UF IFAS **UNIVERSITY** of FLORIDA





Synergy of herbicides for enhanced weed control



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OBJECTIVE

- Enhance weed control efficacy and extend the weed suppression window in citrus by combining pre- and postemergent herbicides
- Compare the effectiveness of glufosinate- ammonium as a substitute to glyphosate in pre-emergent tank-mix programs

- Weeds compete with trees for essential resources and reduce yield
- Using a combination of herbicides can
 - control a broad spectrum of weeds,
 - reduce selection pressure, and thus
 - help manage herbicide resistance
- Growers are looking for alternatives to glyphosate

Why?



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Flumioxazin + Glyphosate	- OR -	Flumioxazin + Glufosinate-amm.
Indaziflam + Glyphosate	- OR -	Indaziflam + Glufosinate-amm.
Diuron+ Glyphosate	- OR -	Diuron+ Glufosinate-amm.
Flumioxazin + Indaziflam + Glyphosate	- OR -	Flumioxazin + Indaziflam + Glufosinate-amm.
Flumioxazin + Diuron + Glyphosate	- OR -	Flumioxazin + Diuron + Glufosinate-amm.

- Treatments applied at 30 GPA and 20 psi.
- (Quest) at 0.25% v/v and non-ionic surfactant (Induce) at 0.5% v/v
- Weed control monitored for up to 4 months post application

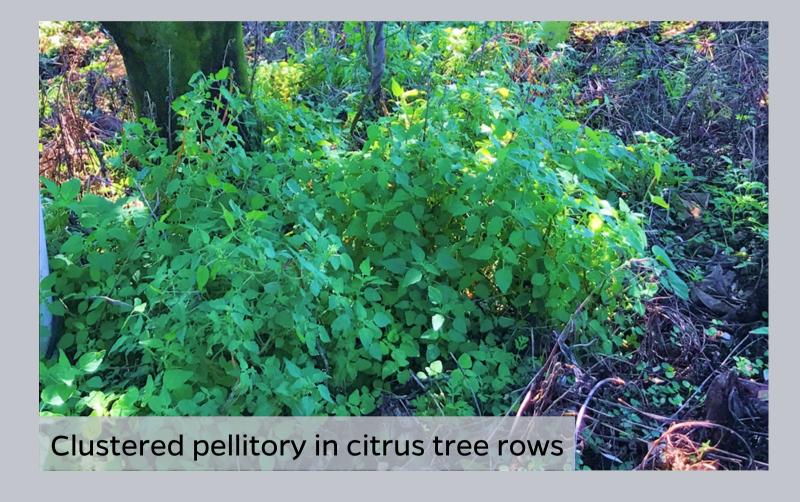
For more information, please contact Dr. Ramdas Kanissery, rkanissery@ufl.edu

Treatments

- In addition to combination treatments,
 - glyphosate, glufosinate-ammonium, and
 - untreated control were evalauated
- All treatments received water conditioner



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- control up to 4 months after application Flumioxazin) with post-emergent herbicides controlled a broad range of weeds and provided a more prolonged
- Most tank mix combinations provided \geq 50% weed • Use of two pre-emergent herbicides (Indaziflam + weed suppression
- Post-emergent herbicides alone were not effective in long term weed suppression
- Glufosinate-amm. was equally effective as glyphosate in weed control

Results