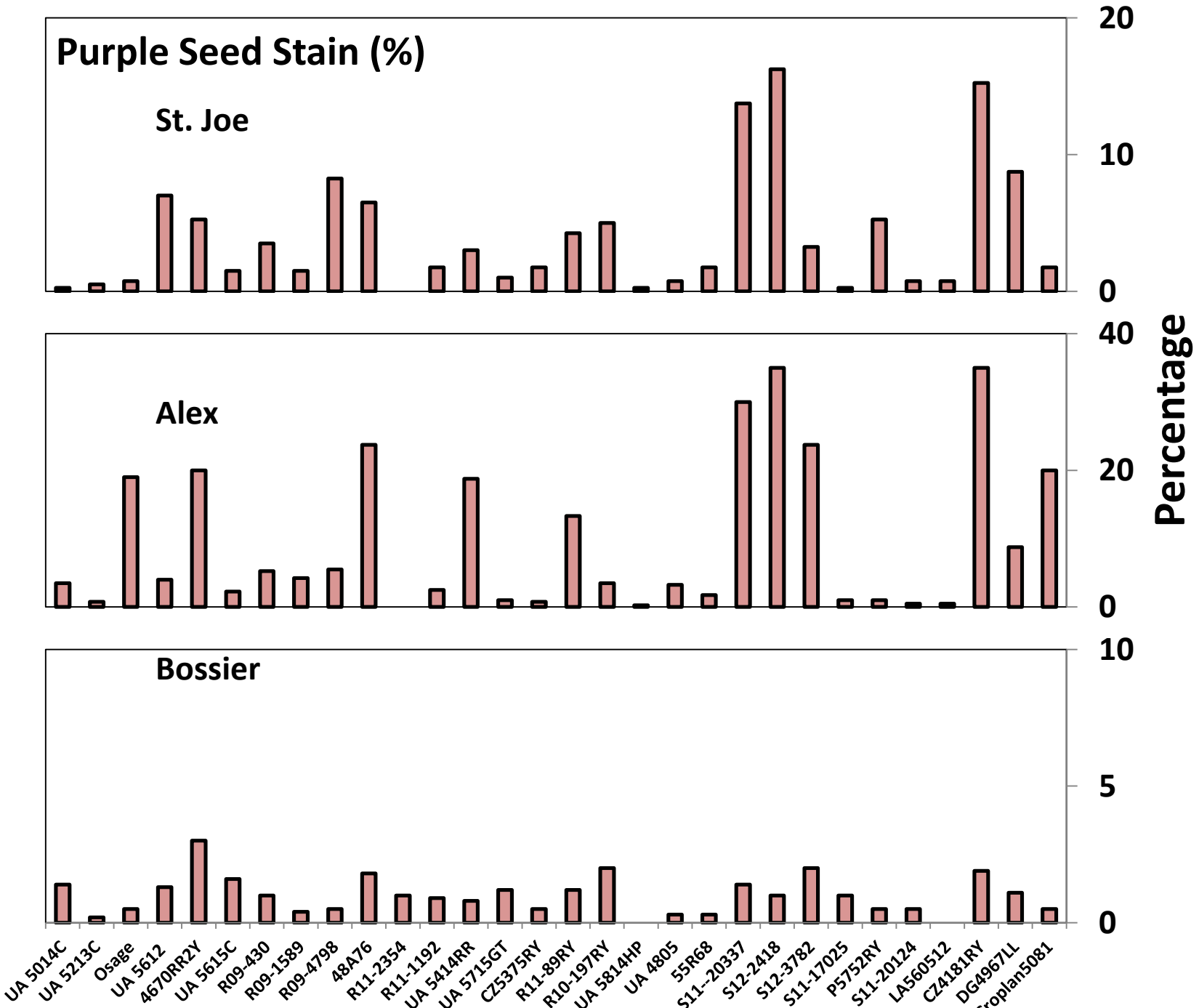
1 = 10
2 = 20
3 = 30…etc.


Cercospora Blight (% Petiole Lesion Incidence)
St. Joe
Alex
Bossier
Percentage
0
20
40
60
80
0
10
20
0
20
40
60
80
100
UA 5014C
UA 5213C
Osage
UA 5612
4670RR2Y
UA 5615C
R09-430
R09-1589
R09-4798
48A76
R11-2354
R11-1192
UA 5414RR
UA 5715GT
CZ5375RY
R11-89RY
R10-197RY
UA 5814HP
UA 4805
55R68
S11--20337
S12-2418
S12-3782
S11-17025
P5752RY
S11-20124
LA560512
CZ4181RY
DG4967LL
Croplan5081


Cercospora Blight (% Petiole Lesion Severity)
St. Joe
Alex
Bossier
Percentage
0
10
20
0
20
40
60
0
20
40
60
80
100
UA 5014C
UA 5213C
Osage
UA 5612
4670RR2Y
UA 5615C
R09-430
R09-1589
R09-4798
48A76
R11-2354
R11-1192
UA 5414RR
UA 5715GT
CZ5375RY
R11-89RY
R10-197RY
UA 5814HP
UA 4805
55R68
S11--20337
S12-2418
S12-3782
S11-17025
P5752RY
S11-20124
LA560512
CZ4181RY
DG4967LL
Croplan5081


Cercospora Blight (% Bronzing Severity)
St. Joe
Alex
Bossier
Percentage
0
10
20
30
40
0
5
10
15
20
25
0
20
40
UA 5014C
UA 5213C
Osage
UA 5612
4670RR2Y
UA 5615C
R09-430
R09-1589
R09-4798
48A76
R11-2354
R11-1192
UA 5414RR
UA 5715GT
CZ5375RY
R11-89RY
R10-197RY
UA 5814HP
UA 4805
55R68
S11--20337
S12-2418
S12-3782
S11-17025
P5752RY
S11-20124
LA560512
CZ4181RY
DG4967LL
Croplan5081

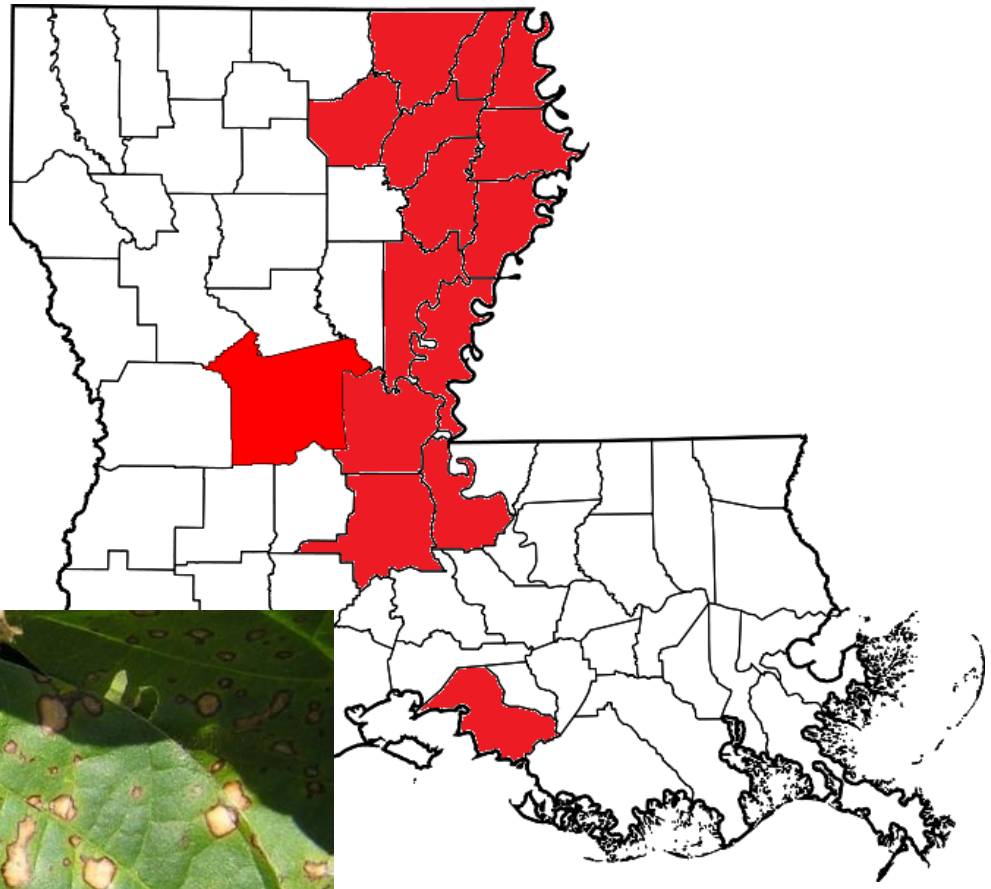

Cercospora Blight (% Blighting Severity)
Stoneville
Alex
Bossier
Percentage
80
60
40
20
0
25
20
15
10
5
0
10
5
0
UA 5014C
UA 5213C
Osage
UA 5612
4670RR2Y
UA 5615C
R09-430
R09-1589
R09-4798
48A76
R11-2354
R11-1192
UA 5414RR
UA 5715GT
CZ5375RY
R11-89RY
R10-197RY
UA 5814HP
UA 4805
55R68
S11--20337
S12-2418
S12-3782
S11-17025
P5752RY
S11-20124
LA560512
CZ4181RY
DG4967LL
Croplan5081

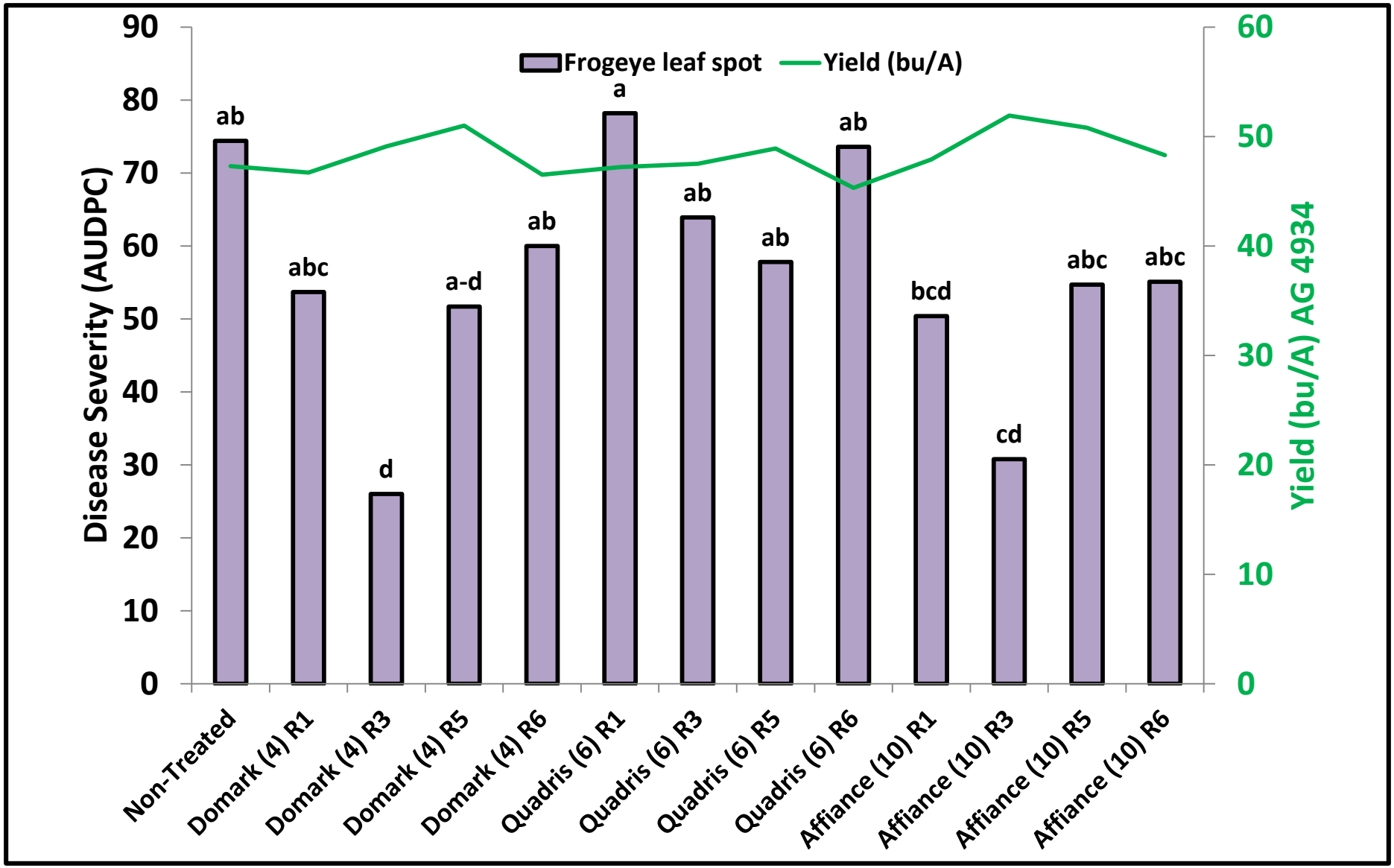

Purple Seed Stain (%)
St. Joe
Alex
Bossier
Percentage
20
10
0
40
20
0
10
5
0
UA 5014C
UA 5213C
Osage
UA 5612
4670RR2Y
UA 5615C
R09-430
R09-1589
R09-4798
48A76
R11-2354
R11-1192
UA 5414RR
UA 5715GT
CZ5375RY
R11-89RY
R10-197RY
UA 5814HP
UA 4805
55R68
S11--20337
S12-2418
S12-3782
S11-17025
P5752RY
S11-20124
LA560512
CZ4181RY
DG4967LL
Croplan5081

Frogeye Leaf Spot – Fungicide Resistance

Strobilurin resistance confirmed in 15 parishes

Suspect that the majority (>90%) of the pathogen population is resistant





Regional Frogeye leafspot trial (MALT) – Alexandria 2016.

DLSB1603

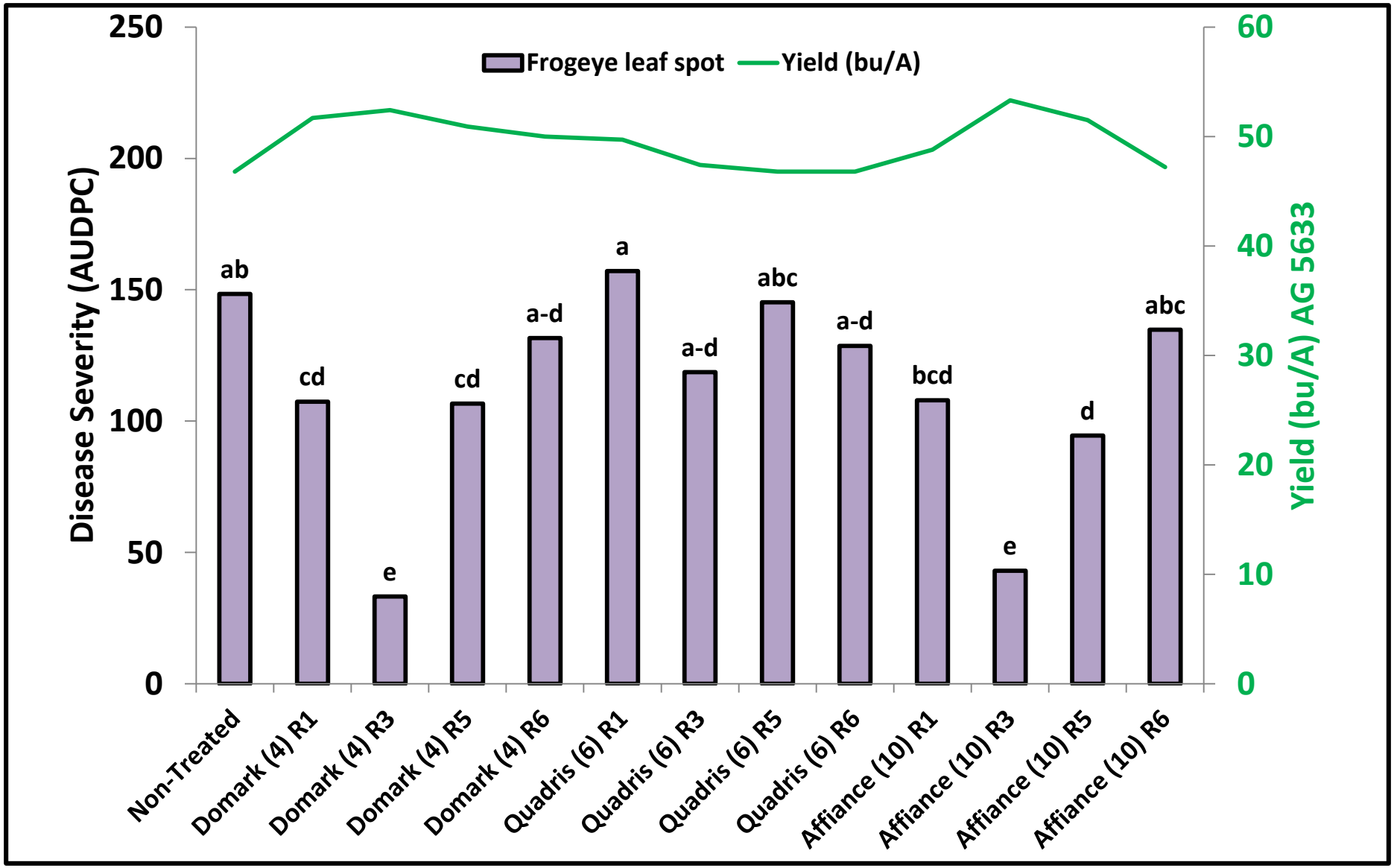
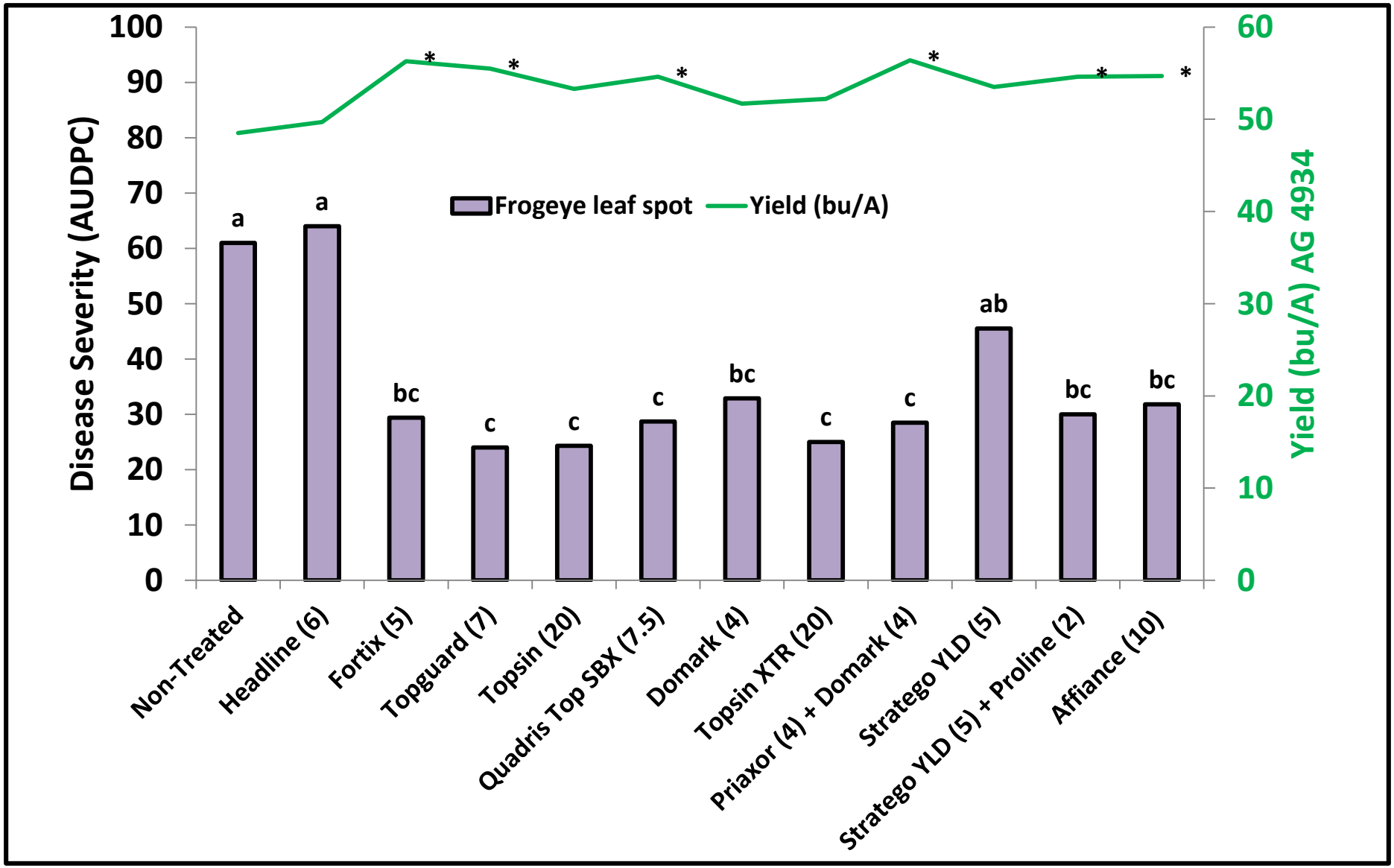


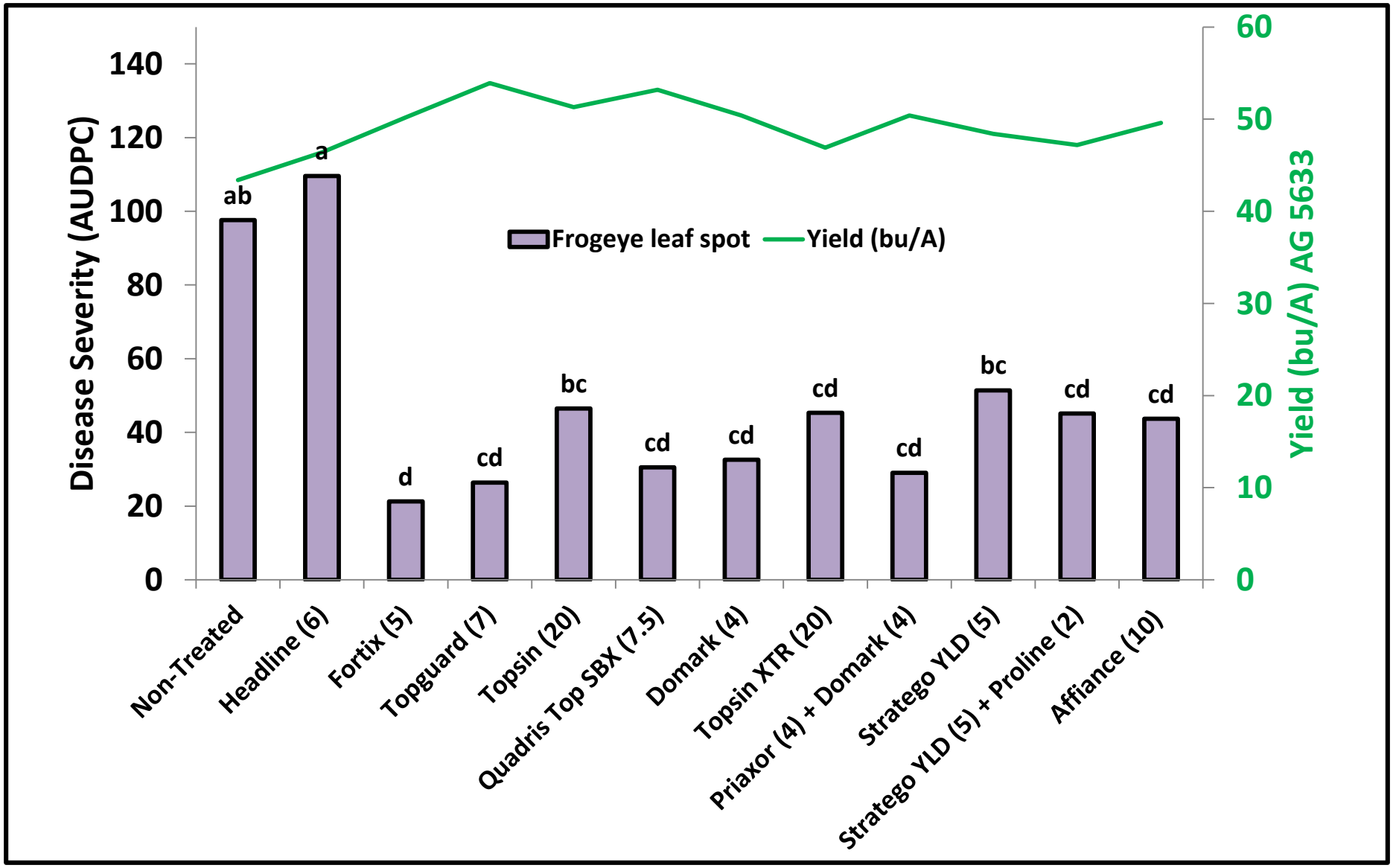
Figure 24. Regional Frogeye leafspot trial (MALT) – Winnsboro 2016

MRSB1611



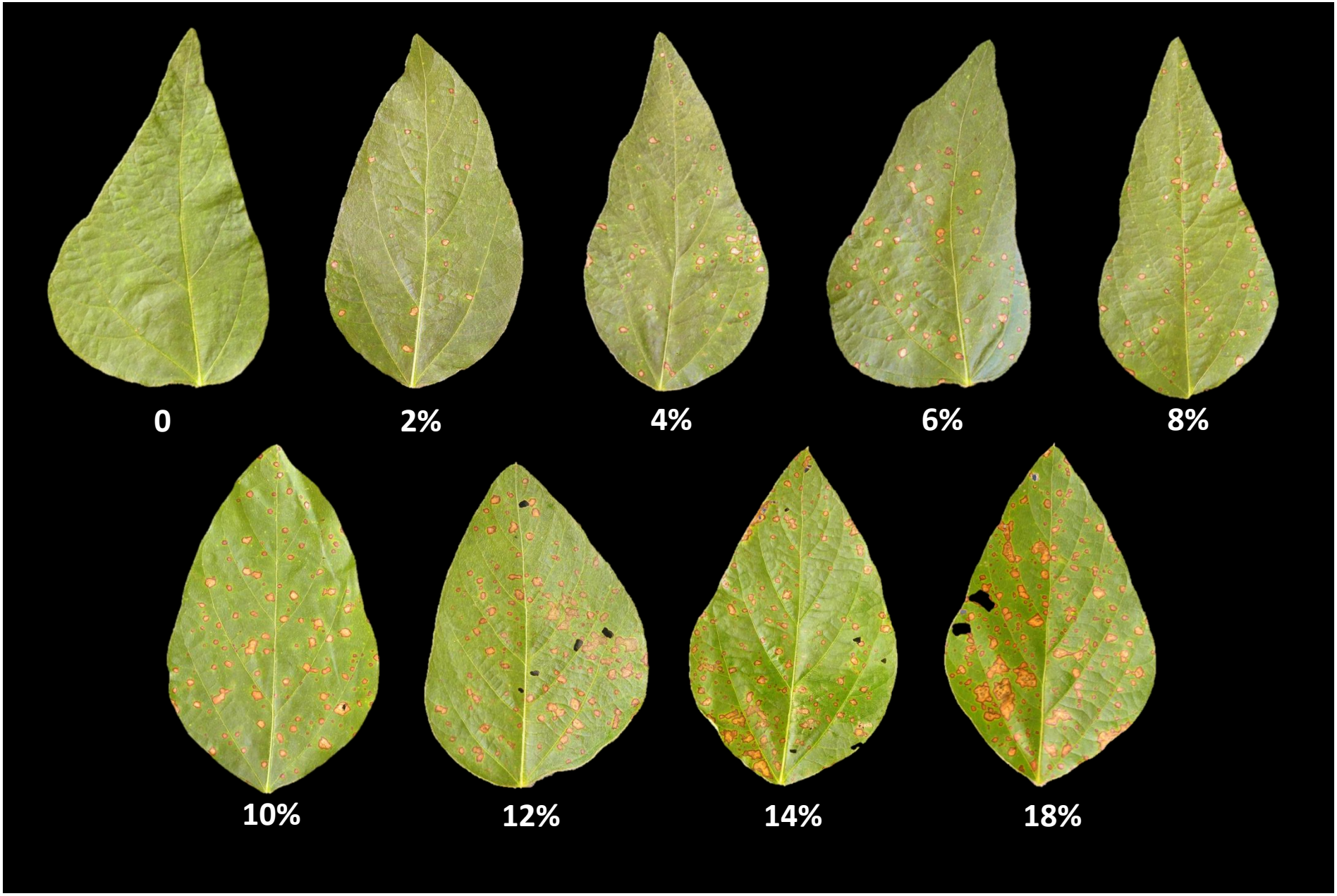
Regional frogeye leaf spot trial (BigBoy) – Alexandria 2016.
Max disease severity that was recorded around 6%. Late increase…

DLSB1607



Regional frogeye leaf spot trial (BigBoy) – Winnsboro 2016.
Max disease severity that was recorded around 8%.

MRSB1615

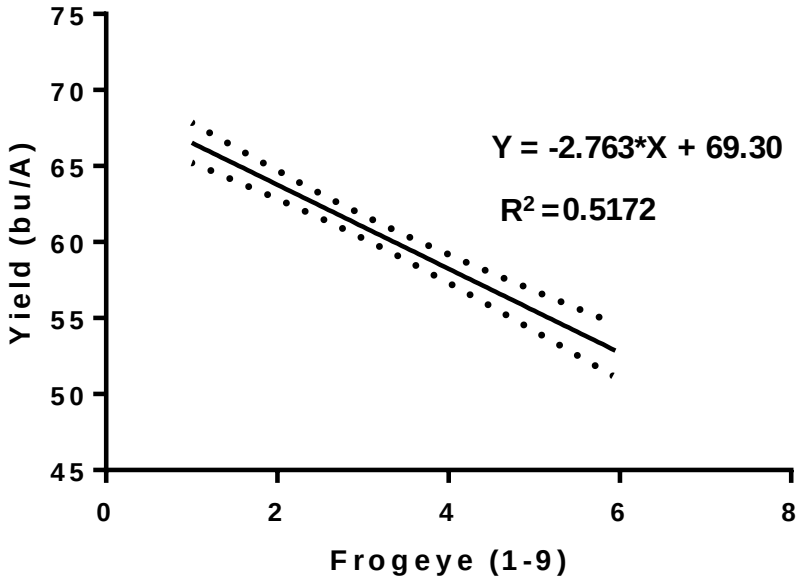


Frogeye Leaf Spot Rating Scale – 2015

Variety Trials – NERS 2014

Variety	Frogeye (1-9)	Yield (bu/A)	Rank
C4544R2	1	65.6	19
5N451R2	1	65.4	21
REV 49R94	1	67.8	8
REV 48R44	1	68.7	3
REV 47R34	1	67.2	13
REV 47R53	1	67.7	9
HALO 4:94 LL	1	69.1	2
S47-K5	1	70.5	1
P 4928 LL	1	63.9	40
AG 4632	1	64.4	36

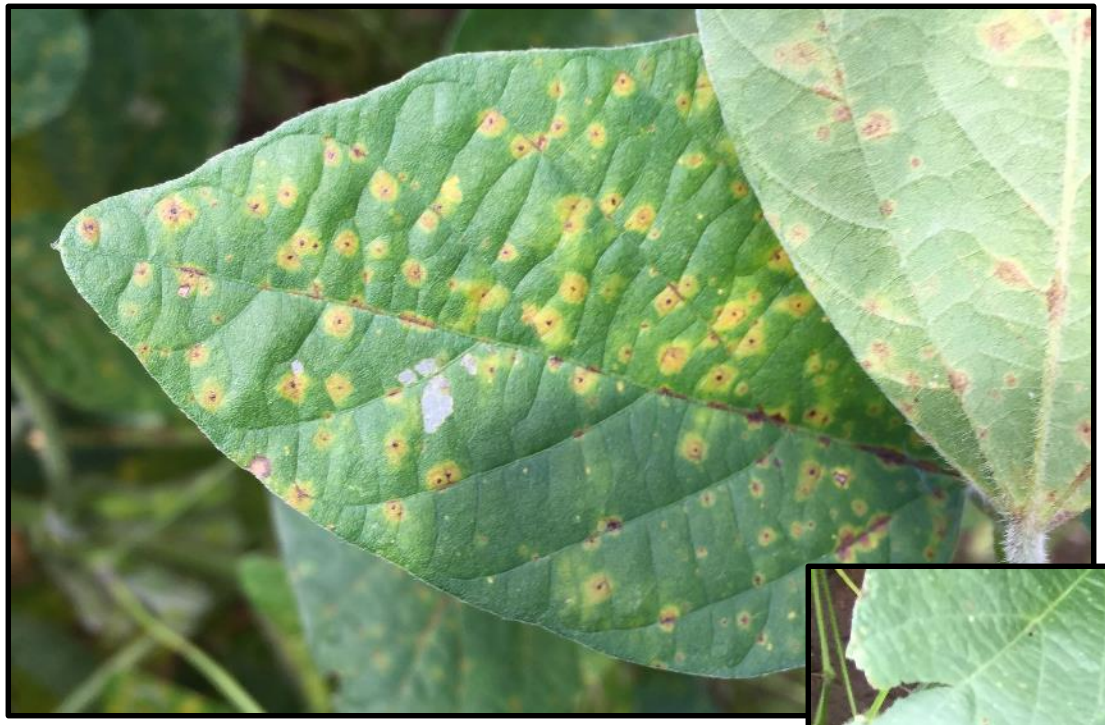
← Top 10 Frogeye Resistant Varieties



Variety	Frogeye (1-9)	Yield (bu/A)	Rank
AX4470	5	53.8	89
46X04	5	56.5	78
AG 4934	5	54.7	85
AX4490	5.3	49.2	97
AG 4531	5.3	57.5	73
S09-6262	5.3	45.2	100
P 4510 RYS	5.7	54.5	87
DG 4930 RR2	5.7	49.7	98
R08-2797	5.7	46.5	99
48X34	6	50	96

← Bottom 10 Frogeye Susceptible Varieties

Estimated losses up to 18% in this trial.



Target spot

http://www.arkansascrops.com

http://www.mississippi-crops.com

Heavy in AR and MS during 2016.

Check their ratings for resistant varieties, if need be.

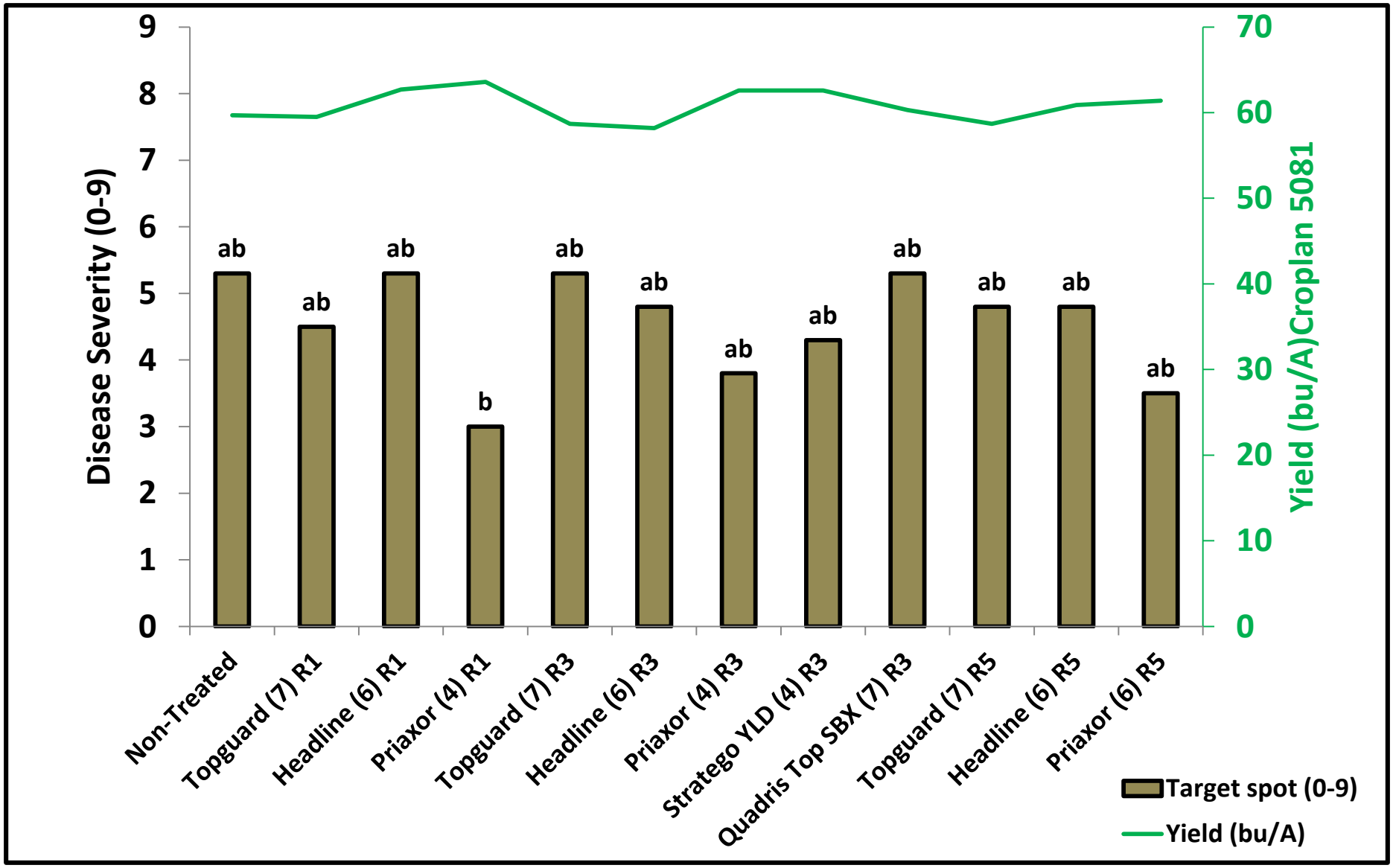


Figure 18. USB Uniform Fungicide Trial – St. Joseph 2016. Fungicide efficacy on target spot.

NESB1602

Soilborne Soybean Disease Management in LA

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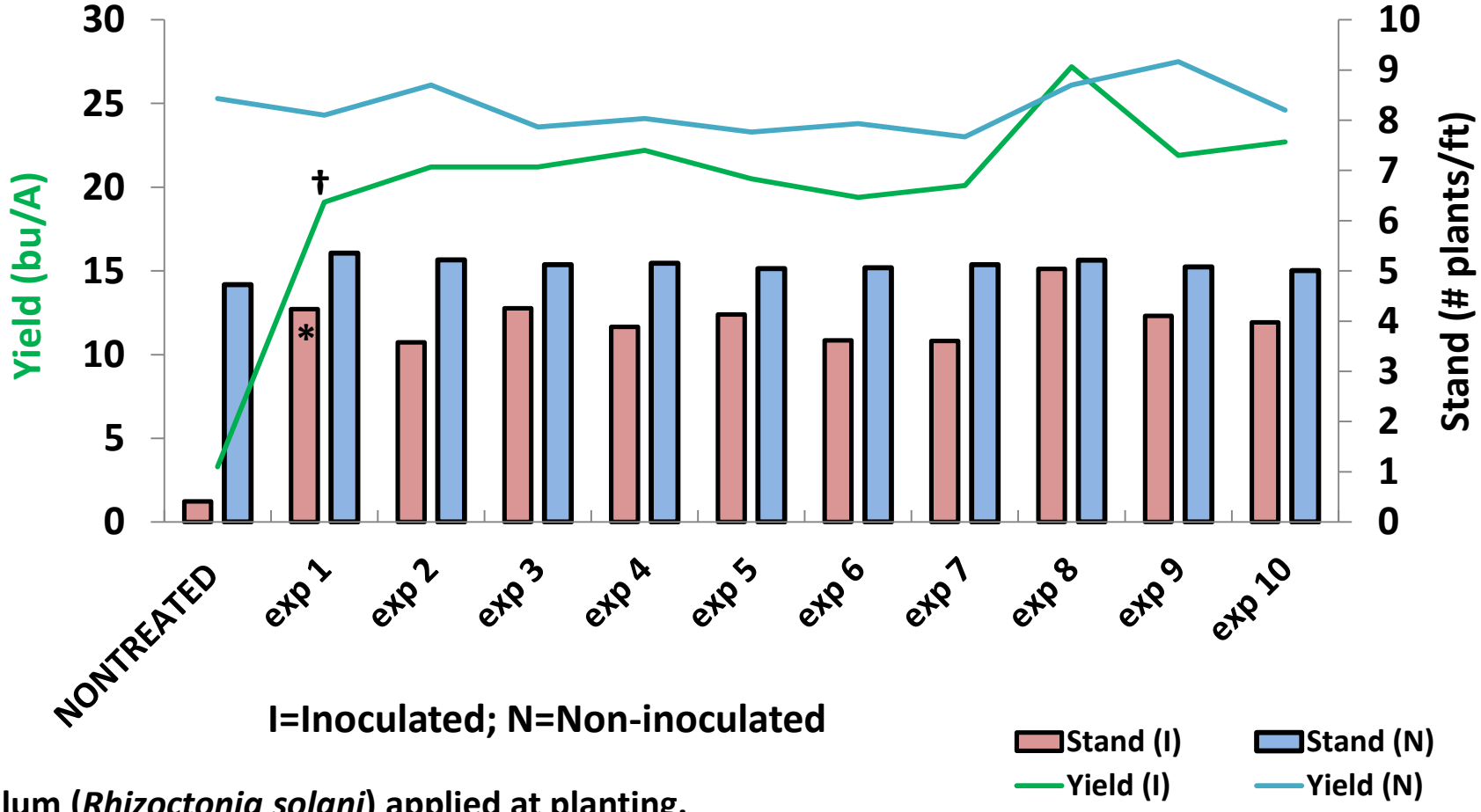
Soybean Seedling Disease Management

- Rhizoctonia, Pythium, Phytophthora, Fusarium, and others
- Cool, wet conditions soon after planting
- Seed treatments are effective
- Most of the time, seed treatments increase stand
- Usually do not result in significantly preserved yield

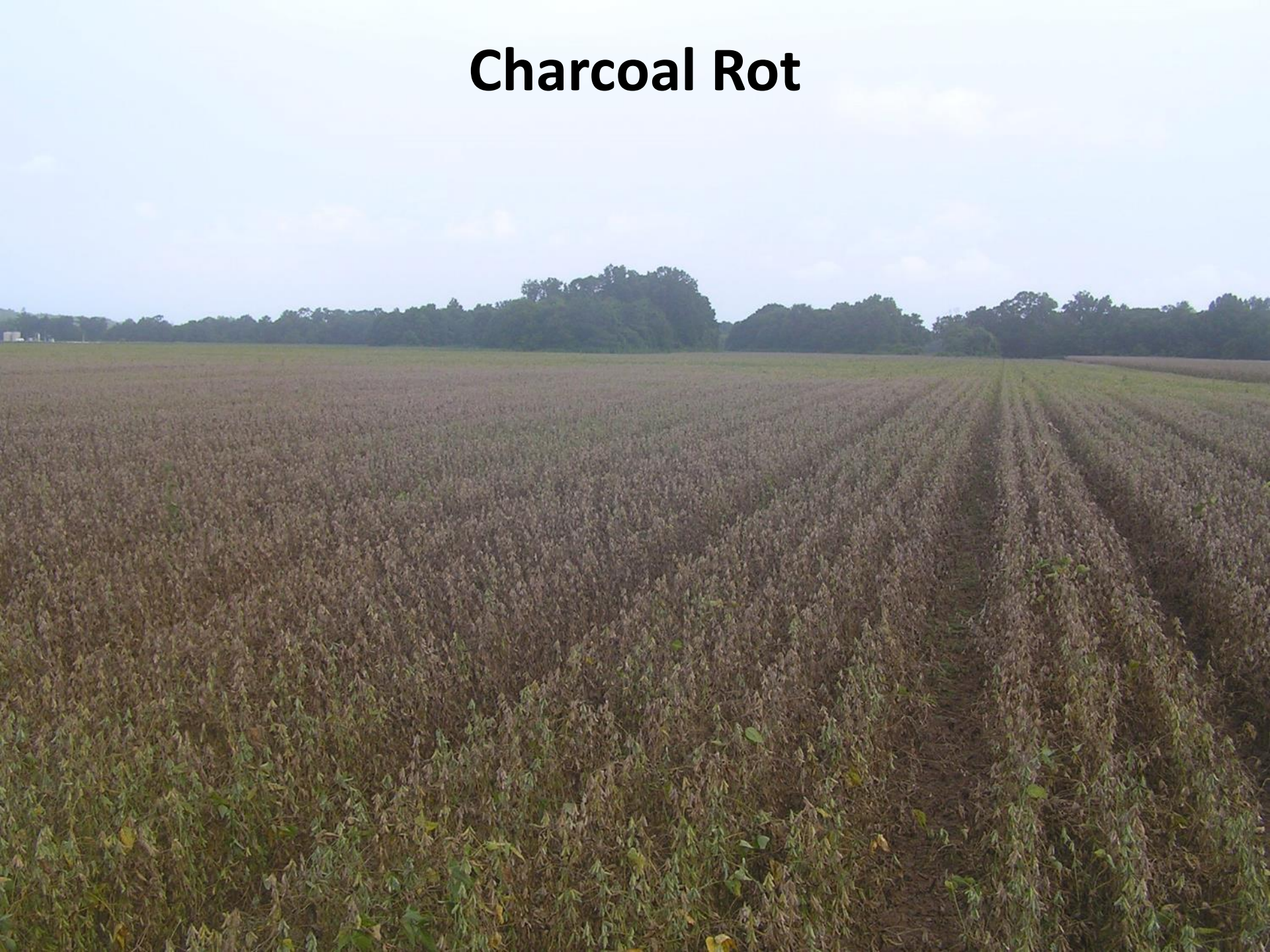
Effect of Experimental Seed Treatment Options on Soybean Stand and Yield – Syngenta – 2015

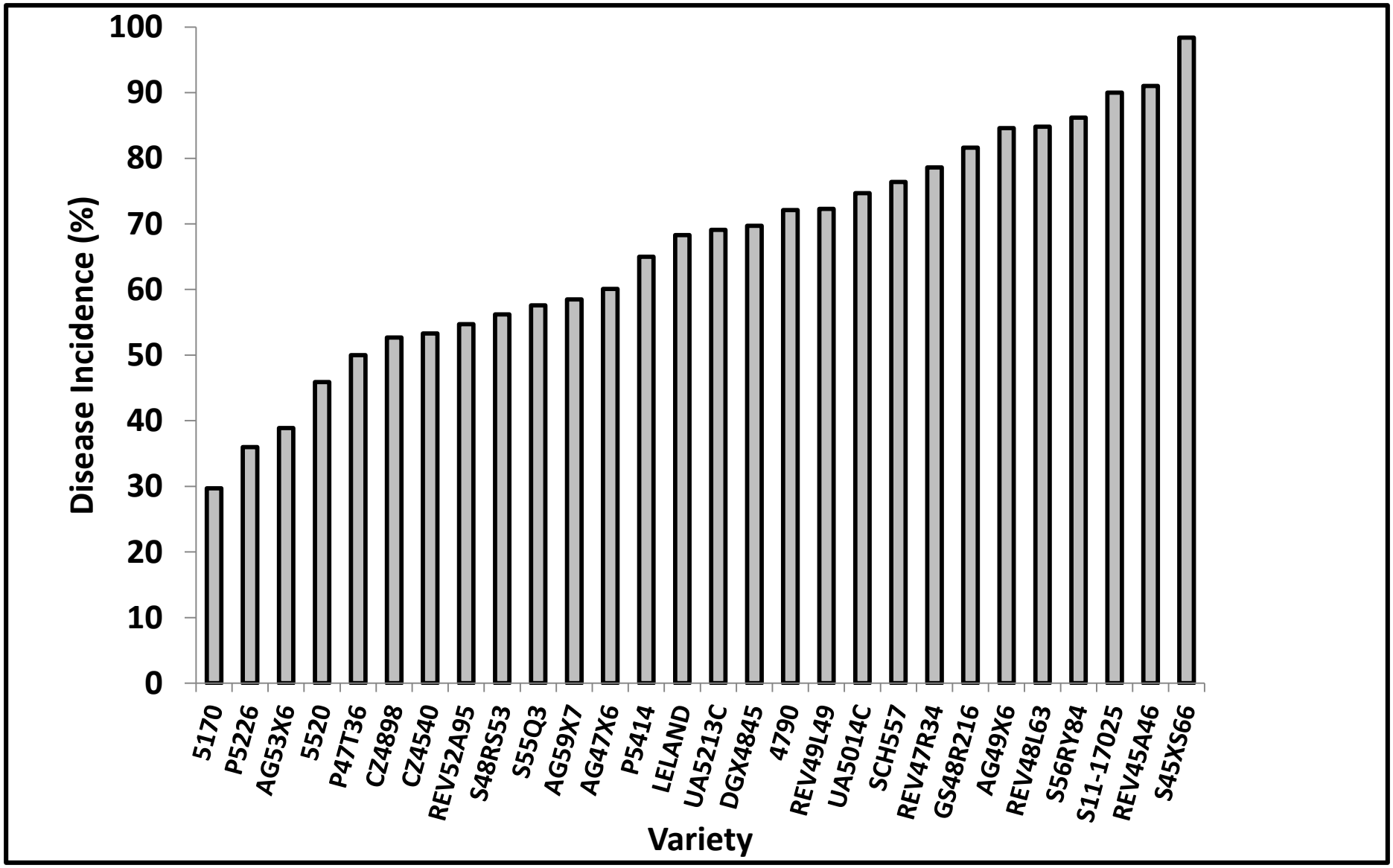


Inoculum (*Rhizoctonia solani*) applied at planting.
Experimental products range from base to premium.
*†All treatments resulted in increased stand and yield compared to nontreated, inoculated plots.
There were no differences in stand or yield among all non-inoculated plots.

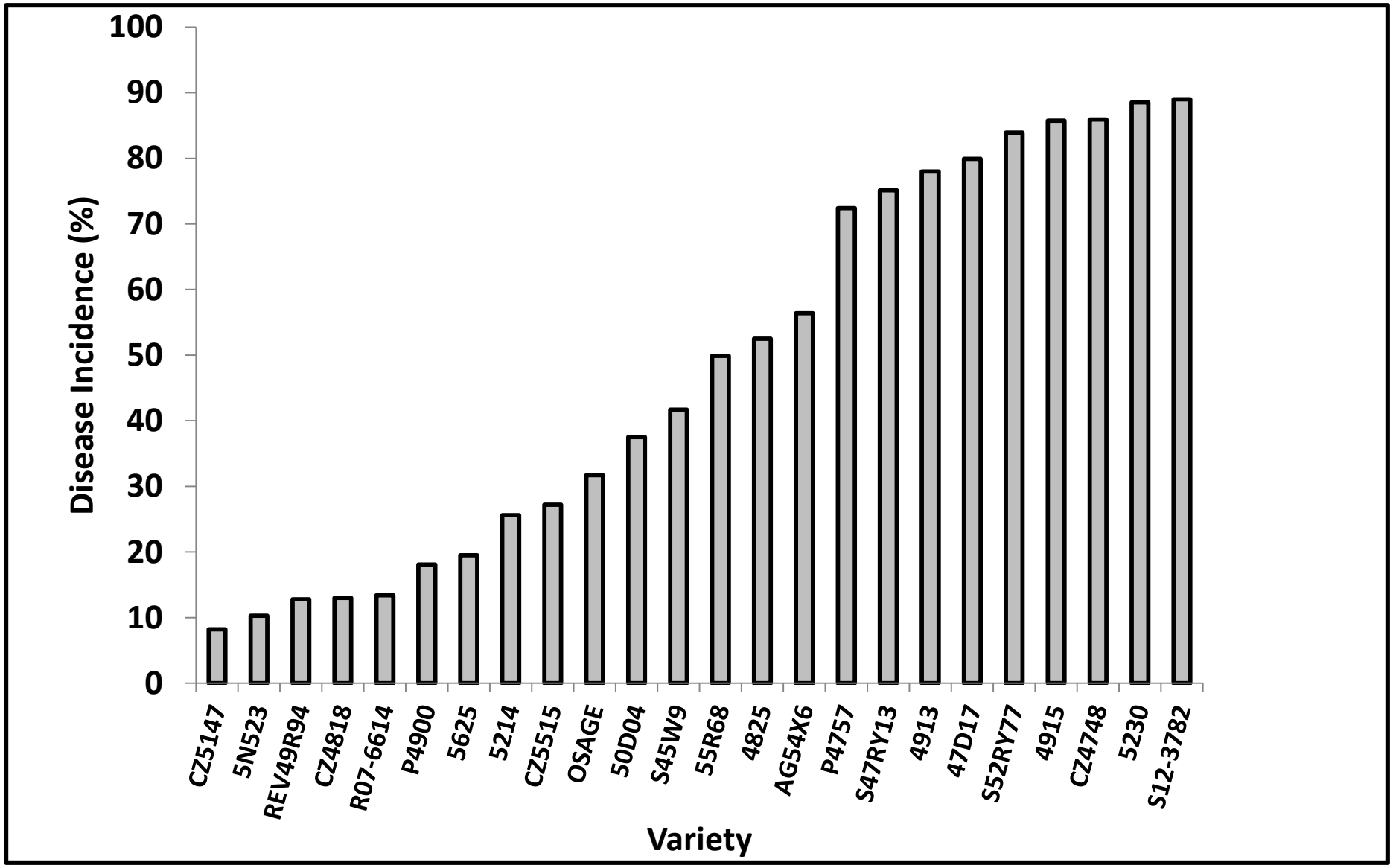
MRSB1502

Charcoal Rot



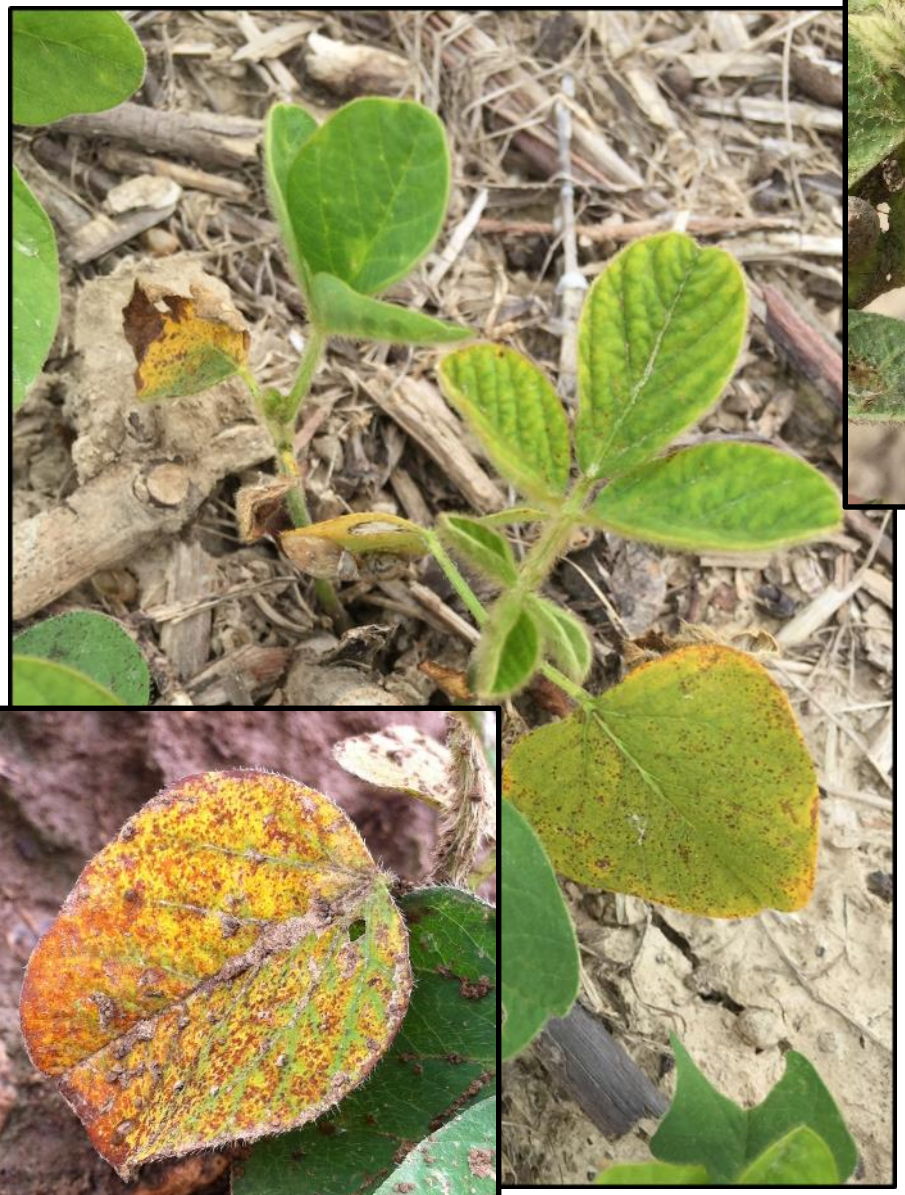


Charcoal Rot Variety Screening #1 – Winnsboro 2016



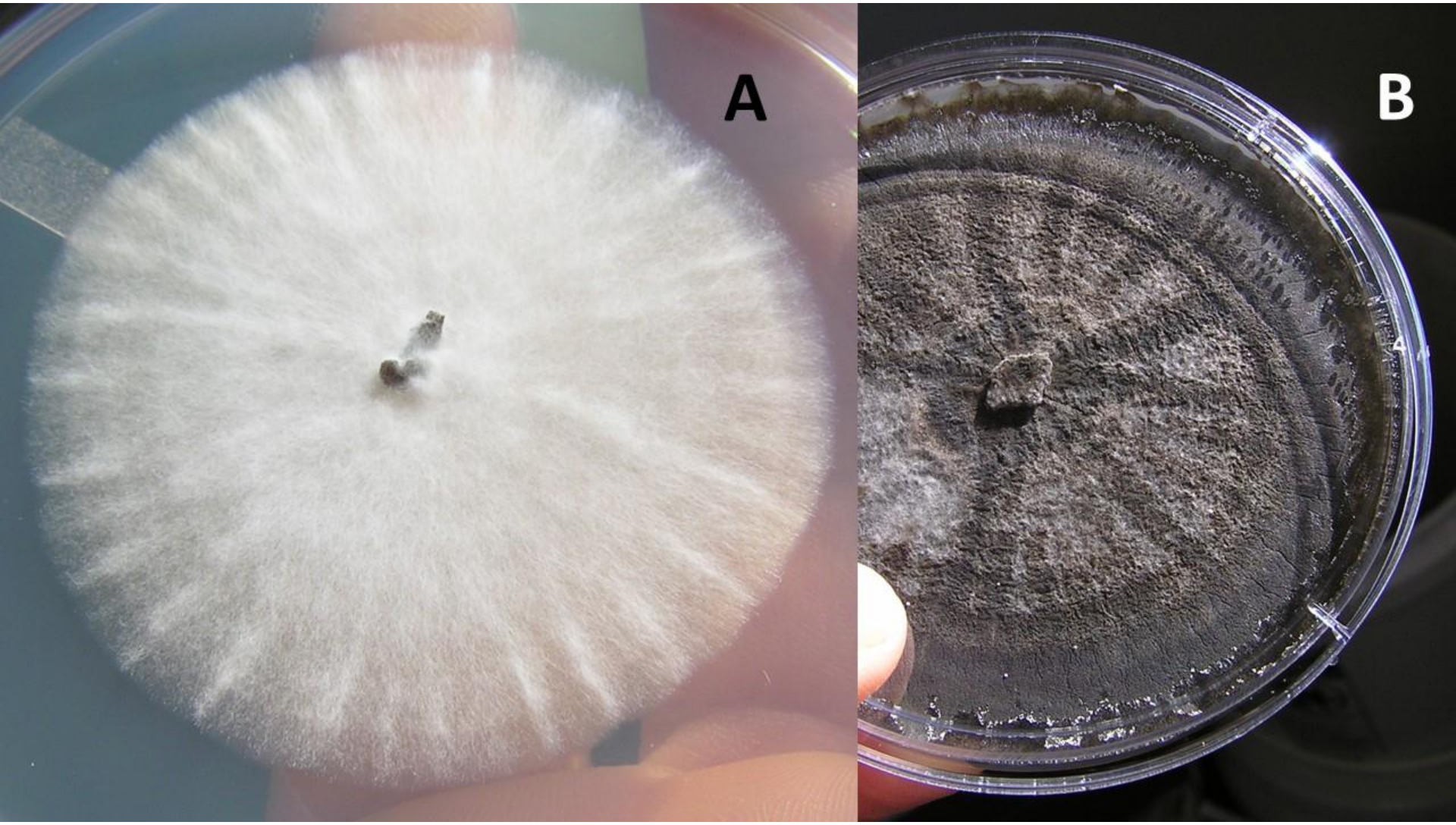
Charcoal Rot Variety Screening #2 – Winnsboro 2016.

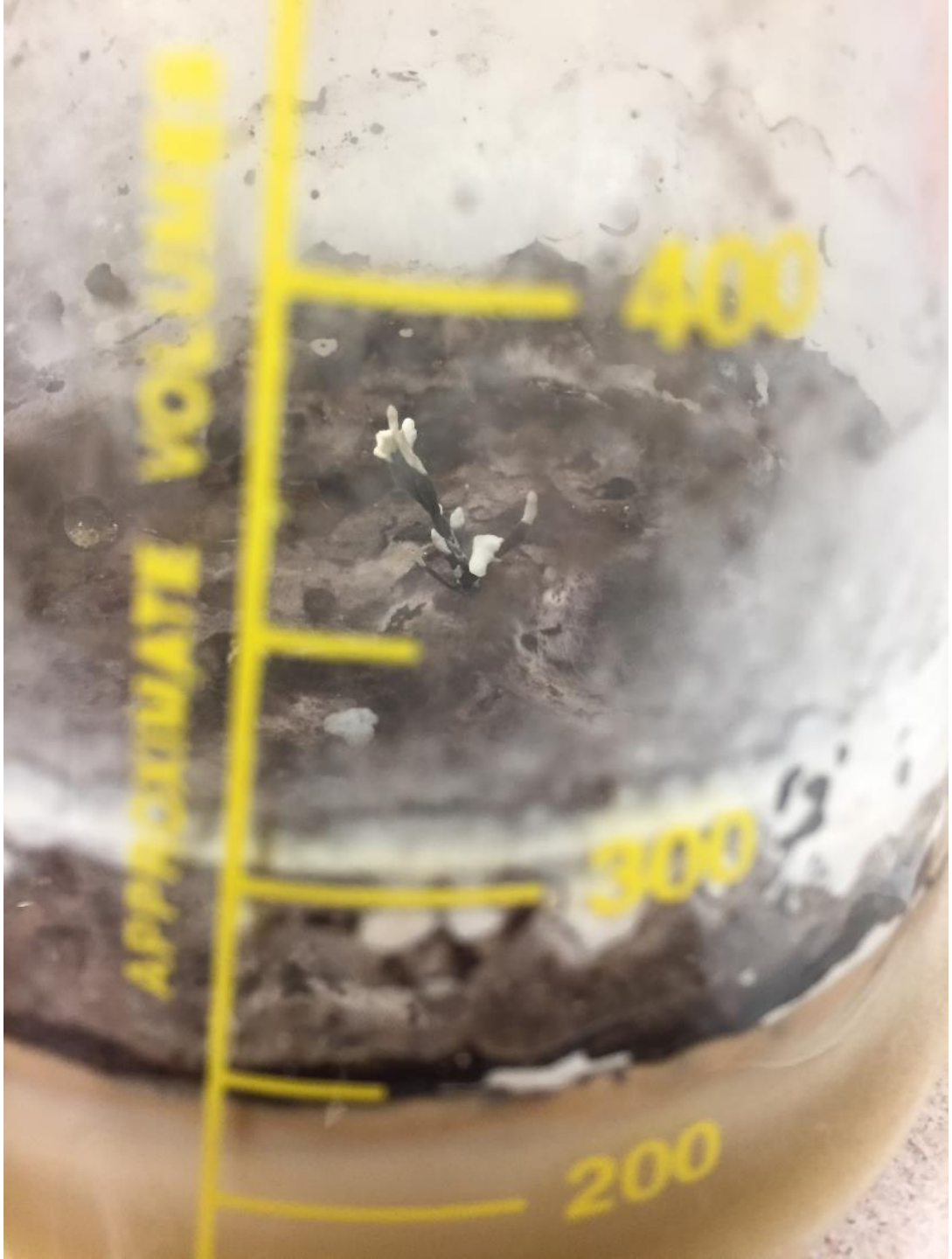
Soybean Taproot Decline (TRD)



Soybean Taproot Decline (TRD)


G.B. Padgett


A
B


APPROSSIMATI VOLUMI
400
300
200


A
B

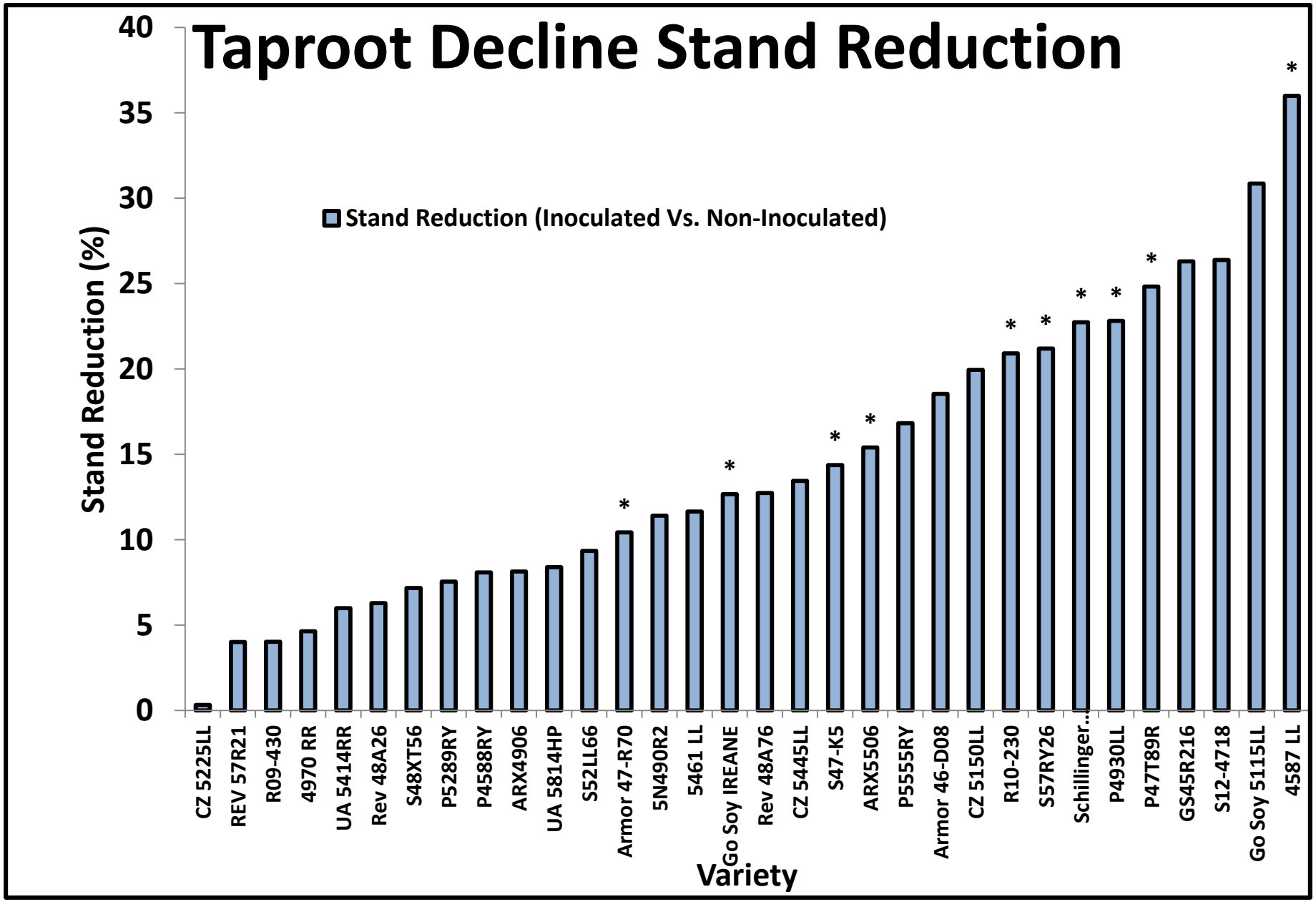


Figure 1. Percent stand reduction by taproot decline on 32 varieties in Louisiana. *Indicates statistically lower stand when compared to the non-inoculated control as determined by paired t-tests (α=0.10).

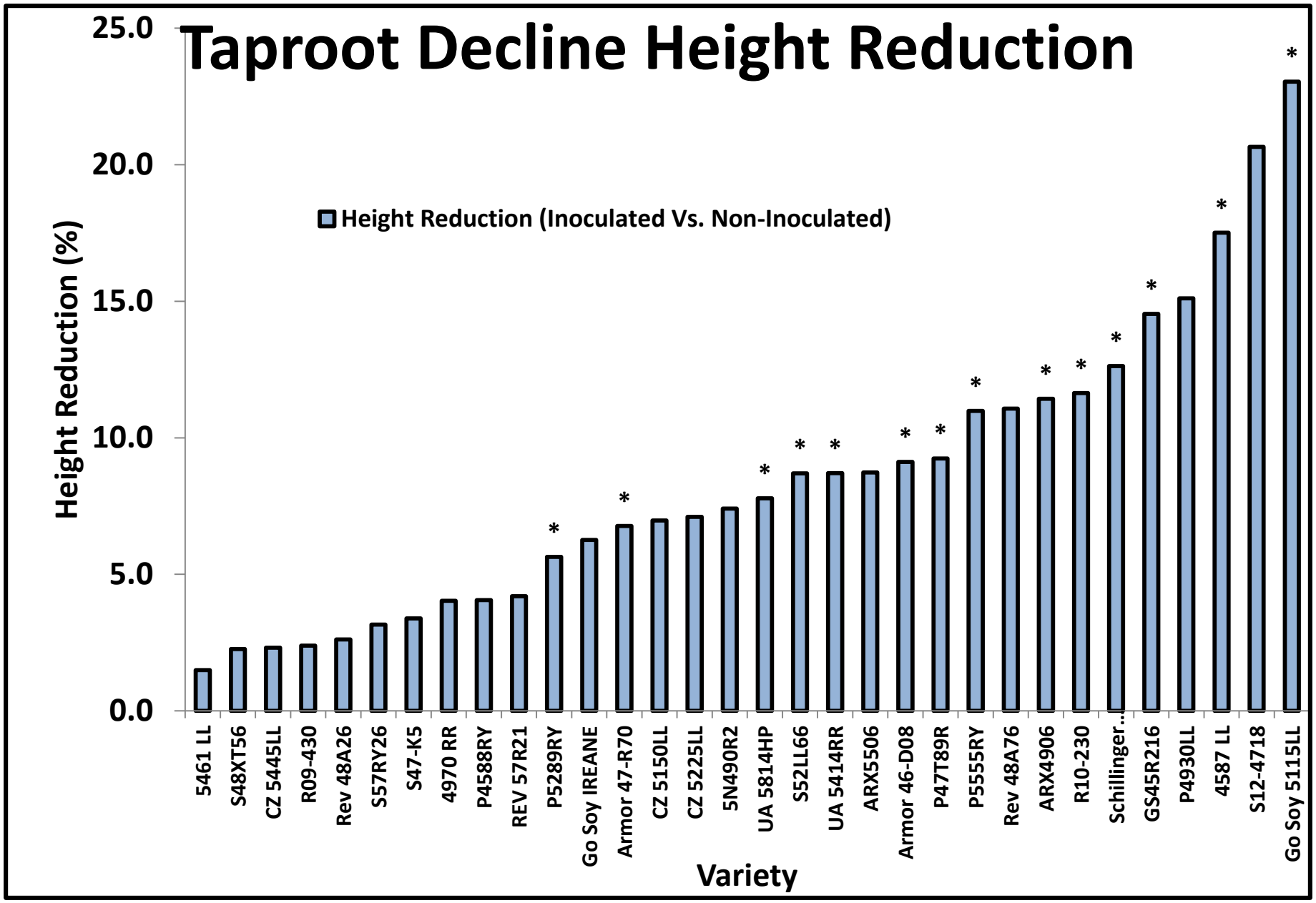


Figure 2. Percent height reduction by taproot decline on 32 varieties in Louisiana. *Indicates statistically lower height when compared to the non-inoculated control as determined by paired t-tests (α=0.10).

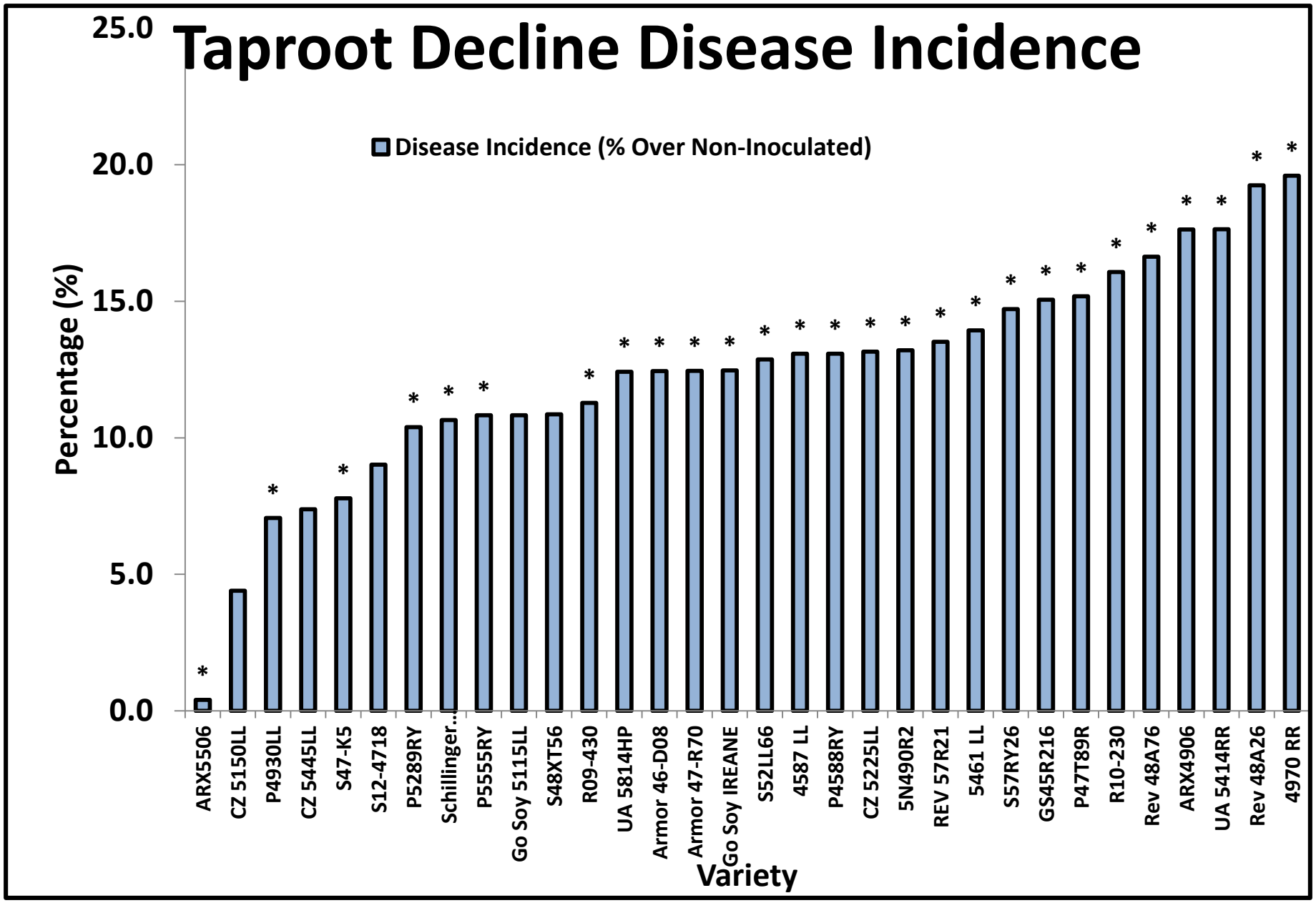


Figure 3. Percent disease incidence caused by taproot decline on 32 varieties in Louisiana. *Indicates statistically higher incidence when compared to the non-inoculated control as determined by paired t-tests (α=0.10).

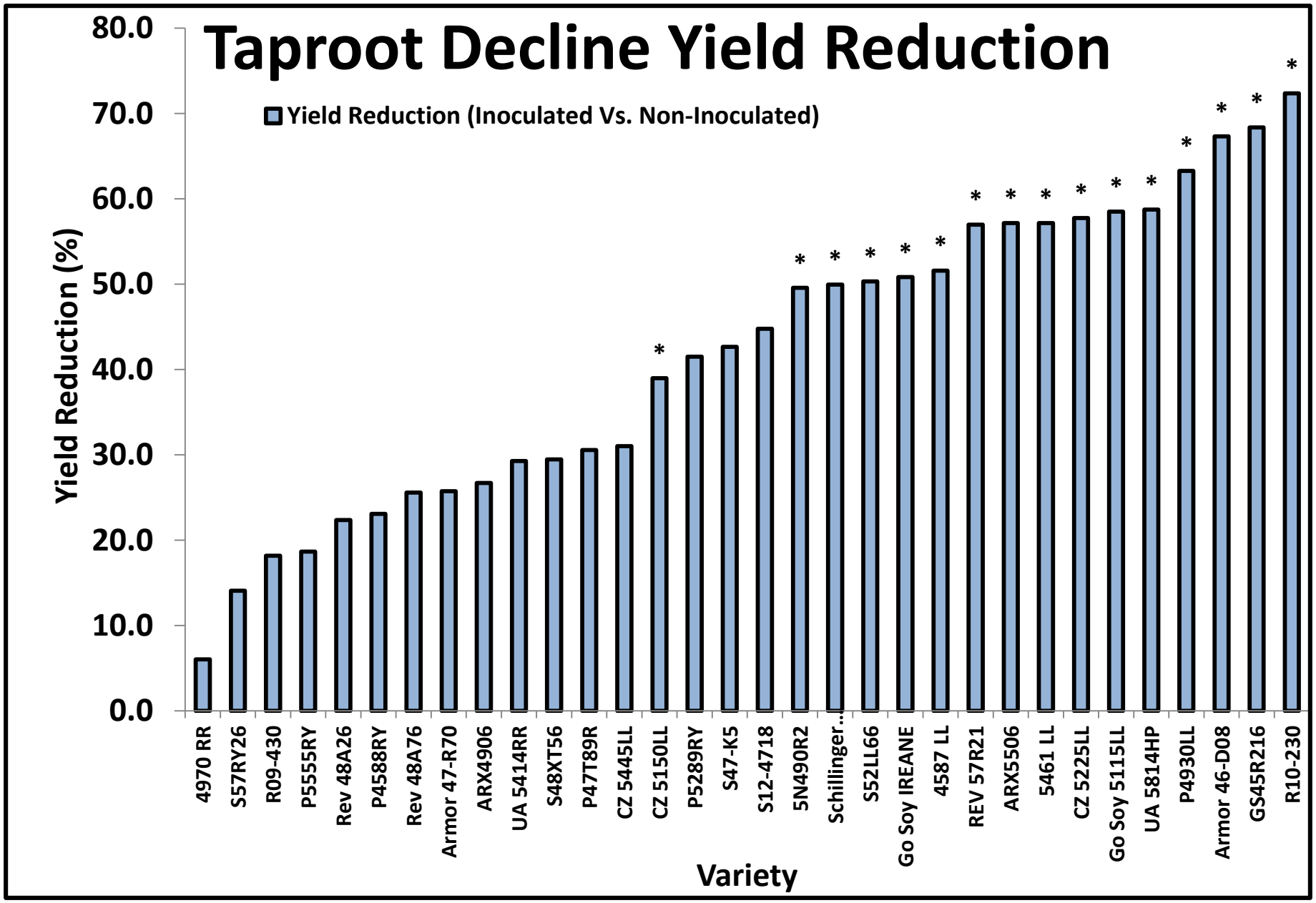
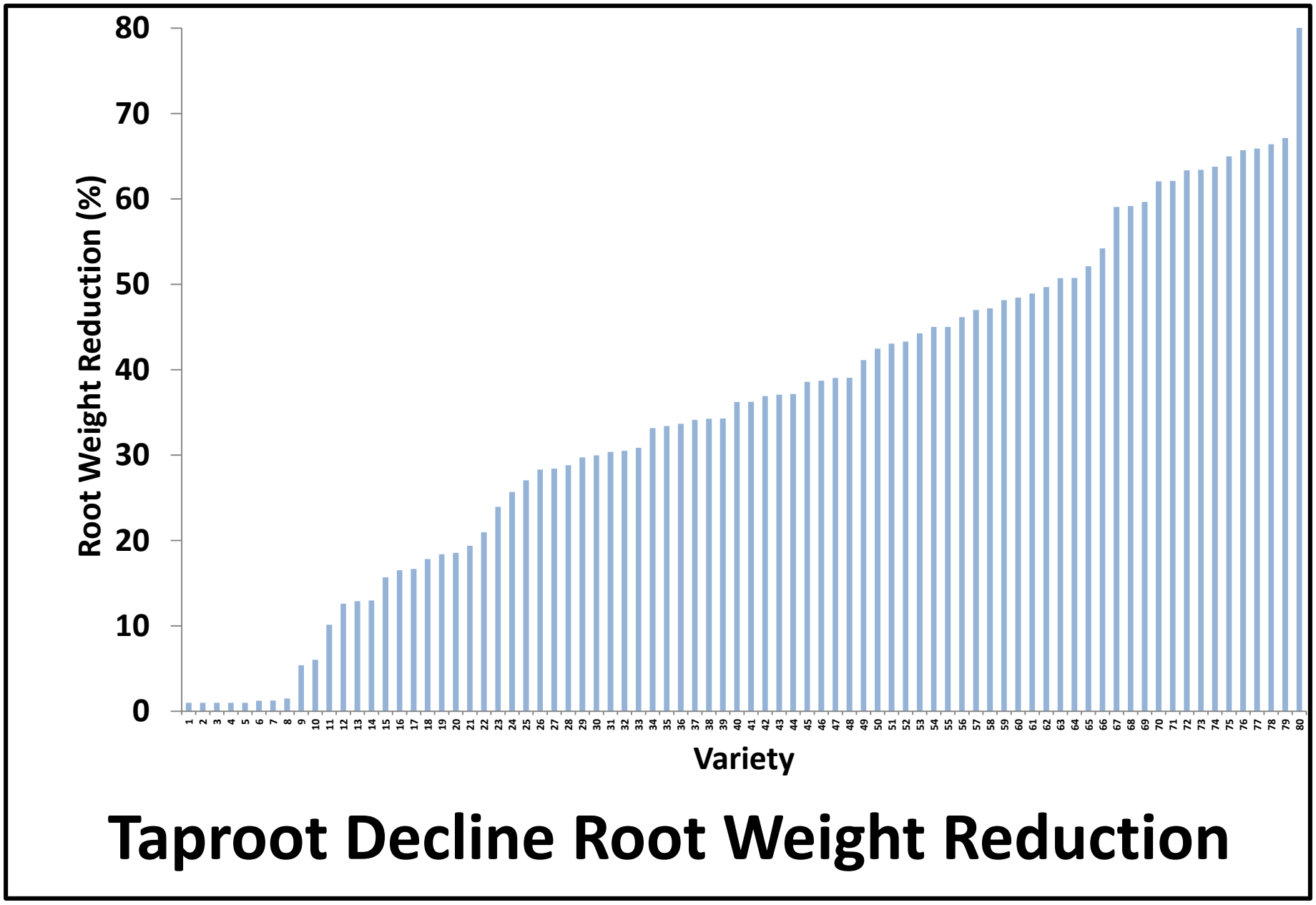
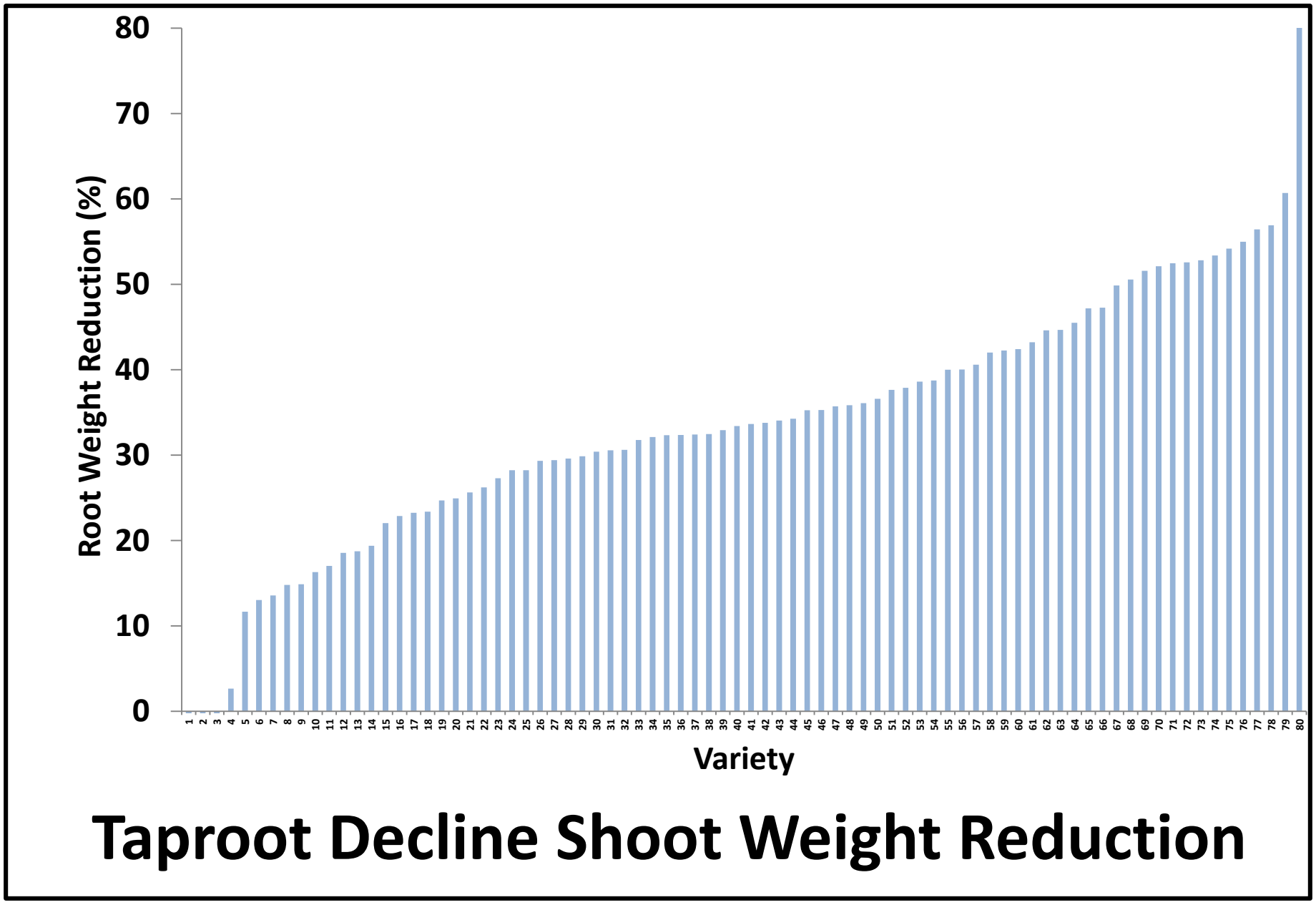


Figure 5. Percent yield reduction by taproot decline on 32 varieties in Louisiana. *Indicates statistically lower yield when compared to the non-inoculated control as determined by paired t-tests (α=0.10).



Taproot Decline Variety Screening
(Myra Purvis Thesis Project)



Taproot Decline Variety Screening
(Myra Purvis Thesis Project)

Other research questions…

- Host range?
- Chemical control?
- Optimum temps?
- Soil type?
- Tillage?
- Rotation?
- Irrigated vs. dryland?
- And the list goes on….

Thank YOU for Supporting Us!

Boyd Padgett
Brandi Woolam
Brenda Tubana
Charlie Overstreet
Clayton Hollier
Dan Fromme
Daniel Stephenson
Darrell Franks and Crew
Donnie Miller
Eduardo Chagas
Hunter Pruitt
Josh Copes
Myra Purvis
Raj Singh
Ray Schneider
Rick Mascagni
Ronnie Levy
Scott Washam and Crew
Sebe Brown
Steve Harrison
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Warren Ratcliff and Crew

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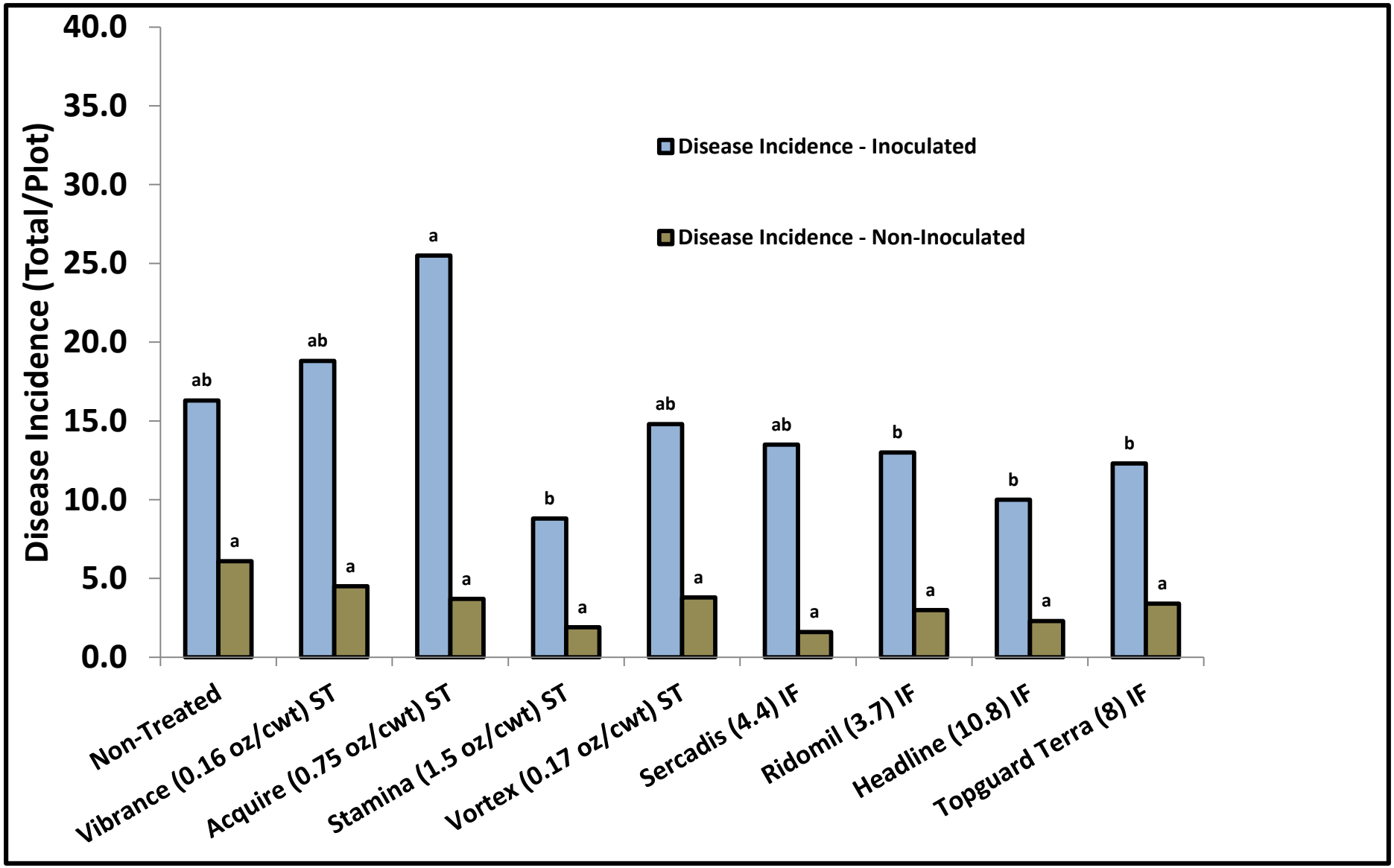

Effect of seed treatment and in-furrow spray on taproot decline – 2016.

MRSB1605