



MISSISSIPPI STATE
UNIVERSITY™

ThryvOn Cotton: Thrips Management

WHITNEY CROW

ANGUS CATCHOT

JEFF GORE

DON COOK

INTRODUCTION



- 100% of MS cotton acres infested
 - \$6.5M economic loss
- Preventative thrips control
 - 25-30%
- Thryvon cotton
 - eliminate the need
 - foliar sprays
 - seed treatments

Thrips Injury



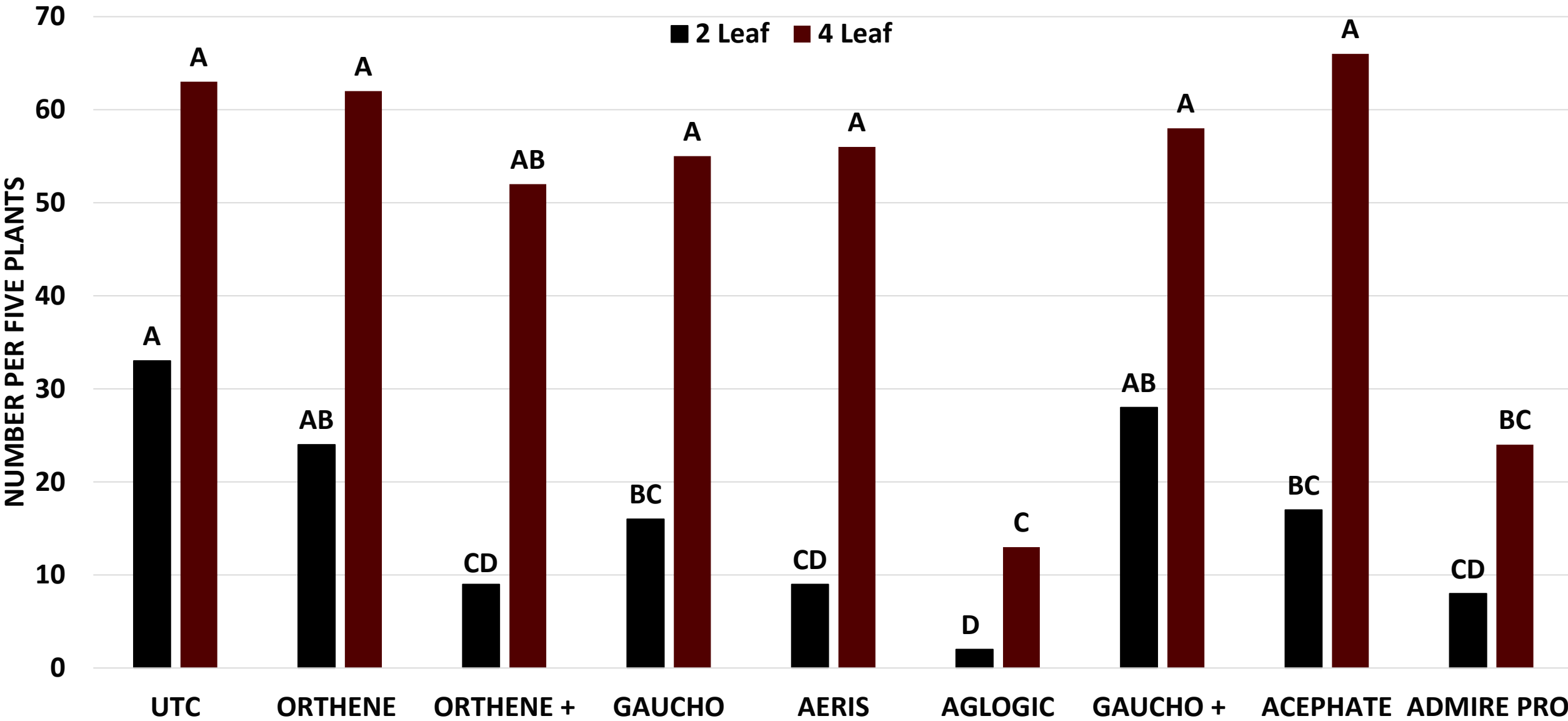
CURRENT MANAGEMENT PRACTICES

Thrips

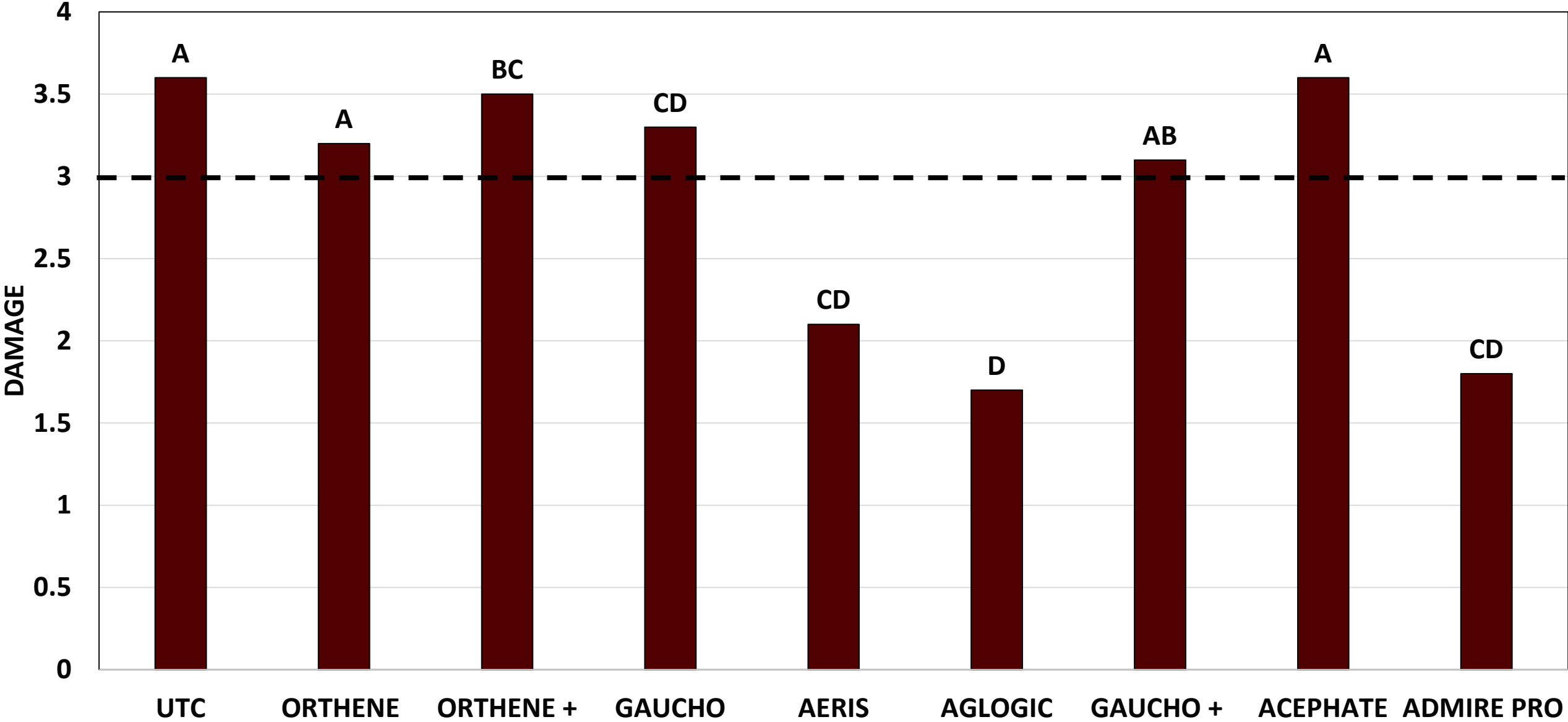


Insecticide	Amount of Formulation per Acre	Pounds Active Ingredient per Acre	Acres 1 Gallon or 1 Pound Dry Will Treat	PHI (days)	Comments
Seed Treatments					
acephate (OP) Orthene 90S	6.4 oz/cwt	–	–	–	Hopper box: 2.5–3.5 oz 90S/acre
imidacloprid (CN) Gaucho 600	–	0.375 mg ai/seed	–	–	Field tests and lab assays in 2015 indicate possible tolerance building to imidacloprid with tobacco thrips.
Aeris	–	0.375 mg ai/seed	–	–	
In-Furrow Treatments					
acephate (OP) Orthene 90S	1.1 lb	1.0	1	–	Spray in drill.
aldicarb (C) AgLogic	3.5–5 lb	0.53–0.75	0.29–0.2	90	This product is extremely toxic. Use caution when handling.
imidacloprid (CN) Admire Pro	7.4–9.2 oz	0.26–0.33	17–14	–	In-furrow spray directed on or below the seed.
imidacloprid (CN) + fluopyram (F) Velum Total	14–18 oz	*0.24–0.31	9–7	–	*a.i. of imidacloprid in mix.
Foliar Treatments					
acephate (OP) Orthene 90S	0.22 lb	0.2	4.5	21	Use of acephate at this time in the season will intensify insecticide resistance problems in tarnished plant bugs and increase the likelihood of flaring spider mites.
dicrotophos (OP) Bidrin 8E	3.2 oz	0.2	40	30	Bidrin may only be used before first square and after first bloom.
dimethoate (OP) Dimethoate 4EC	6.4 oz	0.2	20	14	
methoxyfenozide (IGR), spinetoram (SPN) Intrepid Edge	3–6 oz	–	43–21	28	
spinetoram (SPN) RadiantSC	1.5–3 oz	0.012–0.021	85–47	28	Surfactant is recommended with this product.

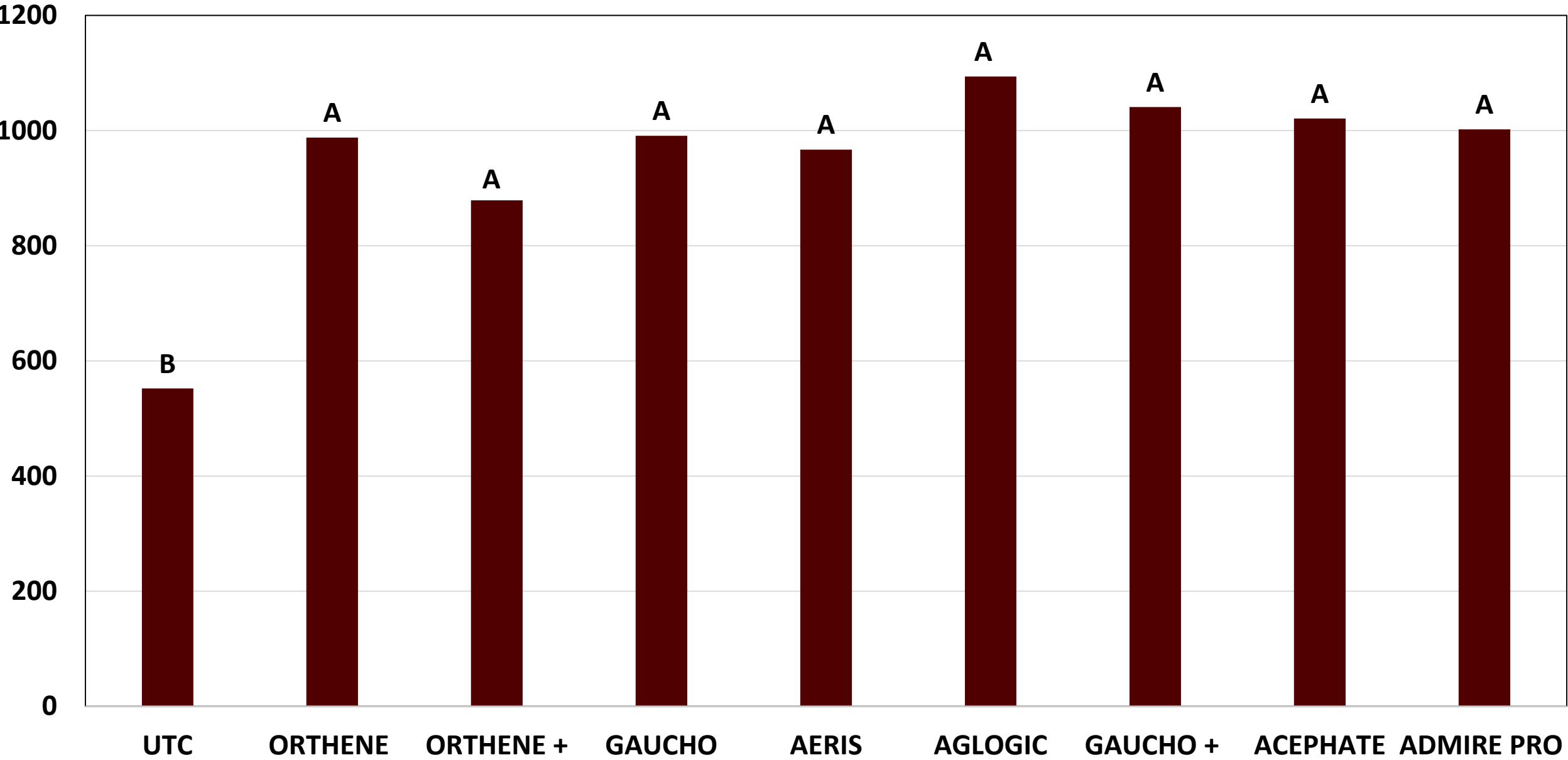
THRIPS INSECTICIDE SEED TREATMENT



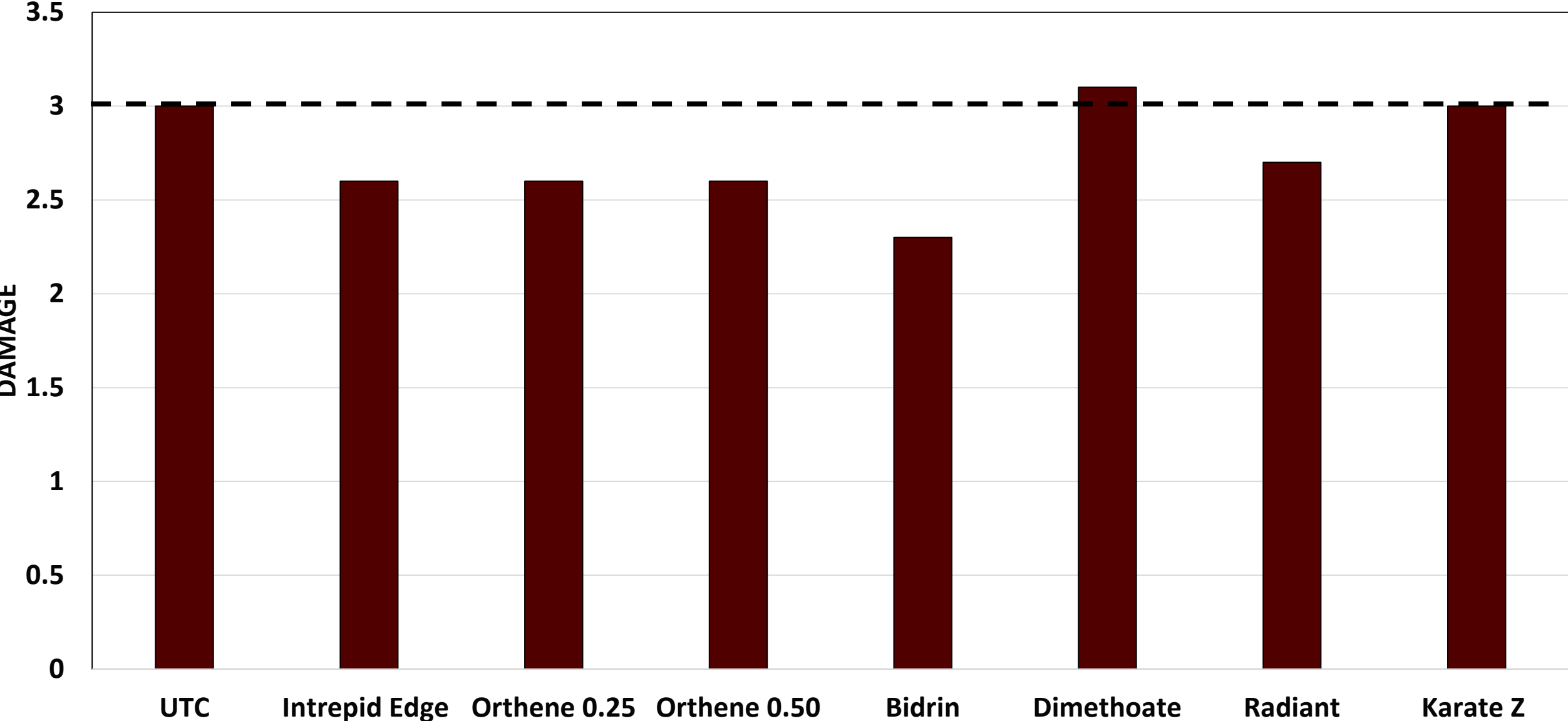
THRIPS INSECTICIDE SEED TREATMENT



THRIPS INSECTICIDE SEED TREATMENT- LINT PER ACRE



FOLIAR THRIPS INSECTICIDES



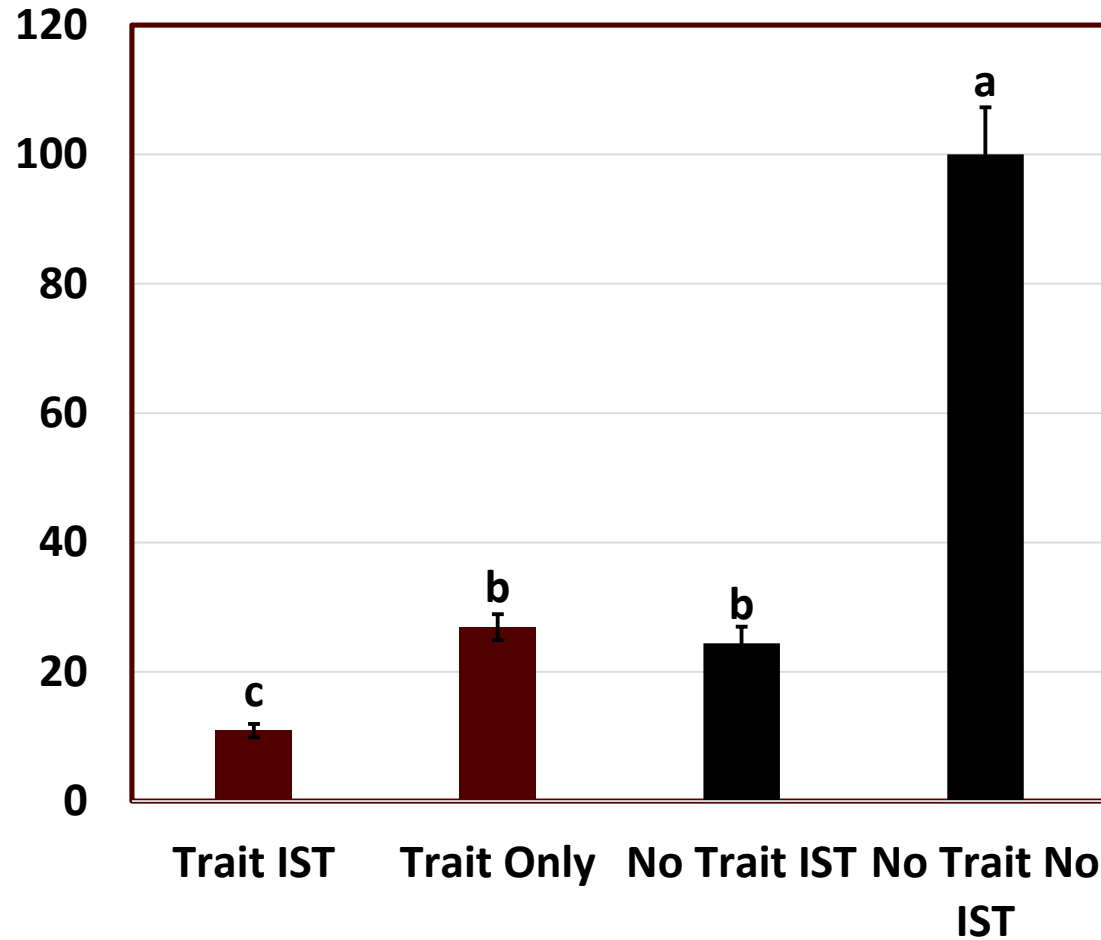
Bollgard[®]**3**
*Thryv***ON**[™]
With **XTENDFLEX**[®]
TECHNOLOGY



Thrips per 5 Plants

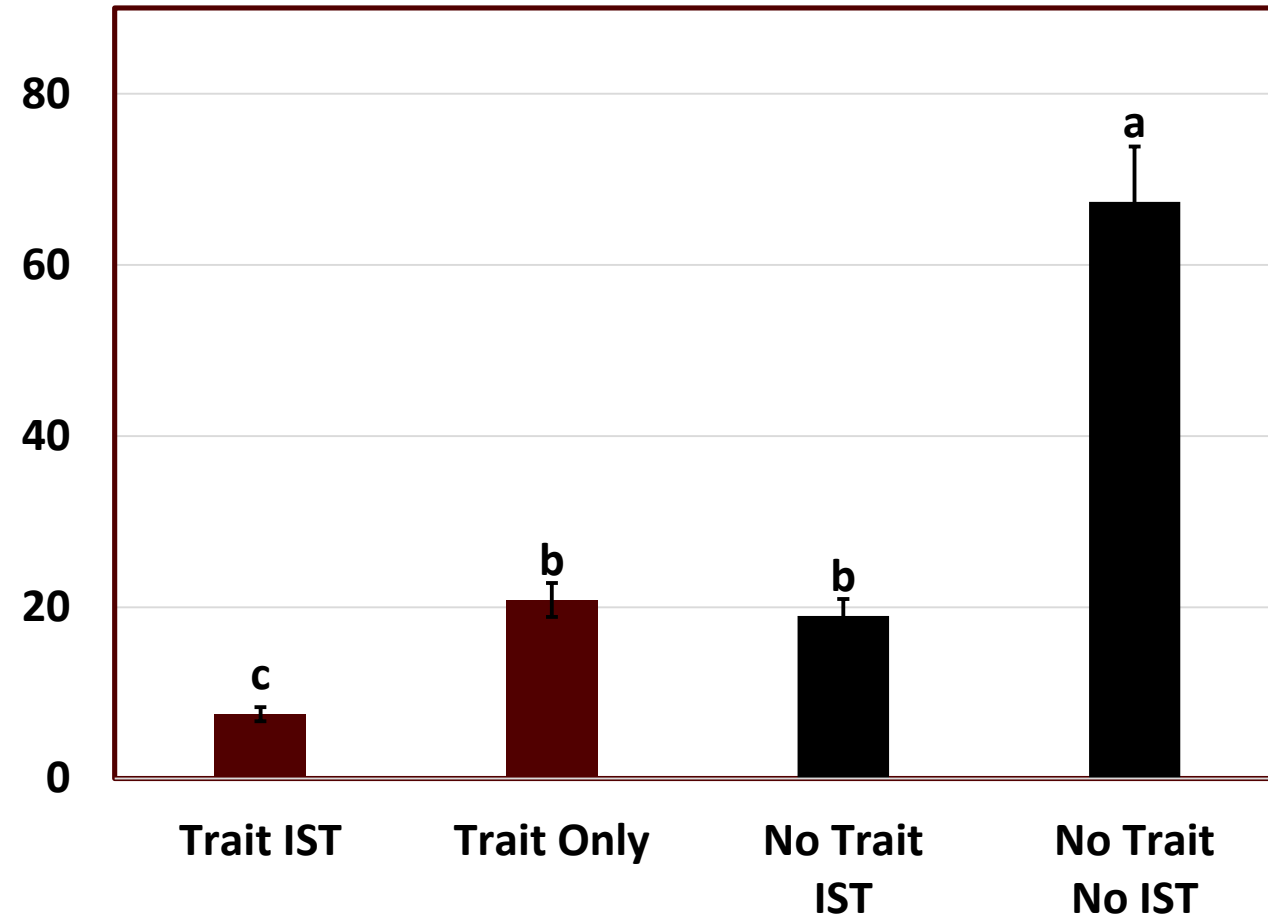
2 Leaf Stage

IST*Trait Interaction (P<0.0001)



3.5 Leaf Stage

IST*Trait Interaction (P<0.0001)



Averaged over 2 years in 2 locations



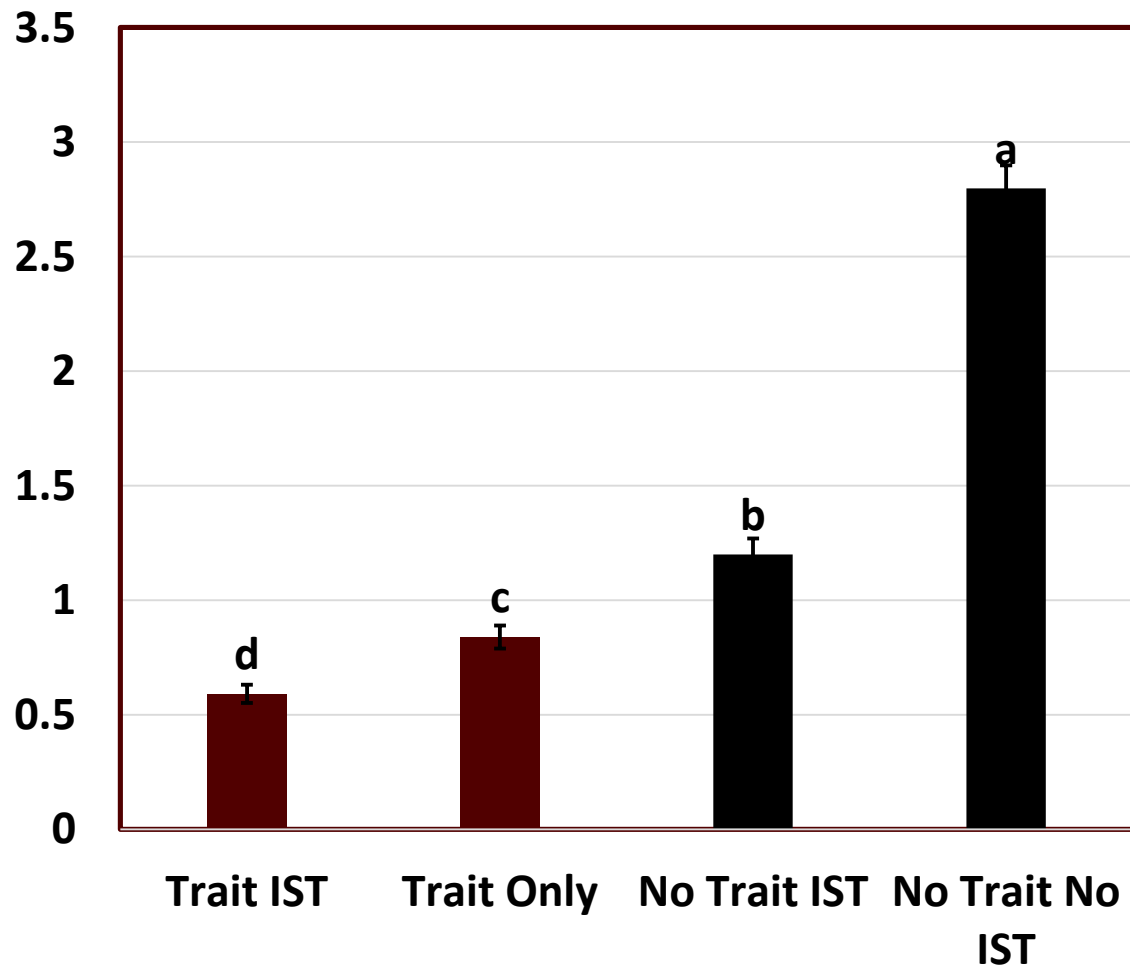
Thrips Injury Ratings

0-5 Scale

Graham, et al.

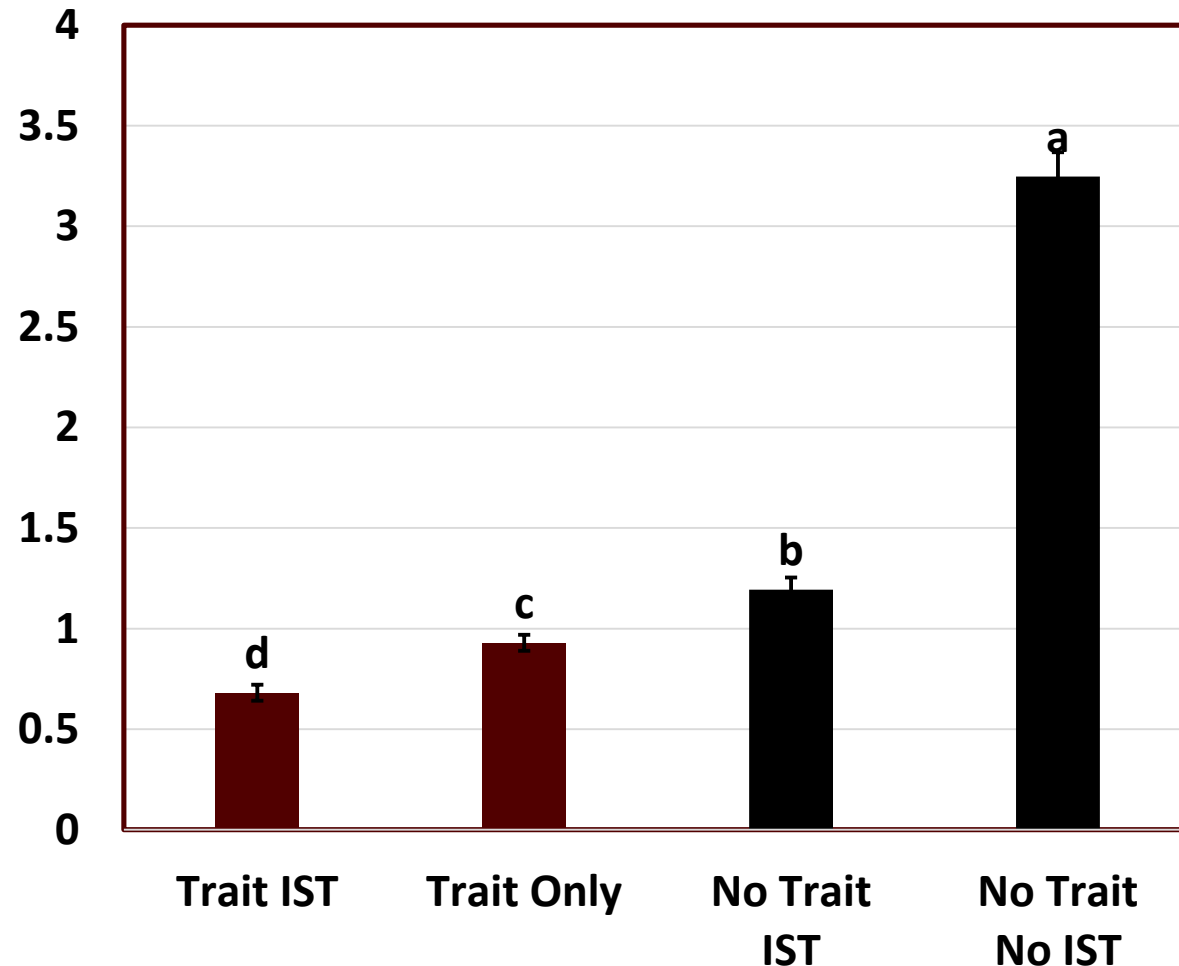
2 Leaf Stage

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3.5 Leaf Stage

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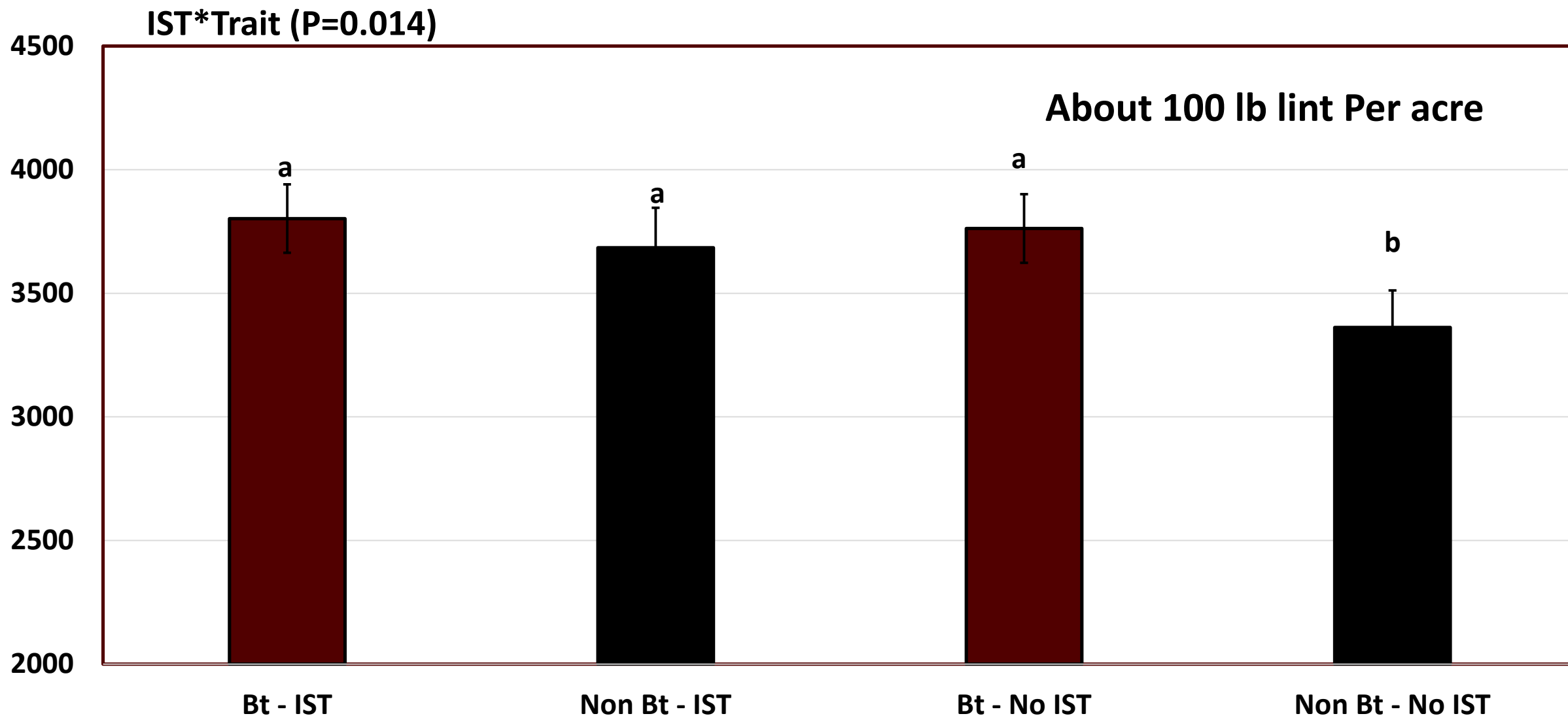
Averaged over 2 years in 2 locations



Yield ... Trait x IST Interaction

Pounds of Seed Cotton per Acre

Graham, et al.

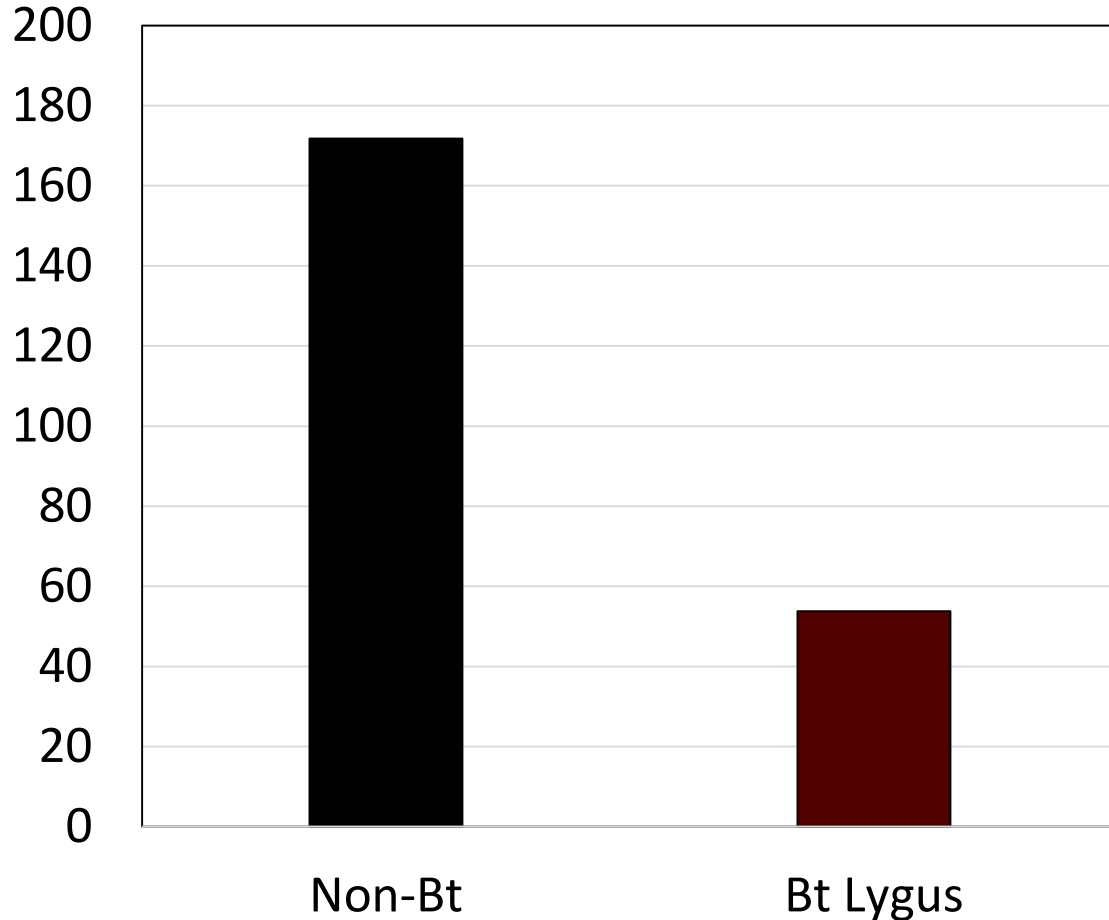


Averaged over 2 years in 2 locations

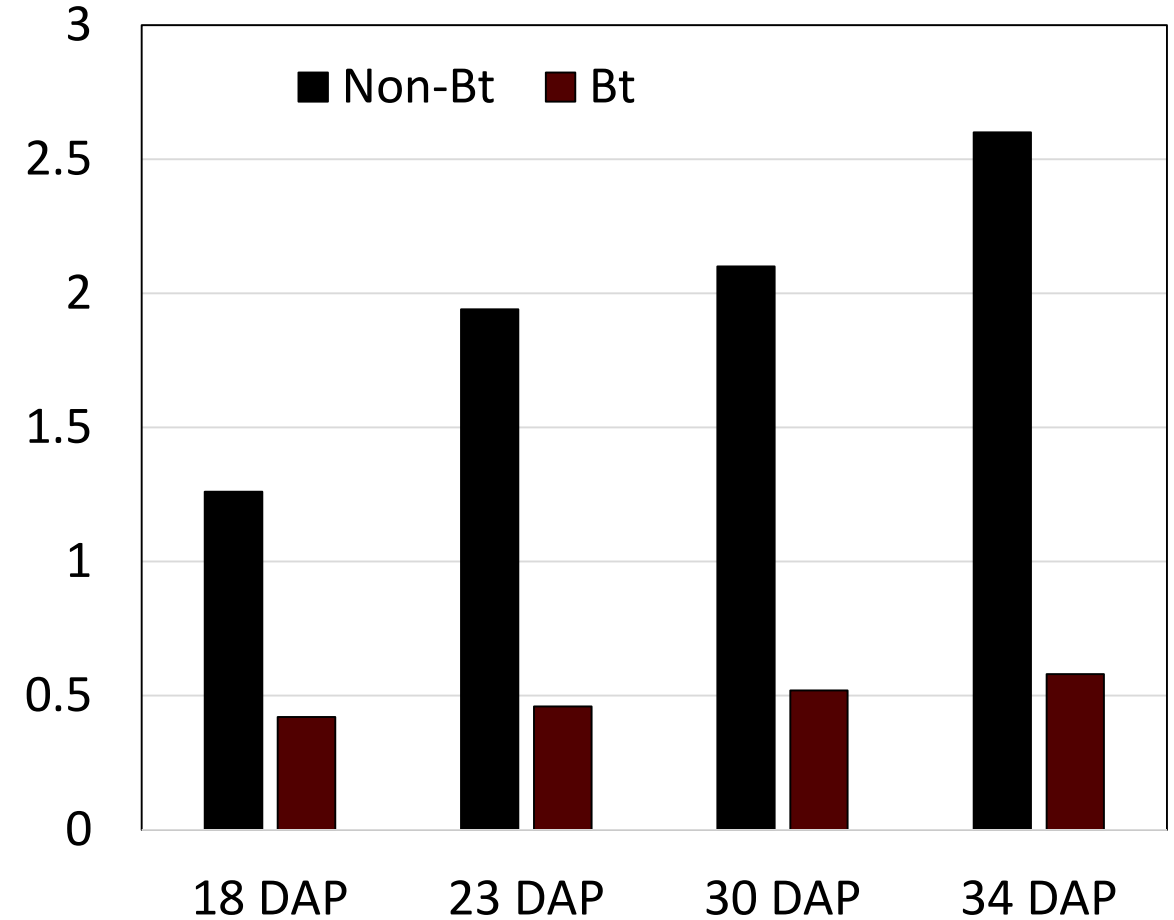


Regulated Large Plot (Stewart, 2019) with IST

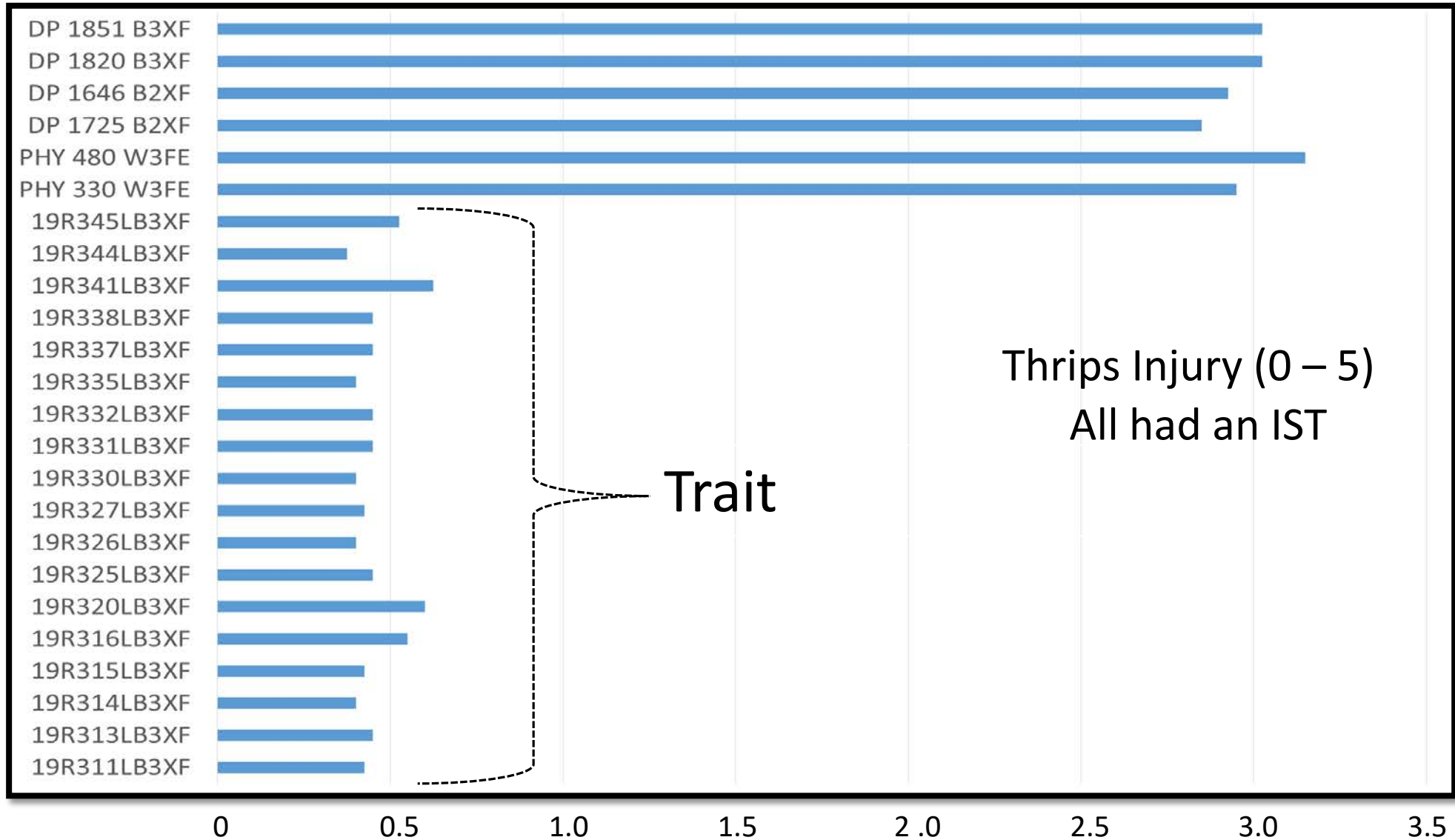
Thrips per 5 Plants (34 DAP)



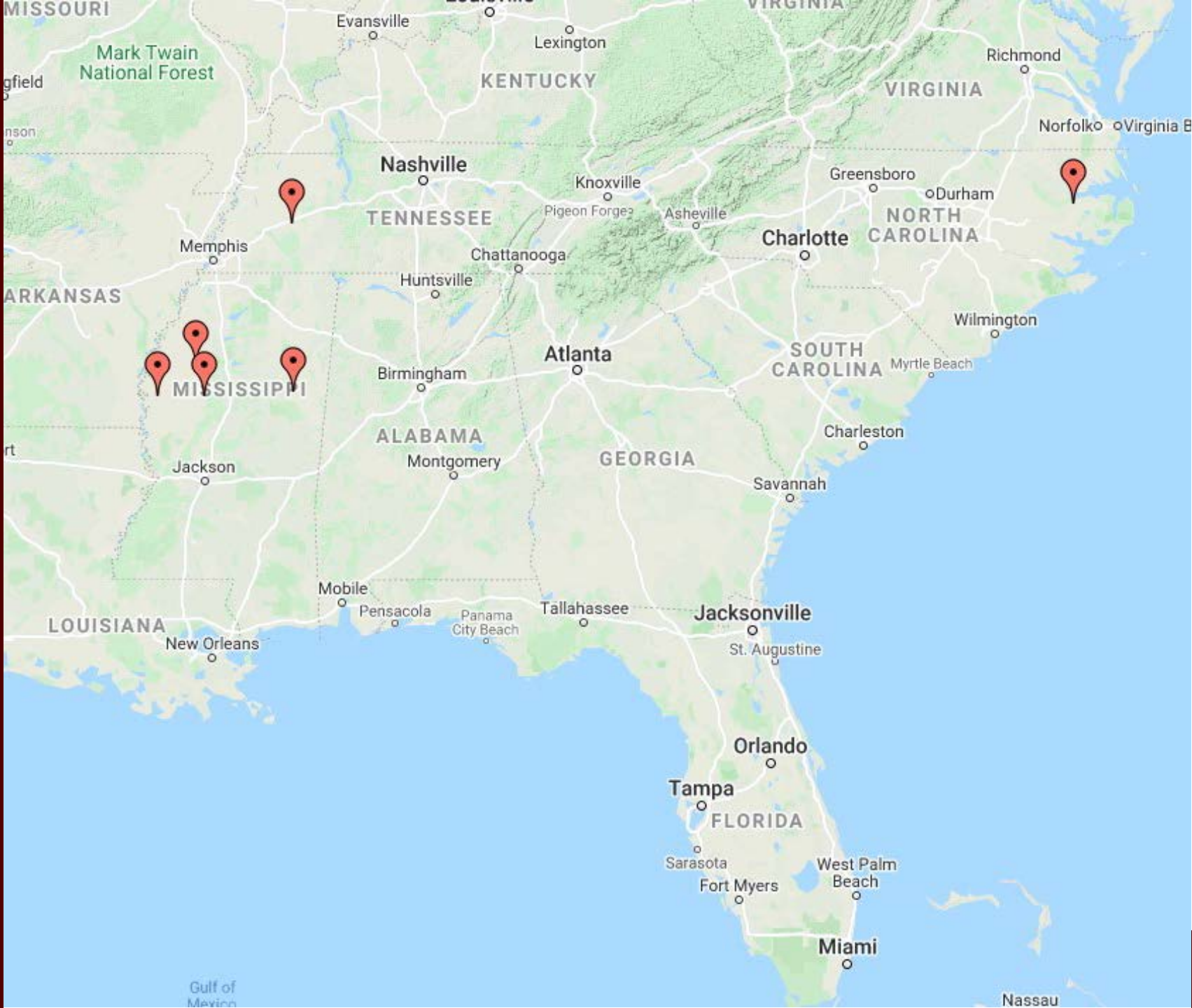
Thrips Injury (0 – 5)



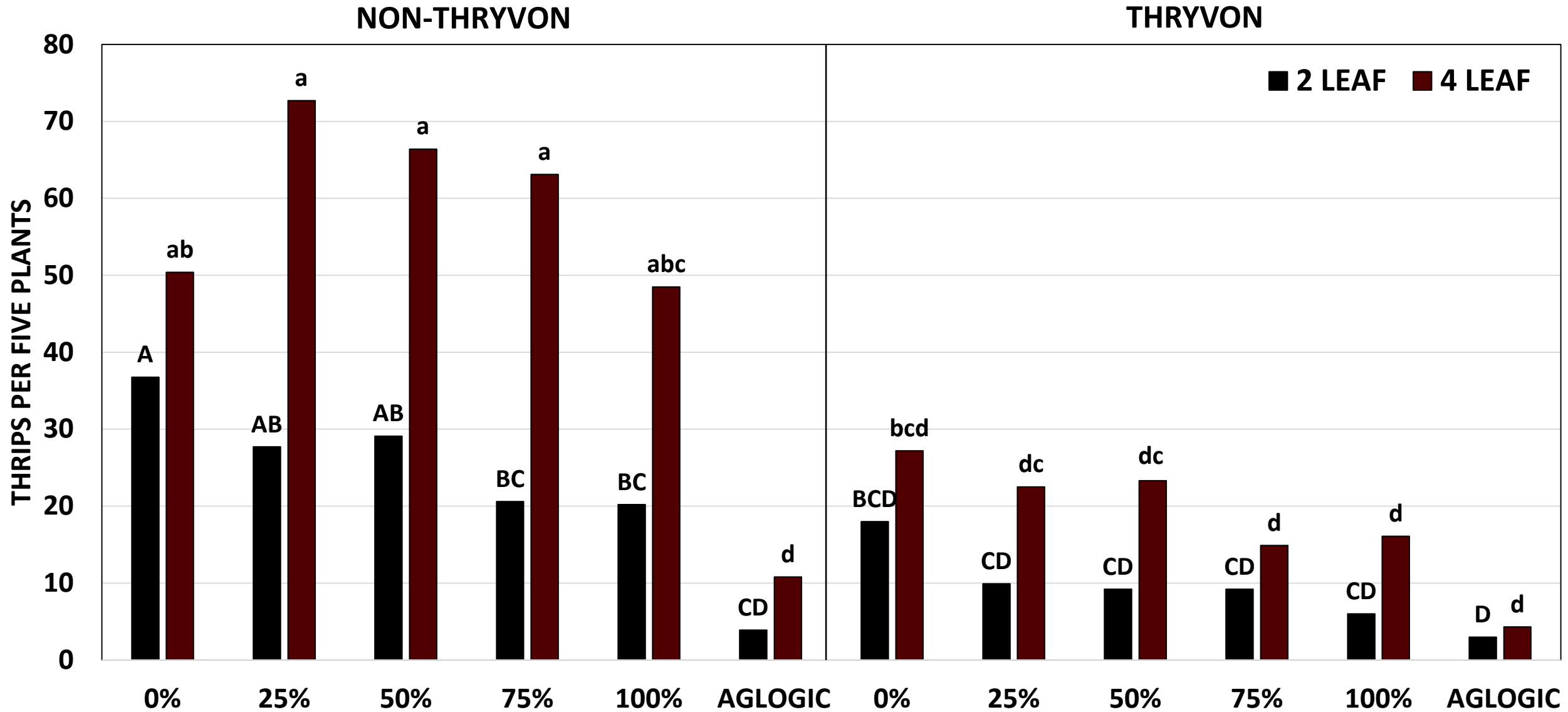
2019 ThryvOn Regulated Variety Trial Jackson, TN



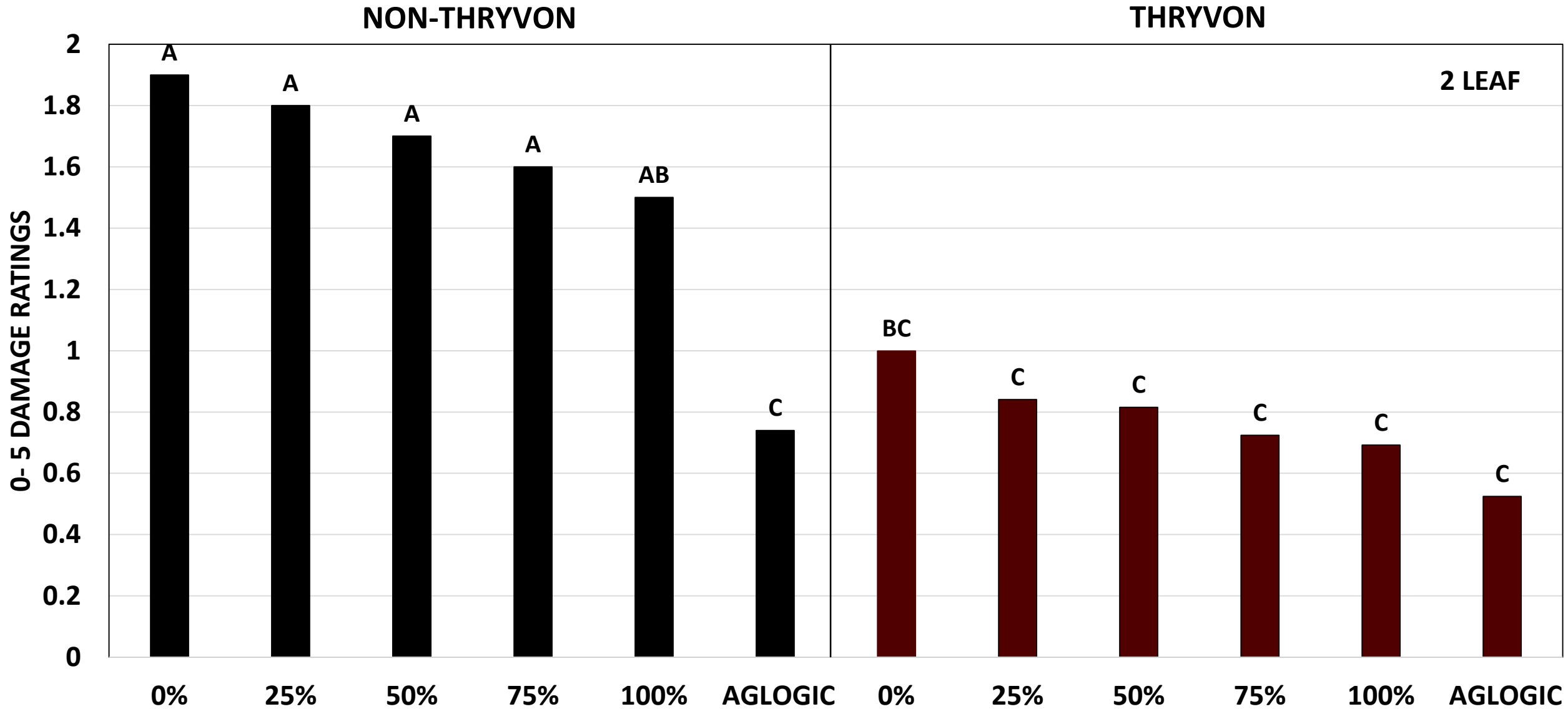
- 12 locations
- MS - 10
- TN - 1
- NC - 1
- ThryvOn to NonThryvOn
- Imidacloprid
 - 0%
 - 25%
 - 50%
 - 75%
 - 100%
- AgLogic



THRIPS NUMBERS- ALL LOCATIONS (12)



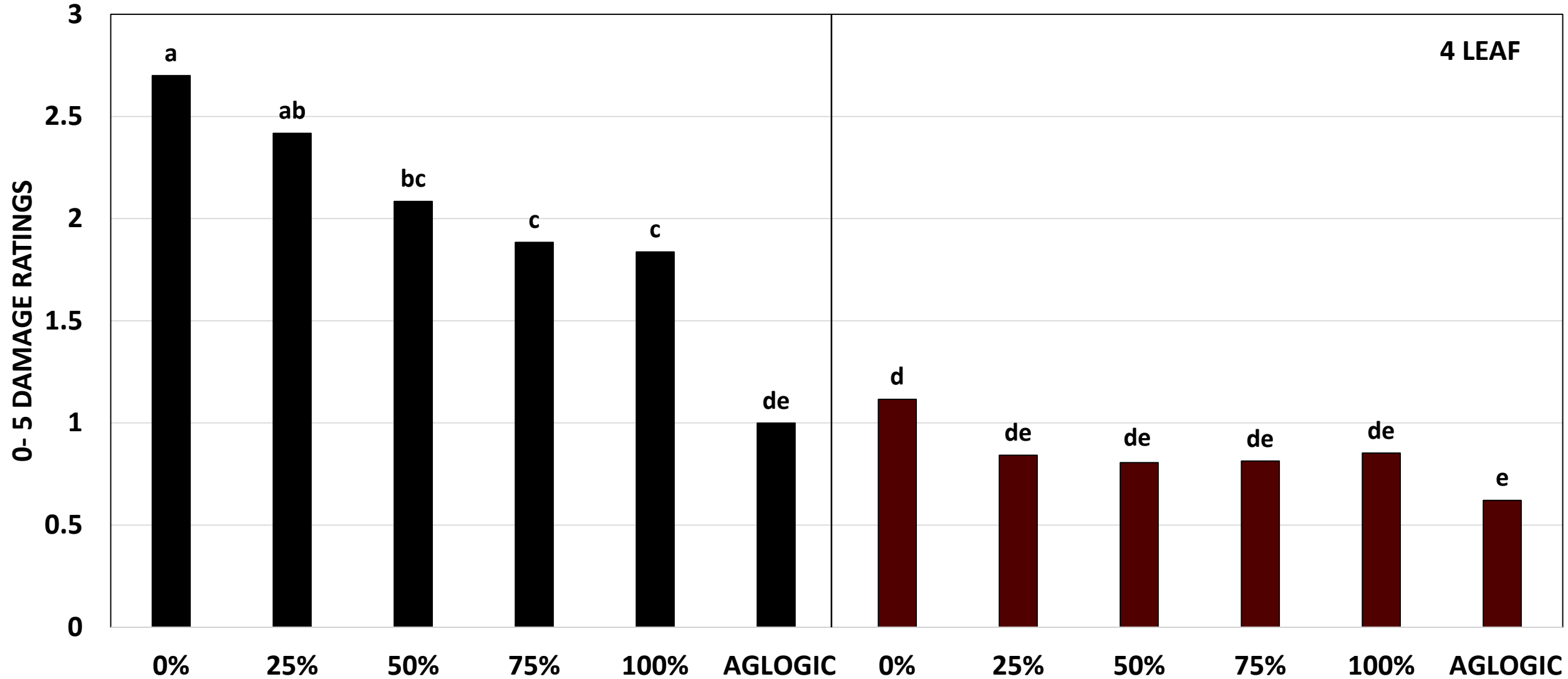
THRIPS DAMAGE- ALL LOCATIONS (12)



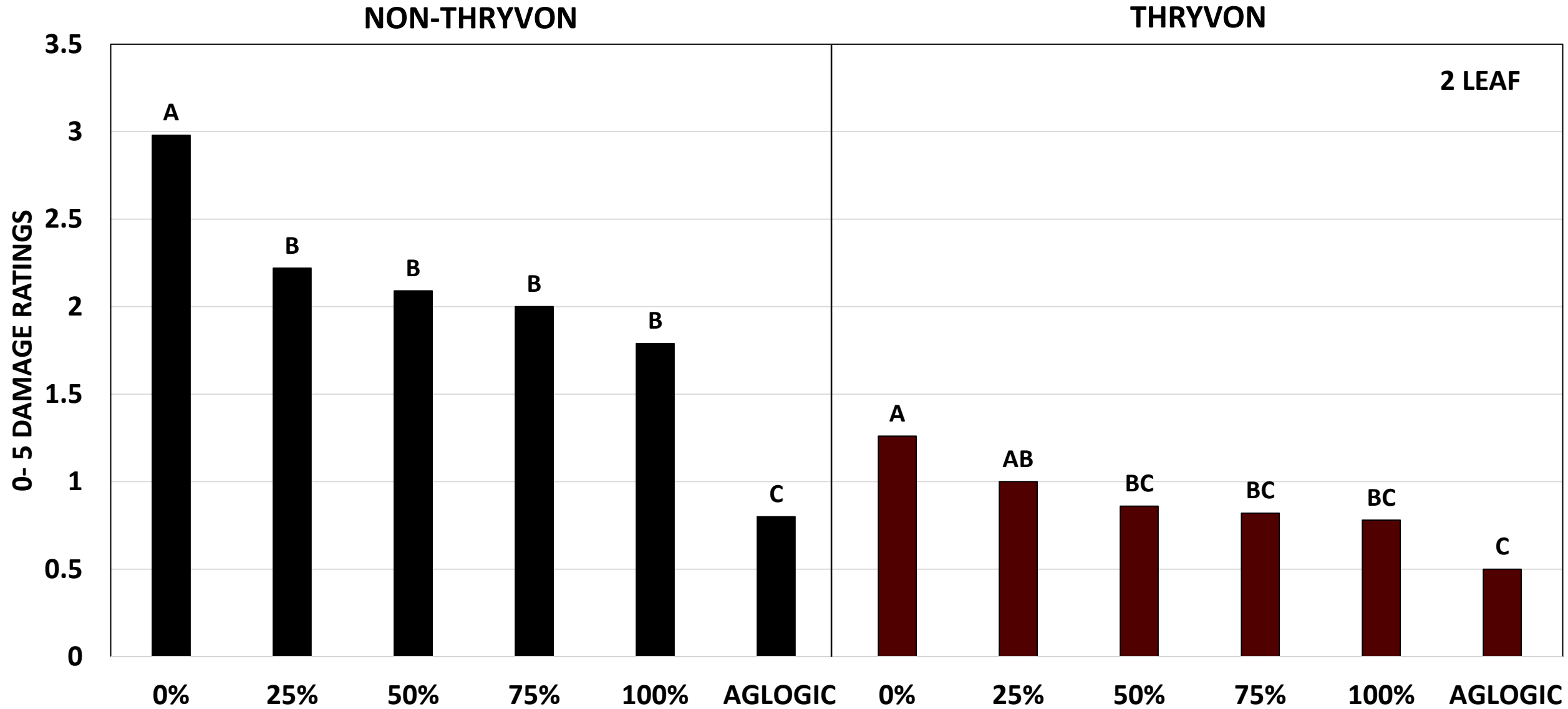
THRIPS DAMAGE- ALL LOCATIONS (12)

NON-THRYVON

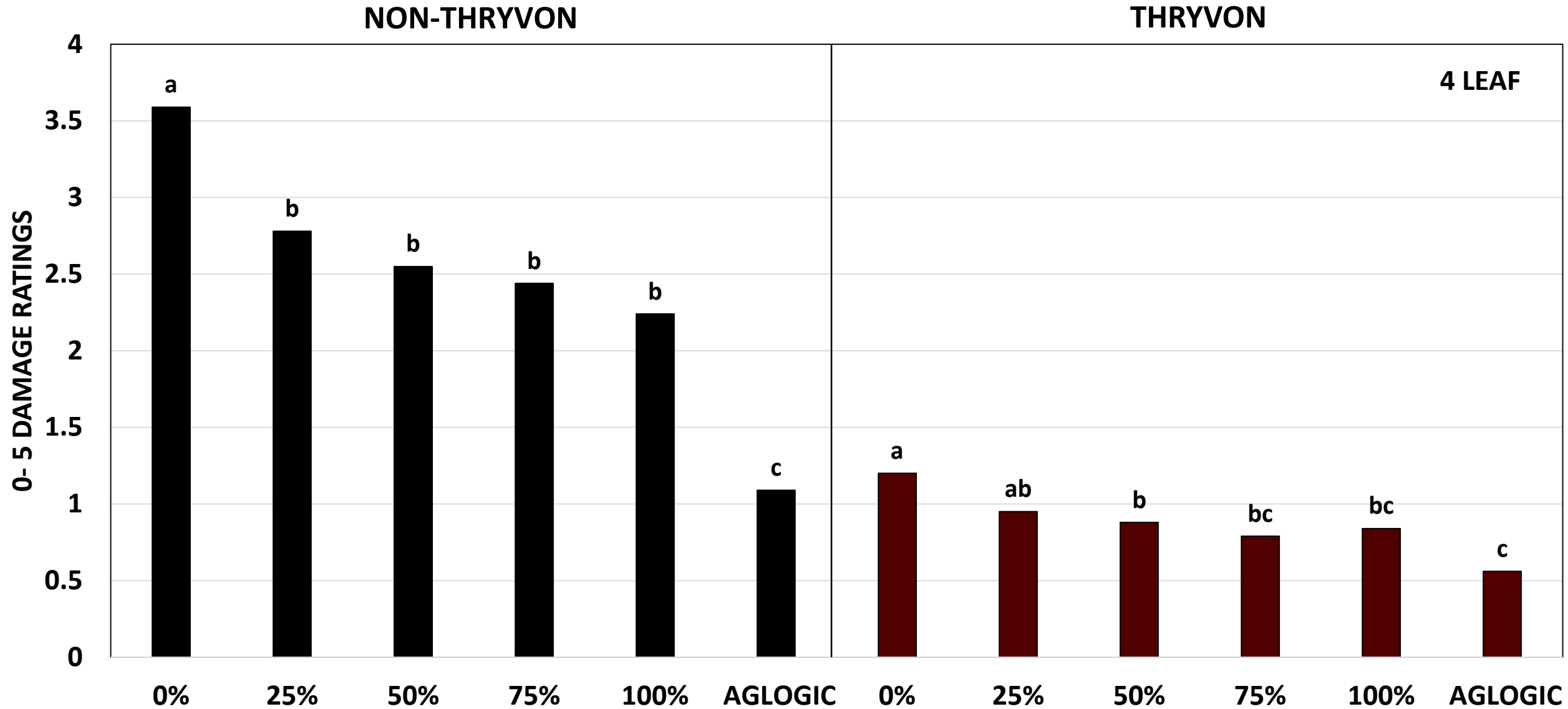
THRYVON



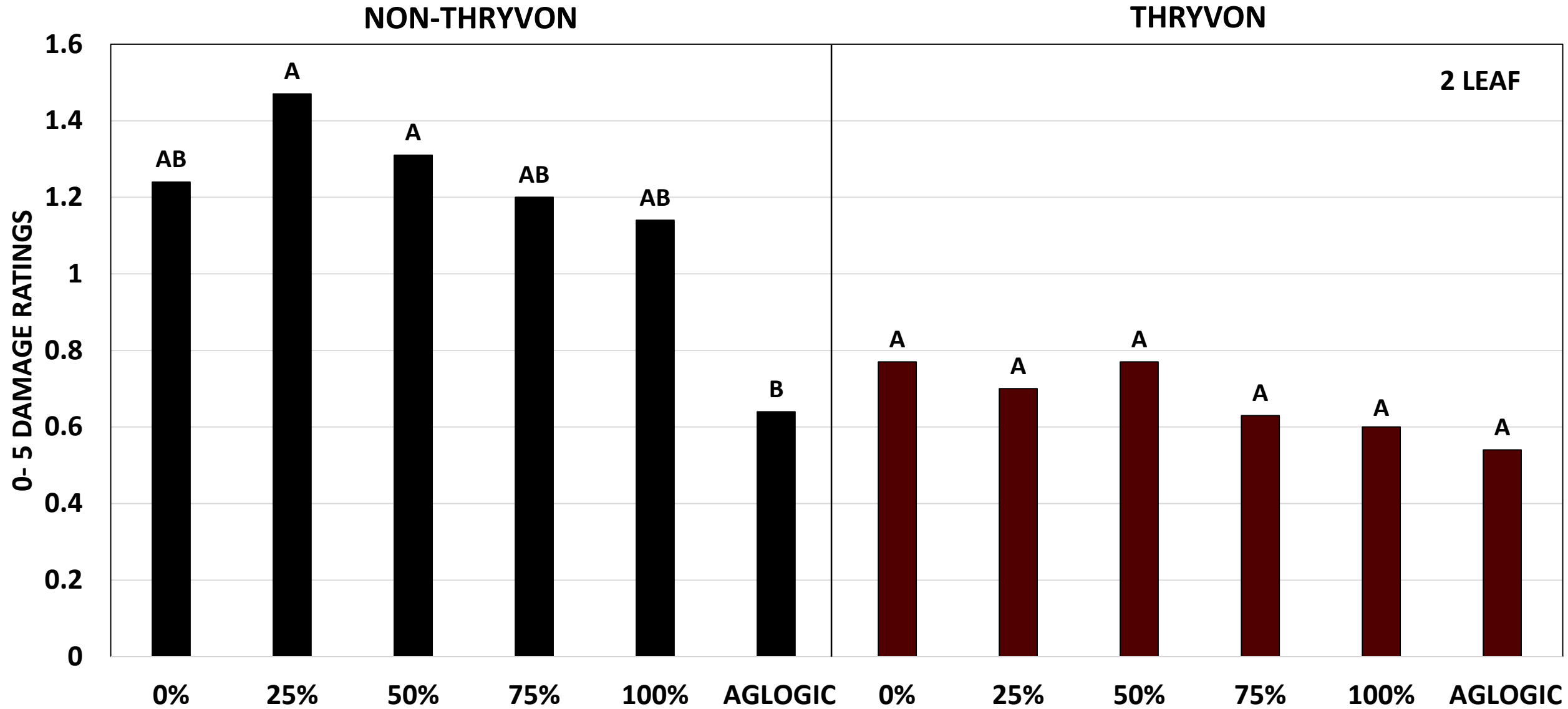
THRIPS DAMAGE- HIGH PRESSURE LOCATIONS (6)



THRIPS DAMAGE- HIGH PRESSURE LOCATIONS (6)



THRIPS DAMAGE- LOW PRESSURE LOCATIONS (6)

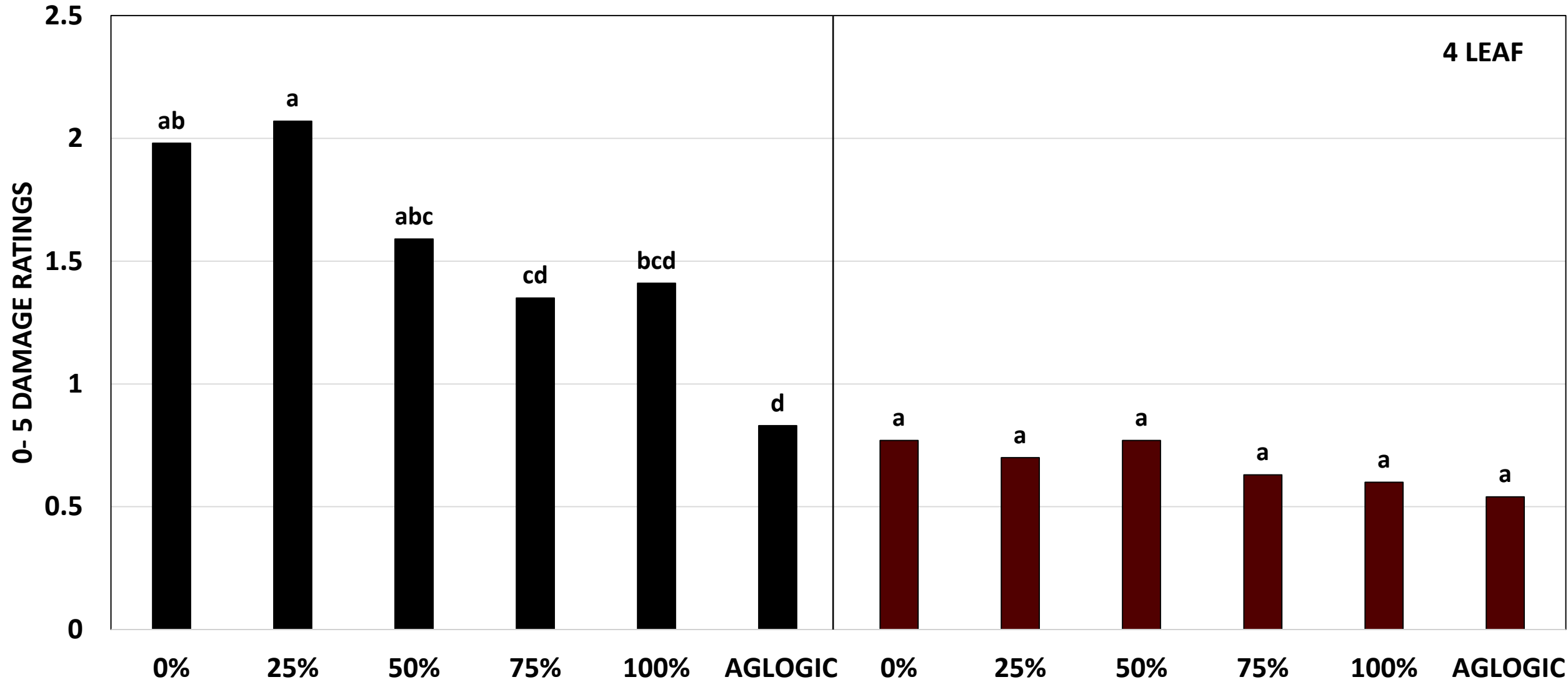


THRIPS DAMAGE- LOW PRESSURE LOCATIONS (6)

NON-THRYVON

THRYVON

4 LEAF



Non-Bt Cotton

ThryvOn Cotton



Scott Stewart, UT



Non-Bt Cotton

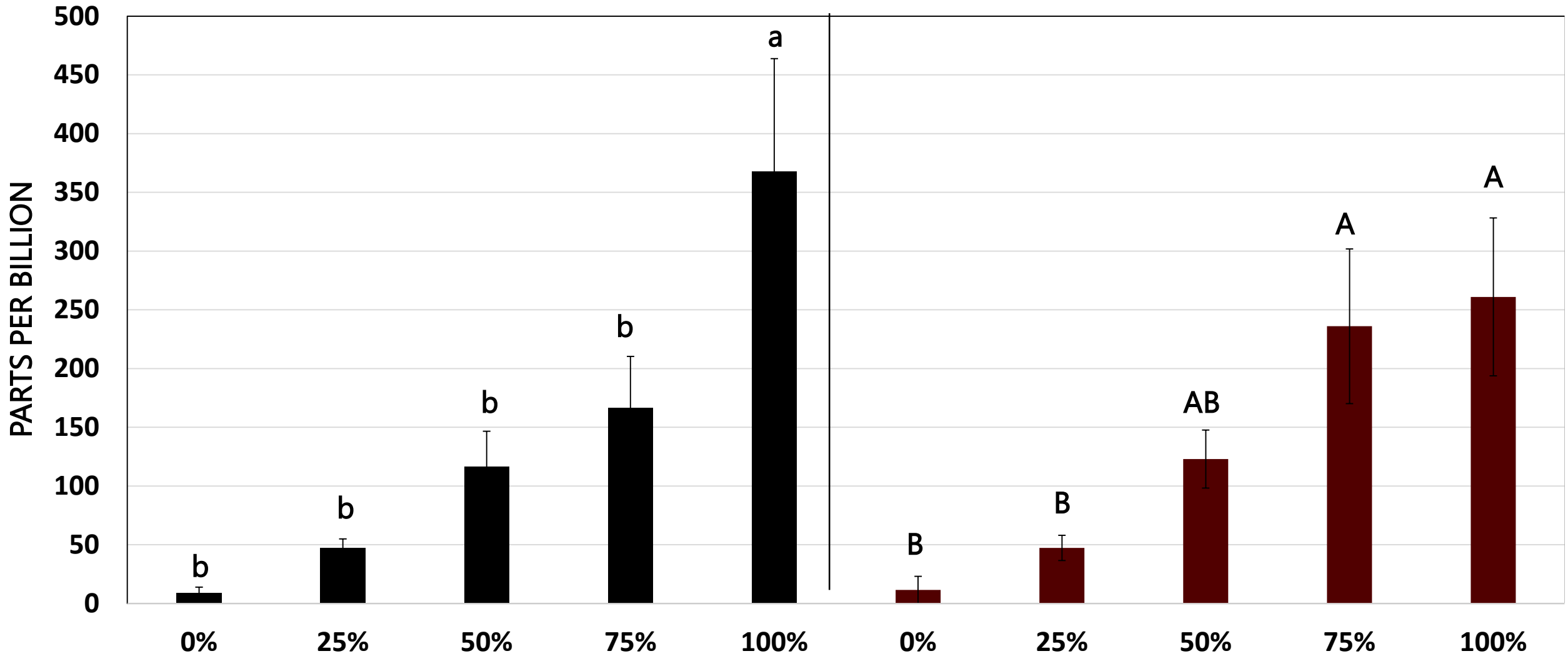
ThryvOn Cotton



SEED TREATMENT CHEM ANALYSIS- BY TRAIT

NON-THRYVON

THRYVON

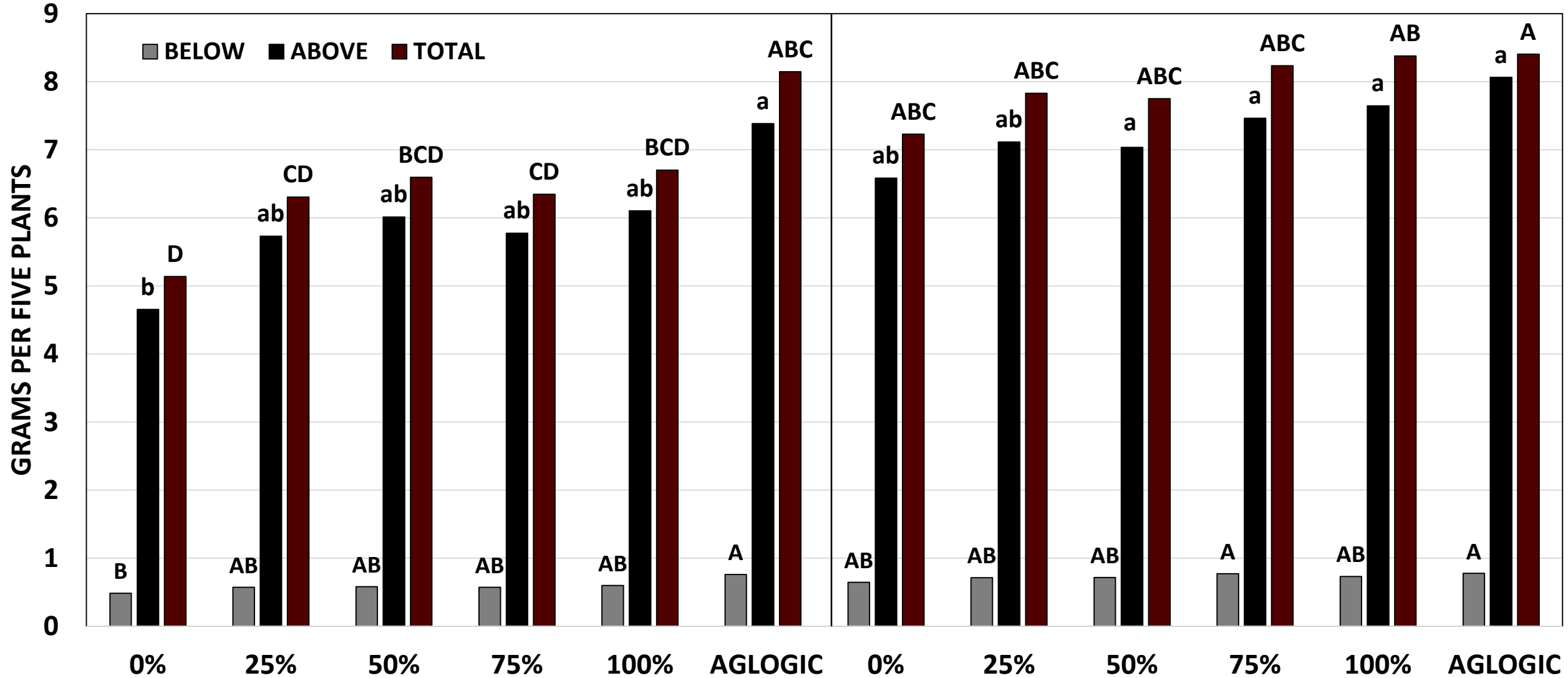


*9 LOCATIONS, 5 NO DIFFERENCES

BIOMASS- HIGH PRESSURE LOCATIONS (6)

NON-THRYVON

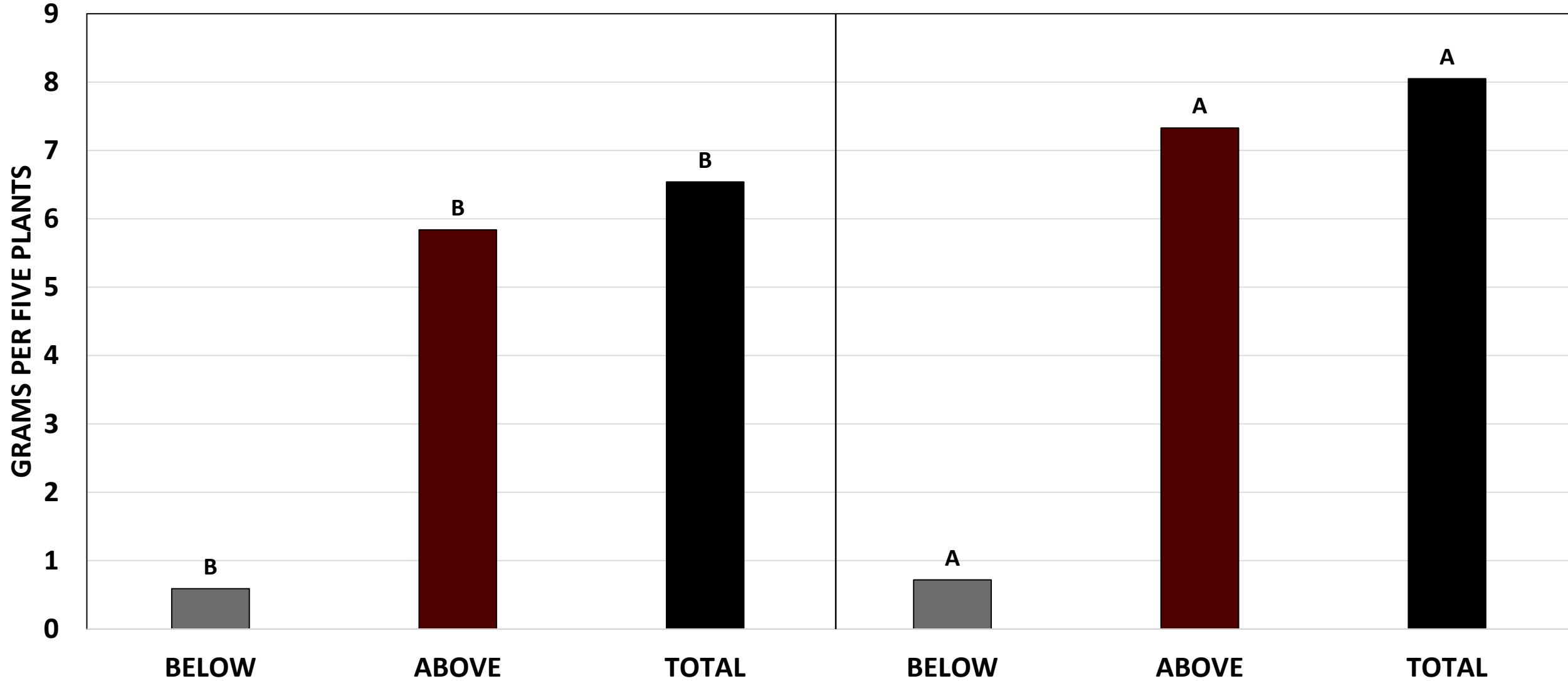
THRYVON



BIOMASS- HIGH PRESSURE LOCATIONS (6)

NON-THRYVON

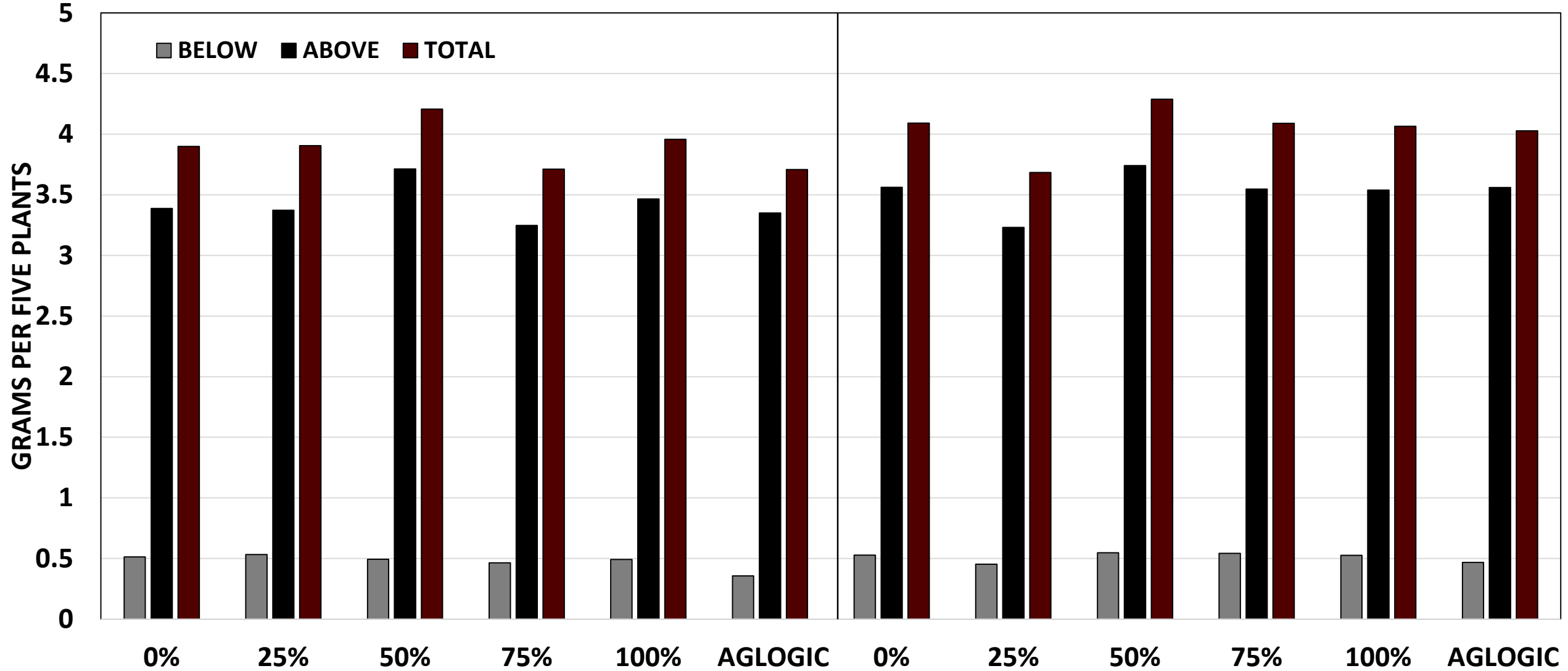
THRYVON



BIOMASS- LOW PRESSURE LOCATIONS (6)

NON-THRYVON

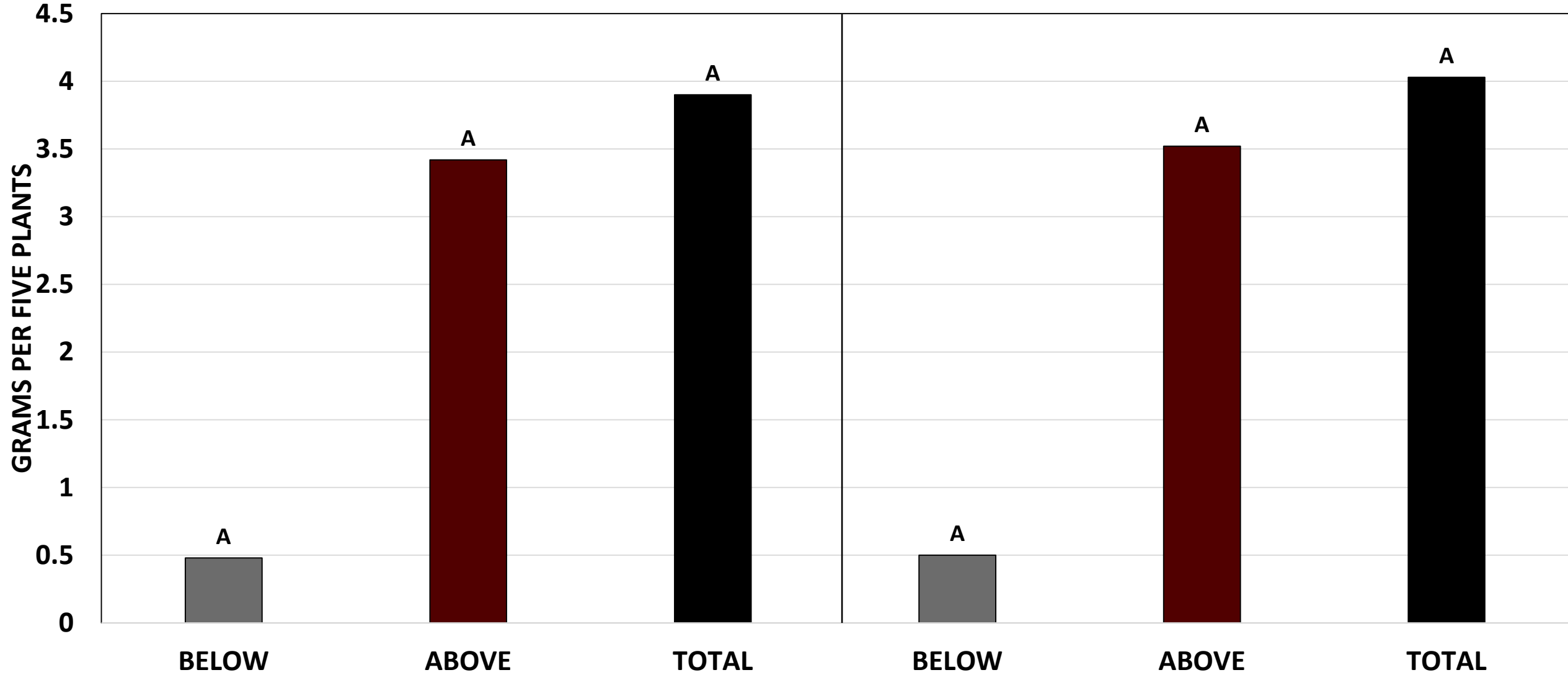
THRYVON



BIOMASS- LOW PRESSURE LOCATIONS (6)

NON-THRYVON

THRYVON

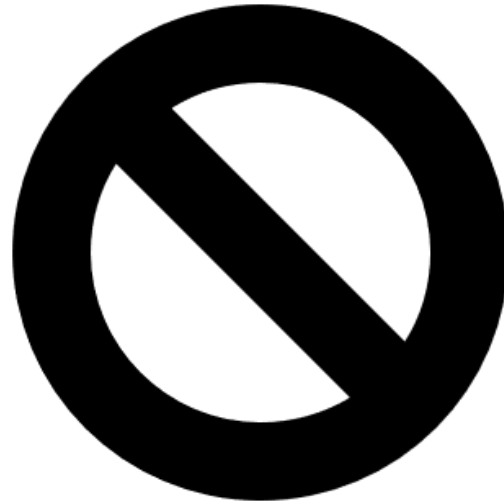


SUMMARY

- ThryvOn compared to non-ThryvOn
 - Fewer thrips
 - Minimal damage
 - Higher biomass in high pressure
 - No differences in yield
- High pressure environments
 - Thrips symptomology may be present
 - Herbicide, sand blasting, etc.

MISSISSIPPI STATE RECOMMENDATION

DO NOT SPRAY THRIPS





QUESTIONS?

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