

The background image shows a close-up of a pitahaya (dragon fruit) plant. A hand is holding a slice of the fruit, which is bright red with black seeds. Above the hand, a green, segmented stem of the plant is visible, covered with many small, dark, scale-like insects (likely mealybugs). The background is slightly blurred, showing more of the plant and some dry ground.

Integrated Pest Management (IPM) for Arthropod Pests of Pitahaya

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Pitahaya Field Day Sept 8, 2022

Overview

Main Pests

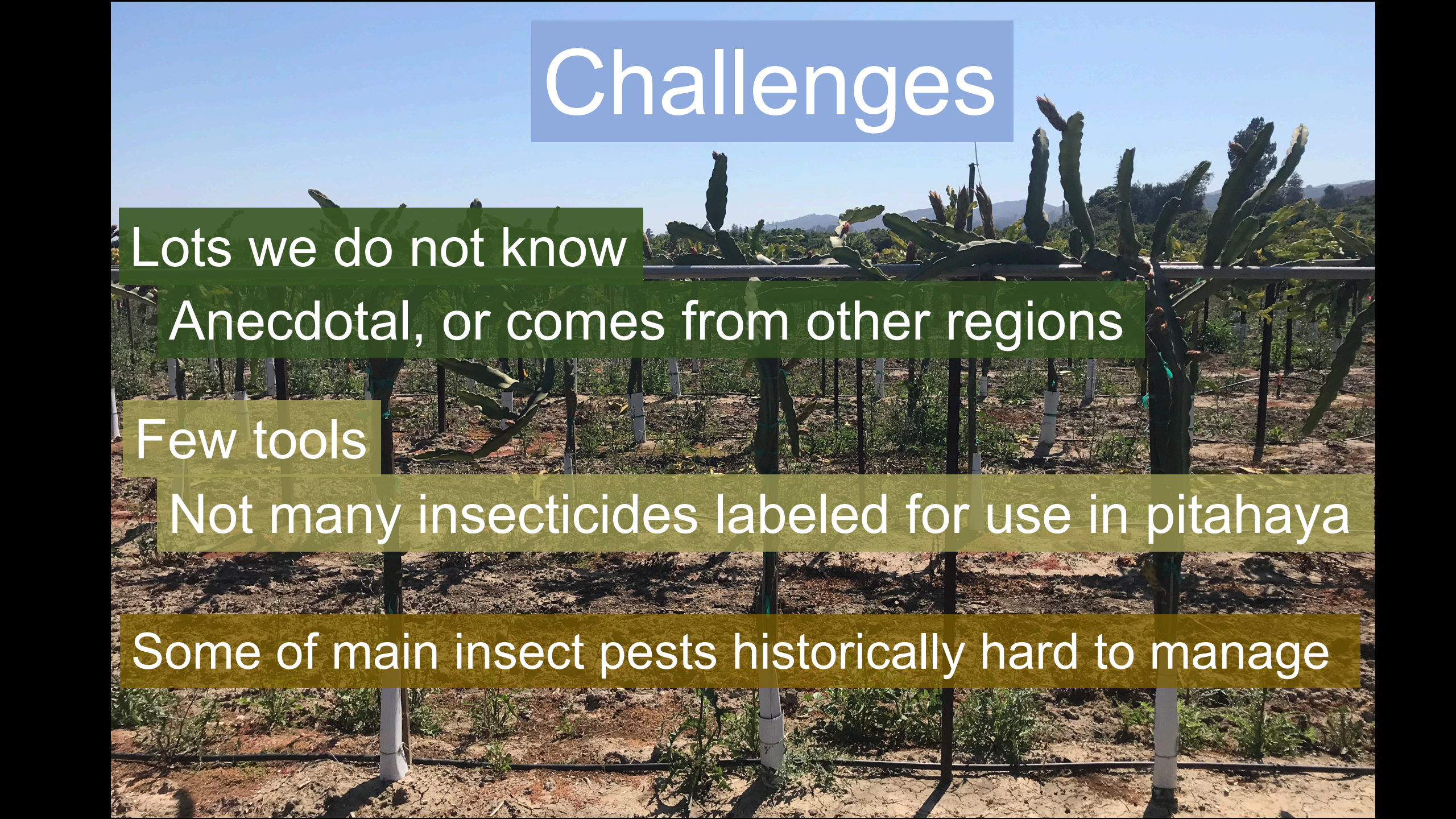
Ants, aphids,
Leaf-footed bugs,
thrips, scales,
snails.

ID and Damage Management

Scouting Prevention



Challenges

A photograph of a dragon fruit orchard. The plants are growing on a metal trellis system. The ground is dry and sandy with some sparse vegetation. The sky is clear and blue. The orchard is in the foreground, and there are hills in the background.

Lots we do not know

Anecdotal, or comes from other regions

Few tools

Not many insecticides labeled for use in pitahaya

Some of main insect pests historically hard to manage

Ants

Southern Fire Ants: *Solenopsis xyloni*

Identification

Small, numerous
Orange red with dark abdomen
Hard and shiny looking
Relatively slow
Can sting

Damage

Buds, fruit, growing terminals
Leave “dirt” where they feed



Ants

Argentine Ant: *Linepithema humile*

Identification

Small, very numerous

Uniform, matte dark brown

Fast if disturbed

Form distinctive trails

Cannot sting

Damage

Supports sap sucking pests

Protects them from predators



Ants

Forelius mccooki

Identification

Small, more sparse
Orange and translucent
Very fast
Cannot sting

Damage

May supports sap sucking pests
Does not seem to be problem currently



Southern Fire Ant
Solenopsis xyloni



Argentine Ants
Linepithile humile



Forelius mccooki



Unknown/None

Ants: Control

Boric Acid Baits

Sugar solutions for Argentine ant

0.5% boric acid in 25% sucrose/water

Commercially available liquid bait stations

Southern Fire Ant

Less likely to go for sugar. Sugar baits may work

Prefer fats, proteins

Baits exist, but not labeled for use in pitahaya

Spot Treat Colonies: Spinosad, hot water

Ensure colony not near roots



Aphids

Identification

Small, soft, yellow-dark green/brown

Winged and wingless

Creates honeydew, sooty mold

Damage

Feed on flowers: possible distortions

Sooty mold on fruit

Control ants to control aphids



Leaf-Footed Bugs

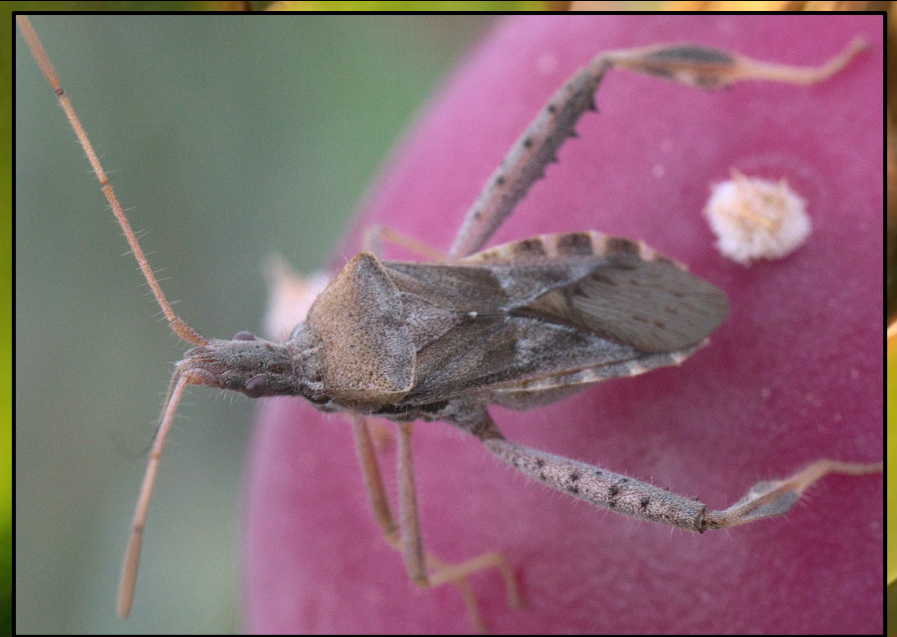
Leptoglossus spp, Narnia spp

Identification

- Brown or dark with long legs
- Enlarged hind legs, like leaf
- Loud buzzing in flight
- Eggs laid in lines

Damage

- Largely uncertain
- Can damage fruit, buds
- Damage varies in other regions



Leaf-Footed Bugs

Leptoglossus spp, Narnia spp

Control

Physically crush insects

Oils (neem) on nymphs if numerous

Remove weeds that may act as hosts

Monitor to determine extent of damage



Thrips

Western Flower Thrips

Frankliniella occidentalis

Small, yellow, elongate, feathery wings



Damage skin of fruit

Characteristic scaly skin

Monitor for damage

Can apply Spinosad, Spinetoram



Thrips

Western Flower Thrips

Frankliniella occidentalis

Small, yellow, elongate, feathery wings



Predators



Mealybugs, Scales

Scales: Small tan/white scales on plant

Mealybugs: Small, soft-bodied
Come in waxy clumps



Often do not result in serious harm
Insecticidal soaps, oils timed for
crawlers. Natural Enemies



Brown Snails *Cornu apersum*

Common garden snail

Feeds on fruit, plants, leaving scars

May be more problematic when wetter

Keep plants open to limit damage

Copper, beer baits, diatomaceous earth

Predatory snails



Predatory Decollate Snail



Scouting and Prevention

Observation is essential

Catch infestations before they get out of hand

Check individual plants, utilize traps

Yellow sticky traps, cookie baits as example

Clean up fallen fruit, remove dead plant material

Reduces ants, sources of pests

Keep plants healthy

Treat only when necessary

Reduces your costs and nontarget impacts



Summary



Southern Fire Ant
Baits, Treat colonies



Argentine Ant
Sugar baits



Aphids
Control ants



Leaf-footed Bugs
Crush, Neem oil



Thrips
Spinosad



Mealybugs, Scales
Monitor, leave alone



Brown Snail
Predators, copper

Summary

In all cases, keep plants healthy

Monitor, treat only when necessary

Observe carefully



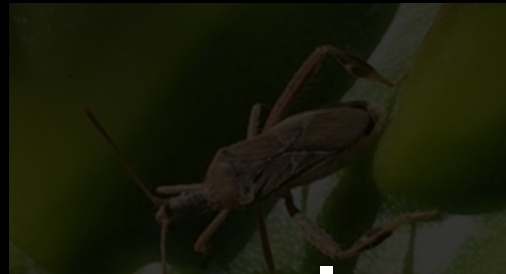
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Questions?

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