

INSECT UPDATES

PECAN PRODUCTION MEETINGS

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UNIVERSITY OF GEORGIA
EXTENSION

UGA Appointment

- **Tree Nut (Pecan)
Insect Research
(60%)**
- **Extension (25%)**
- **Teaching (15%)**



Pecan Entomology Research

- 1) Investigating effects of hedging trees on insect populations
- 2) Surveying and monitoring of ambrosia beetles
- 3) Studying parasitism of pecan aphids
- 4) Side projects:
 - Trapping studies on *Prionus* root borer
 - Testing insecticidal netting on pecan weevils
 - Insecticidal trials against various pecan pests



INSECT THREATS ON PECAN PRODUCTION



Foliage Feeders

Aphids, Mites,
Phylloxera, Caterpillars

Nut feeders

Pecan weevil, Shuckworm,
Stink bugs, Nut casebearer

Trunk & root feeders

Ambrosia beetles,
Prionus rootborers

TIMELINE OF INSECT PESTS IN PECAN ORCHARDS

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Ambrosia beetles

Phylloxera

Bud Moth

Casebearer

Leaf-feeding Caterpillars

Yellow Aphid Complex

Black Aphid

Hickory Shuckworm

Pecan Weevil

Stink Bugs

Mites

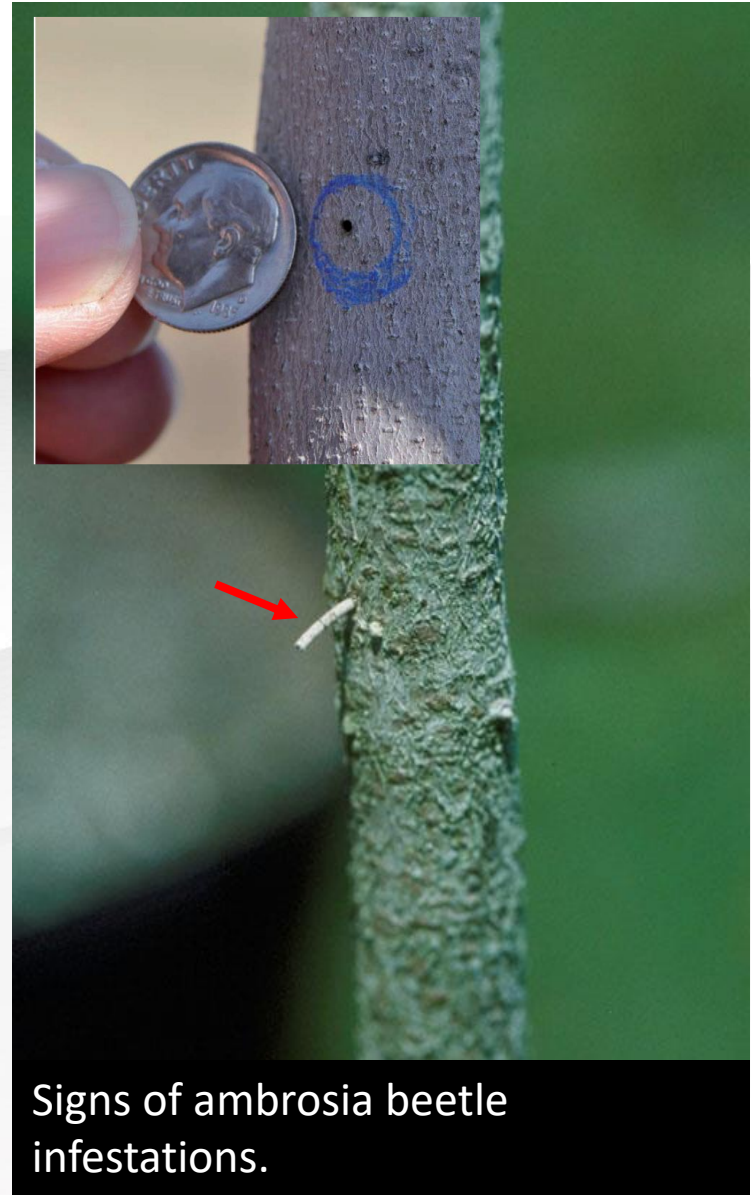


AMBROSIA BEETLES

Ambrosia beetles collected from young infested pecan trees in Georgia.



- **Vulnerable Trees:** Stressed trees (especially under flooded conditions, frost damage)
- Trees can recover, the more the attack, the higher the possibility trees could die
- Immediate action is vital in saving the tree



Signs of ambrosia beetle infestations.

IMPORTANT POINTS

Older trees can be attacked if they are stressed!



AMBROSIA BEETLE MONITORING



Trap:

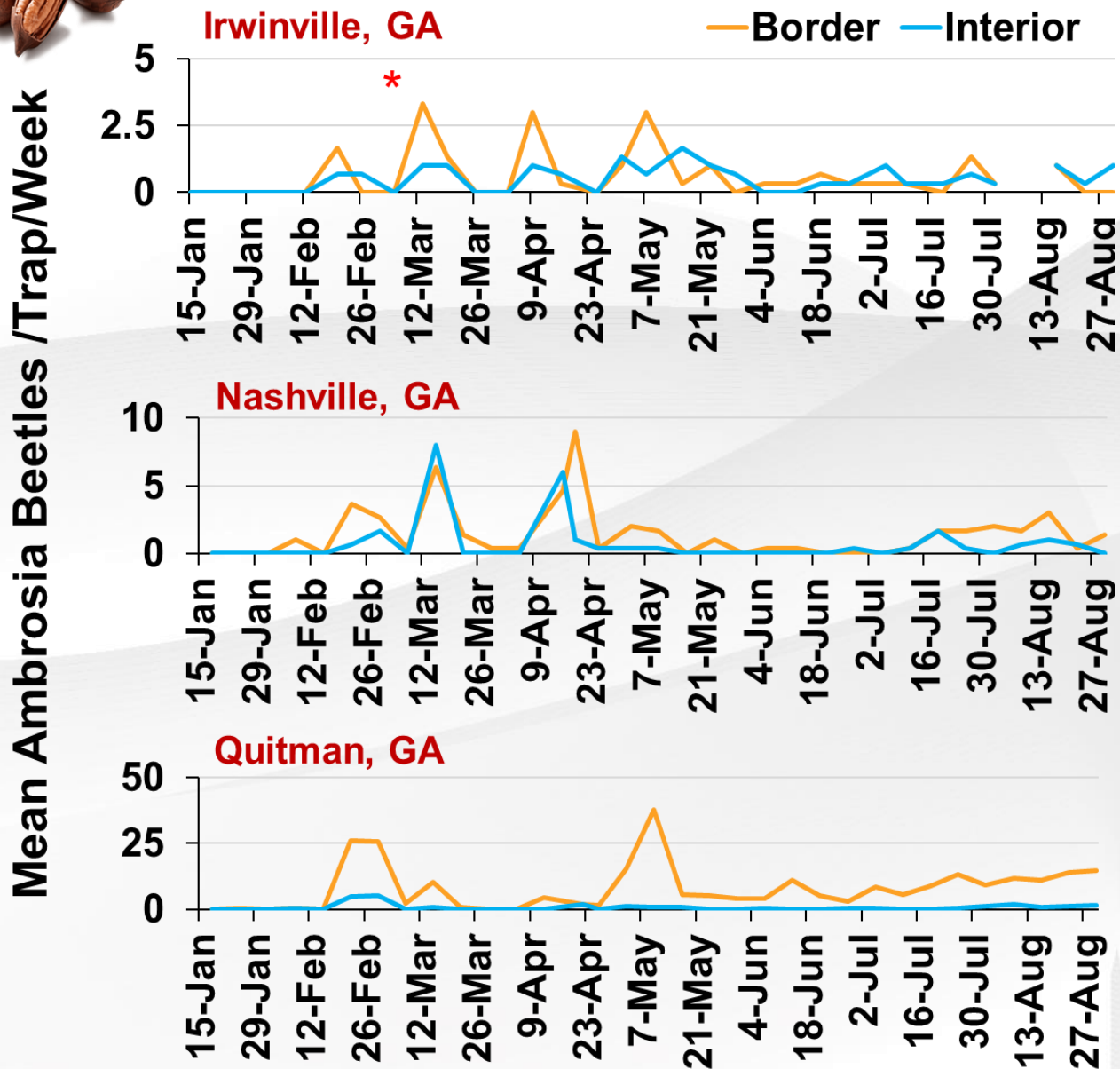
- Bolt of wood with a drilled hole in the middle
 - Pour ethanol into the hole; cover with cork
- Deploy traps along woodlines next to orchards by early Feb in south GA



Pecan Orchards

Beetle activity starts in early Feb.

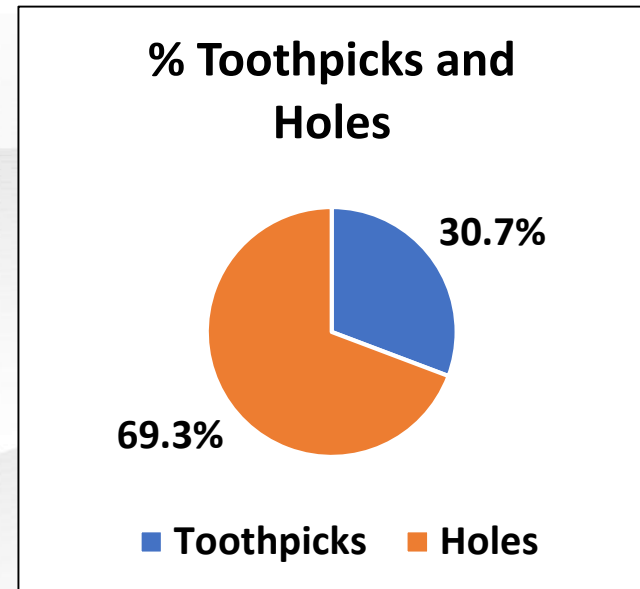
Peak Beetle Activity:
late Feb–mid March
early April–mid May



AMBROSIA BEETLE MONITORING



- Traps indicate beetle activity, check traps for 'toothpicks' and holes



- When attacks are detected, scout trees in areas that may be vulnerable to attacks
- Treat infested trees with pyrethroids (repeat applications after 7-10 days)

Please Fill Out the Survey

Help us estimate ambrosia beetle impacts on pecans.



OTHER EARLY SEASON INSECT PESTS

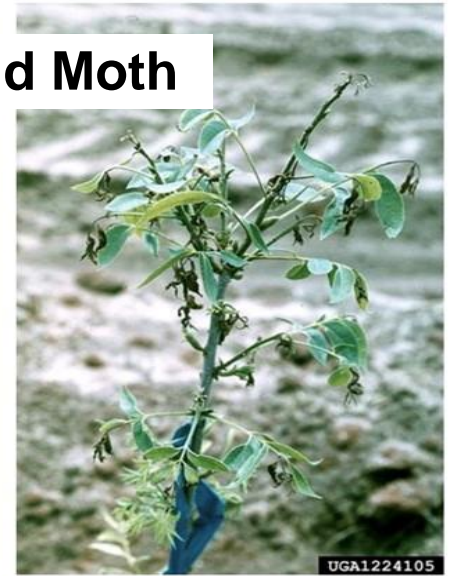


Pecan Phylloxera

- Leaf and stem species
- Orchards with previous history of infestation, spray with imidacloprid
- Treatment window:
Budbreak with pre-pollination spray
- Spray at budbreak (1st pre-pollination spray)
- Time sprays before the insects are enclosed by the galls
- Too late to spray once damage is observed



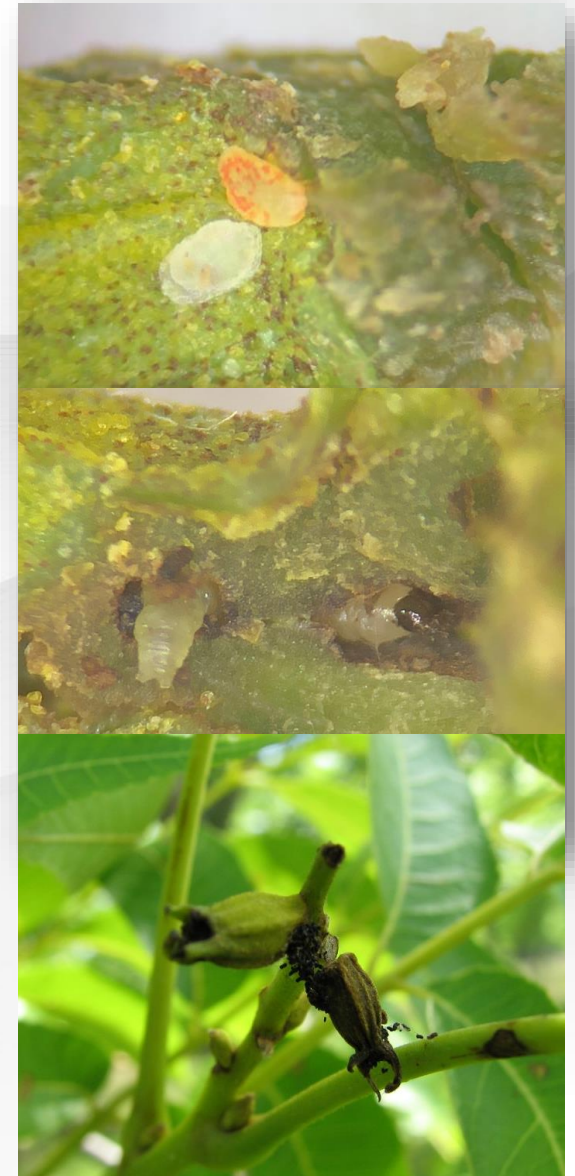
Bud Moth



- Early season attack can seriously damage young trees (can kill terminals causing multiple branching)
- Larvae feed on leaves, buds and shoots
- Scout for bud moth damage in young trees
- Time application before caterpillars bore into the shoots

Pecan Nut Casebearer

- Early to mid-May is when eggs are laid (weather dependent).
- **During heavy crop load**, can serve as a natural thinning mechanism.
- Light infestations do not require control.
- Management options:
Intrepid and Dimilin
- Time application before larvae start feeding inside the nut (monitoring for when adults emerge)



EARLY IN THE SEASON: HOLD OFF SPRAYING FOR APHIDS! DO NOT USE PYRETHROIDS OR LORSBAN TO CONSERVE BENEFICIAL INSECTS!

Common Predatory Insects

Lacewing

Lady Beetles (Predator)

Eggs

Larva

Adult

Larva

Adult

Eggs

Pupa



Common Predatory Insects

Minute Pirate Bugs



Nymph feeding on aphid



Adult



LATE-SEASON INSECTICIDAL TRIALS

APHIDS AND MITES

**APPLY ONLY IF
NEEDED!**

Yellow and Black Pecan Aphids:

Closer (2.75 oz/A), Carbine (2.8 oz/A)

Nexter (11 oz/A), PQZ (2.4 – 3.2 oz/A)

Mites:

Nexter (11 oz/A*), Portal (32 fl oz/A)

**Rotate/Alternate
materials to delay
resistance
development.**

* Different colors represent different mode of actions.

Materials were applied with adjuvants.

Take Home

- Accurate pest identification, and monitoring is important.
- Assess infestation levels and only treat if needed.
- If you choose to treat, timing of application and type of material to use is important.
- Early season: hold off spraying for aphids, avoid using broad spectrum insecticides (pyrethroids and chlorpyrifos) to help conserve beneficial insects.

REMEMBER: NOT ALL INSECTS ARE PESTS

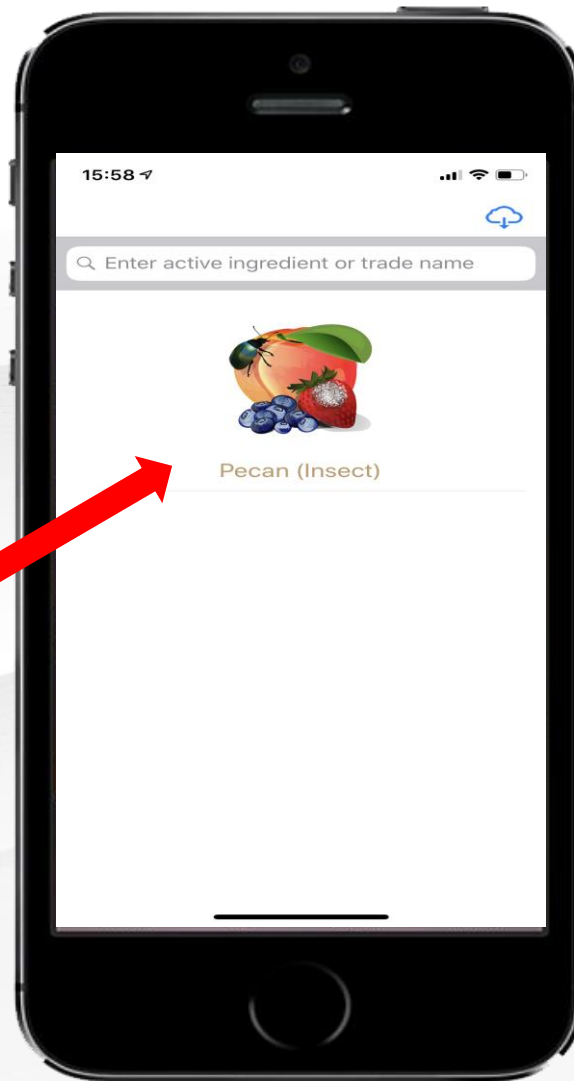
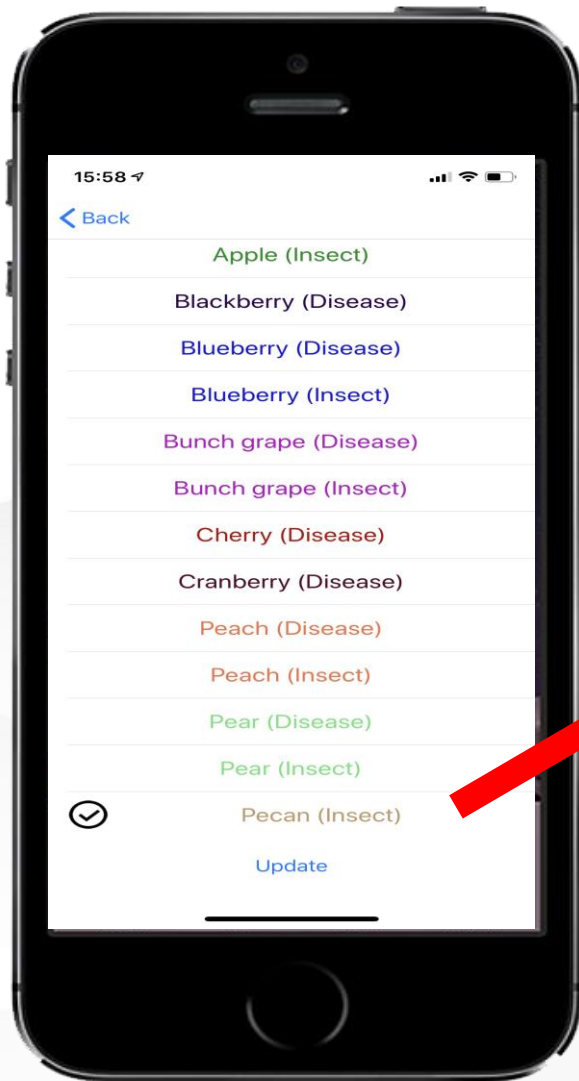
MyIPM App: Free Mobile App with Info on Pecan Pests & Their Management



**Available for
iPhones &
Androids**



Choose and download crops and pests of your interest.



Diagnostic Tools

Descriptions & Zoomable photo gallery

Pest Biology

< Pecan Black Pecan Aphid Select

OVERVIEW

Overview: The black pecan aphid, *Melanocallis caryaefoliae* (Davis), is the only black plant louse that attacks pecan foliage. Nymphs and adults feed on both sides of the leaves. Their damage is undeniable because they often cause severe leaf shedding in the summer. This species rarely does not become as abundant as the yellow aphid species and unlike the yellow aphids, they do not produce honeydew.

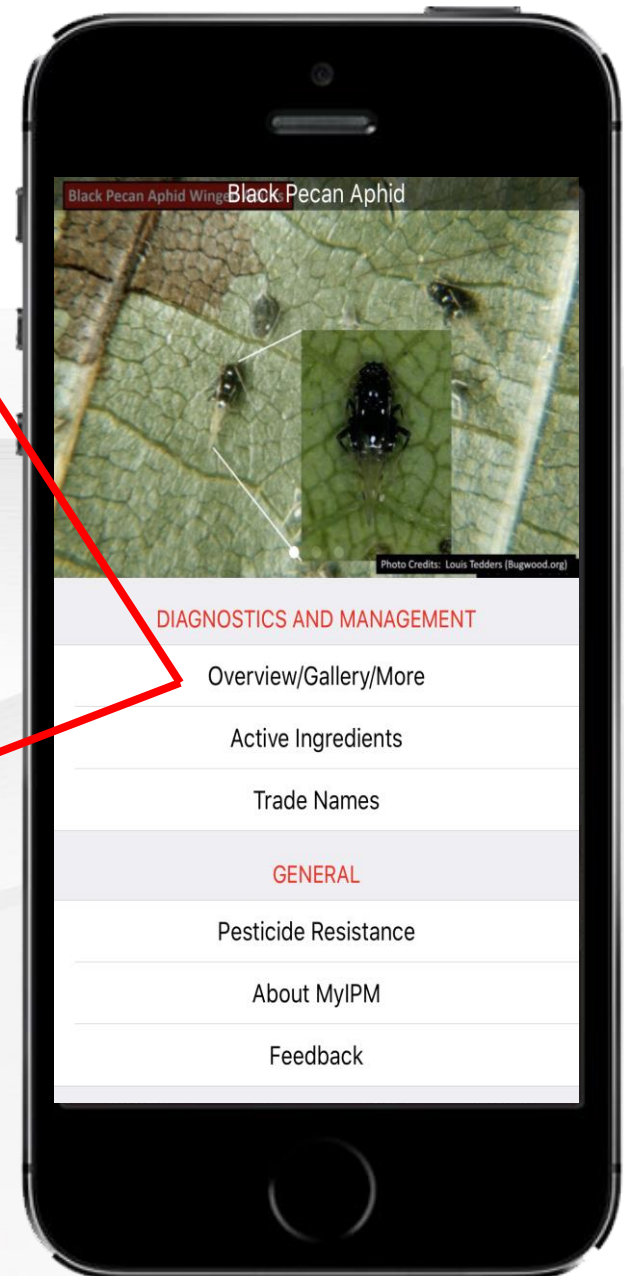
Damage: Black pecan aphids may cause damage as early as May but are usually a serious problem only in late season. Damage appears as yellow spots on leaflets. Damaged spots later turn brown and 2-4 damaged spots per leaflet can cause leaflet drop. High numbers of black pecan aphids can cause severe defoliation during the late summer and early fall if left unmanaged.

Control: The use of an insecticide is the primary method used by growers to control the black pecan aphid. Monitoring is important to know when to spray for this pest. Carefully check all compound leaves on 10 terminals per tree, on at least 10 trees per orchard for the presence of

Black Pecan Aphid Infestation Black Pecan Aphid Damage

Black Pecan Aphid Nymphs Black Pecan Aphid Winged Adults

SUMMARY GALLERY More

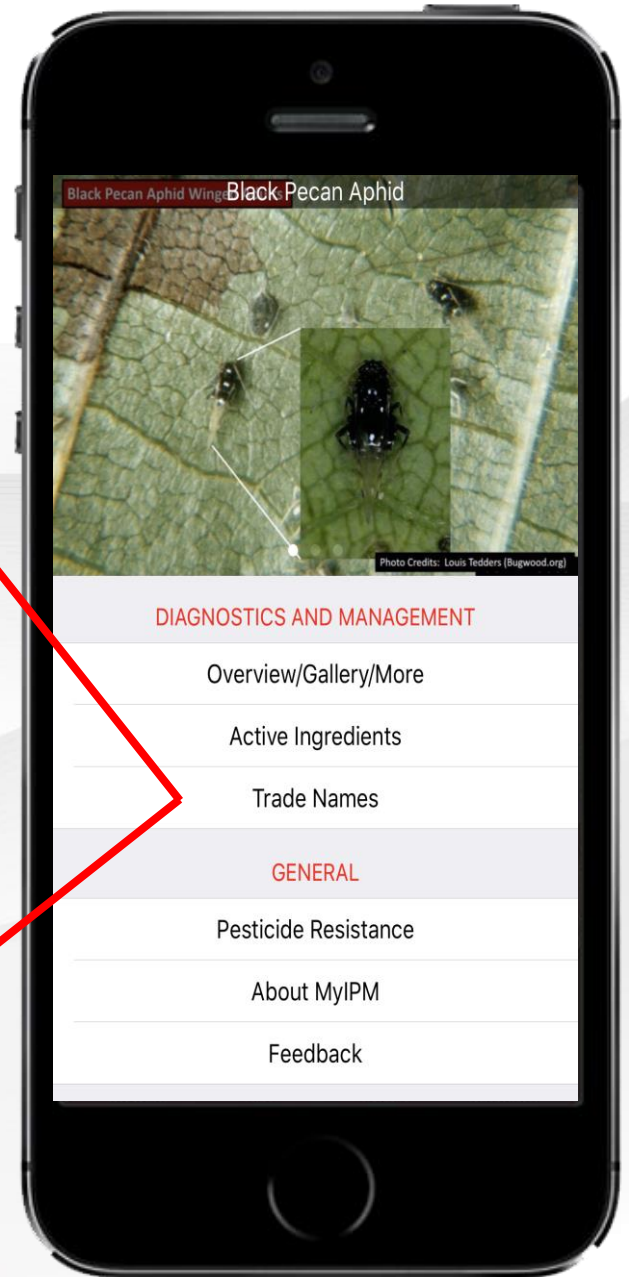


Management Recommendations

[← Pecan](#)
Black Pecan Aphid
[Select](#)

Conventional
Organic

Trade Name	Efficacy	Rate/Acre
Admire Pro	?	7-14 fl oz
Apta	?	17-27 fl oz
Assail 30SG	?	2.5-9.6 fl oz
Belay	?	3-6 fl oz
Beleaf	+++++	2-2.8 fl oz
Carbine	+++++	2-2.8 fl oz
Centric	?	2-2.5 fl oz
Closer	+++++	1.5-2.75 fl oz
Fulfill	?	4 oz
Lorsban	?	Check Label
Nexter	++++	5.2-10.67 fl oz
Provado	?	see label



Extension Programs

GPGA Conference and Trade Show:

March 24 and 25

(Tifton Conference Center)

Field Day:

First Thursday of September

Location: UGA

Website:

www.ugapecan.org

Blog:

<https://site.extension.uga.edu/pecan/>

Acknowledgment



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