2021 INSECT PEST MANAGEMENT UPDATES

PECAN PRODUCTION MEETING

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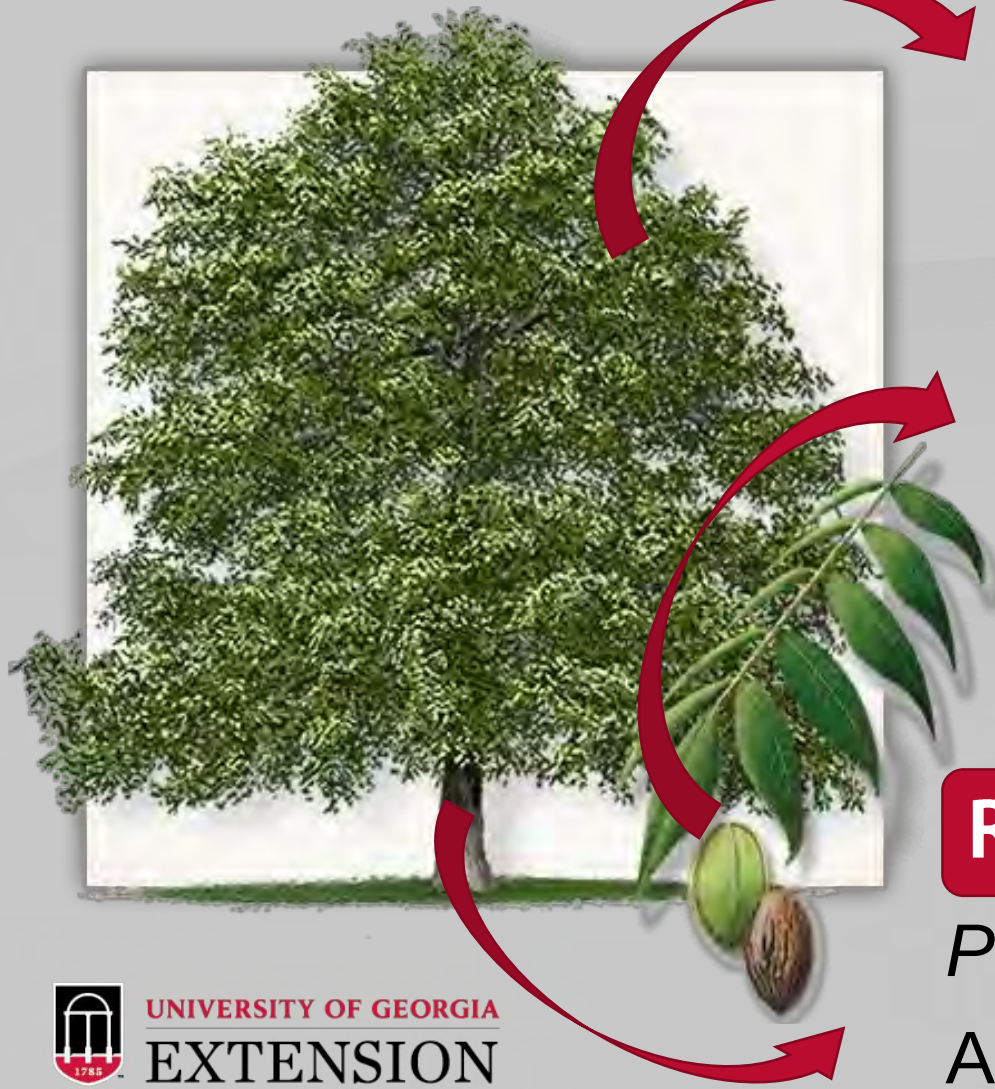
EXTENSION

INSECT THREATS ON PECAN PRODUCTION



Foliage Feeders

Aphids, Mites,
Phylloxera, Caterpillars

Nut feeders

Nut casebearer,
Shuckworm, Pecan weevil

Root and trunk feeders

Prionus rootborers

Ambrosia beetles

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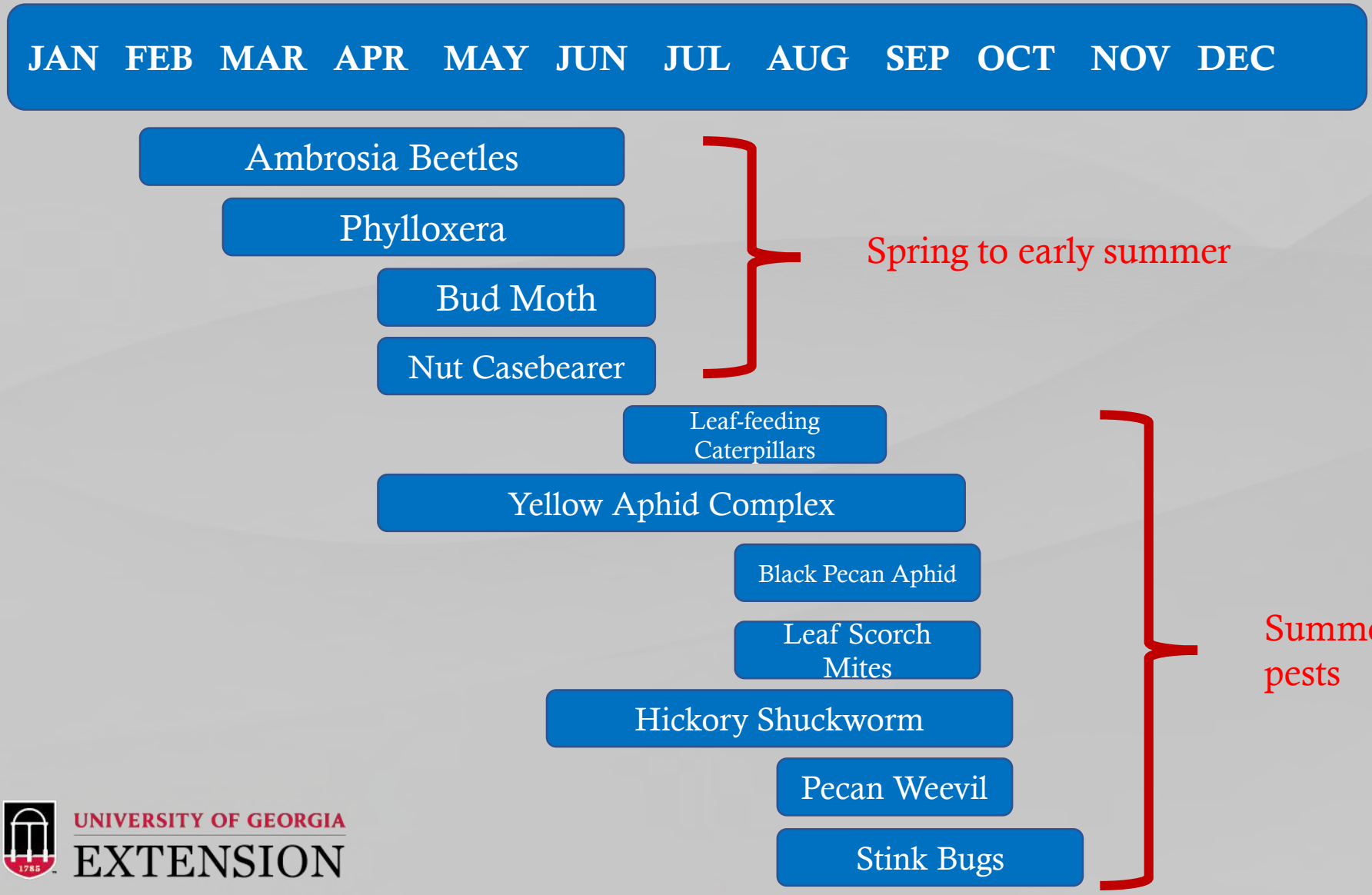
TIMELINE OF INSECT PESTS IN PECAN ORCHARDS



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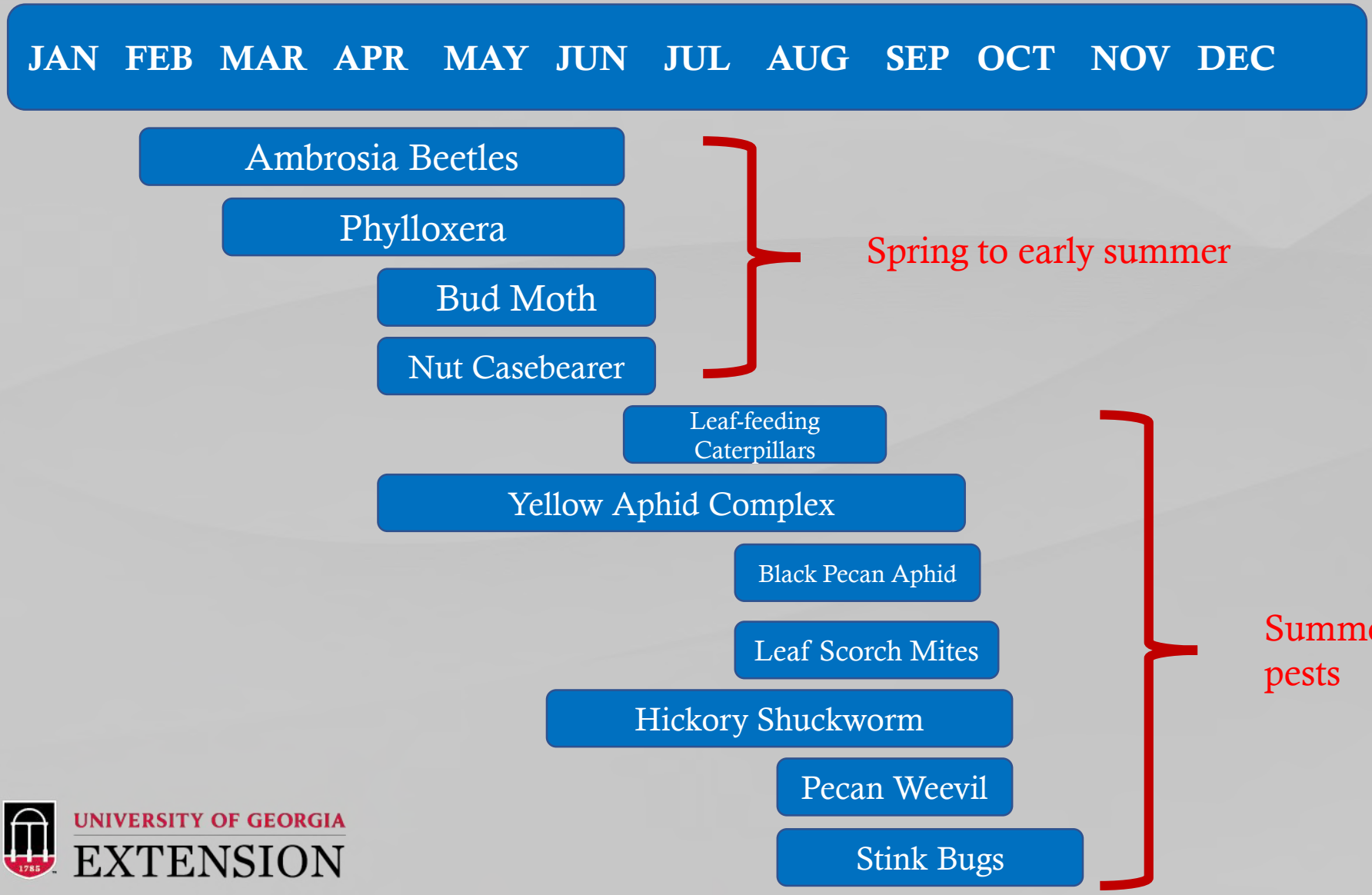
TIMELINE OF INSECT PESTS IN PECAN ORCHARDS



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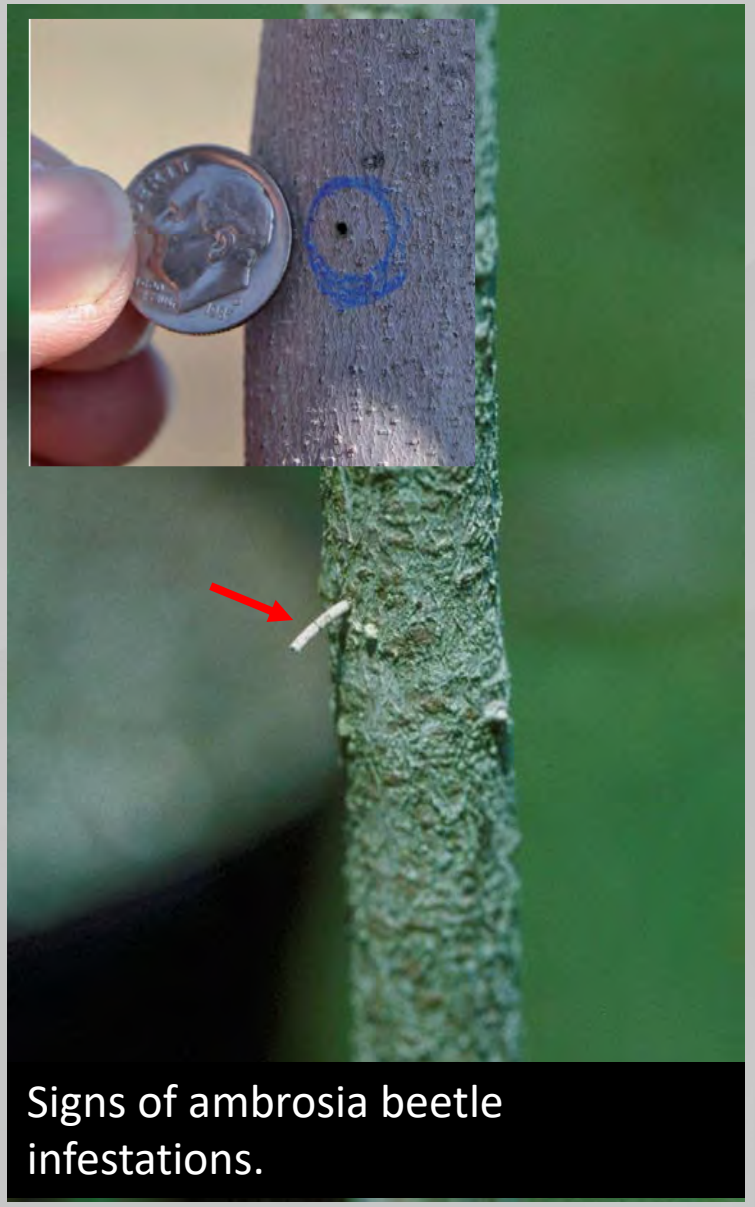
AMBROSIA BEETLES

Ambrosia beetles collected from young infested pecan trees in Georgia.

- **Vulnerable Trees**: Stressed trees (especially under flooded conditions, frost damage, damaged roots)
- 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.

Spaded tree

- Attacks in GA are associated with:
  - young, newly transplanted trees (transplant stress)
  - trees in water-saturated conditions
  - trees that suffered from excessive mechanical root injury (spading mature trees for relocation)
  - trees covered in a certain type of tree protector that encourages ant infestation on the trunks (causing soil to accumulate on the trunks)

Ambrosia beetle attacks

AMBROSIA BEETLE MONITORING

What trap to use?

- Bolt of wood with a drilled hole in the middle (magnolia, maple)
- Pour **ethanol/denatured alcohol** into the hole, refill weekly
- Cover with cork

Where to put out traps?

Along woodlines adjacent to young orchards (1 trap per 100 yards)

When to put out traps?

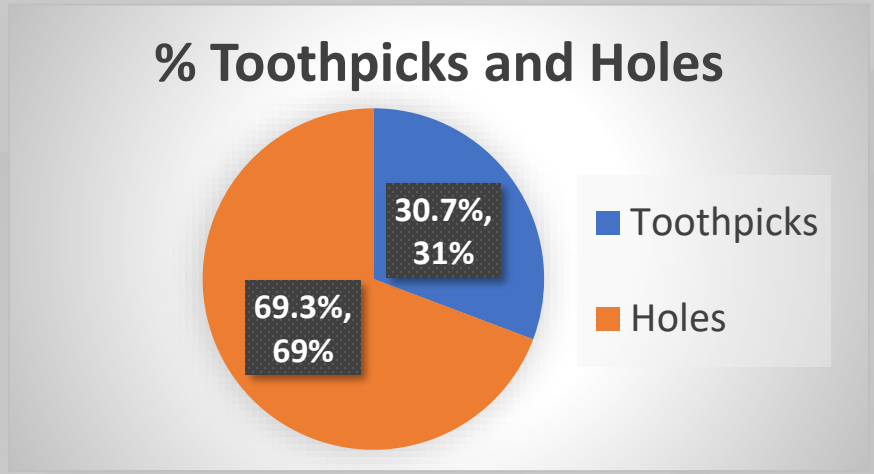
Early Feb in south GA

How often to check traps?

2-3x a week

AMBROSIA BEETLE MONITORING

- Check traps for **‘toothpicks’ and holes**, traps indicate beetle activity.



- When attacks are detected on the logs, scout trees in areas that may be vulnerable to attacks (low-lying areas, newly planted trees, unhealthy trees, *etc*.)

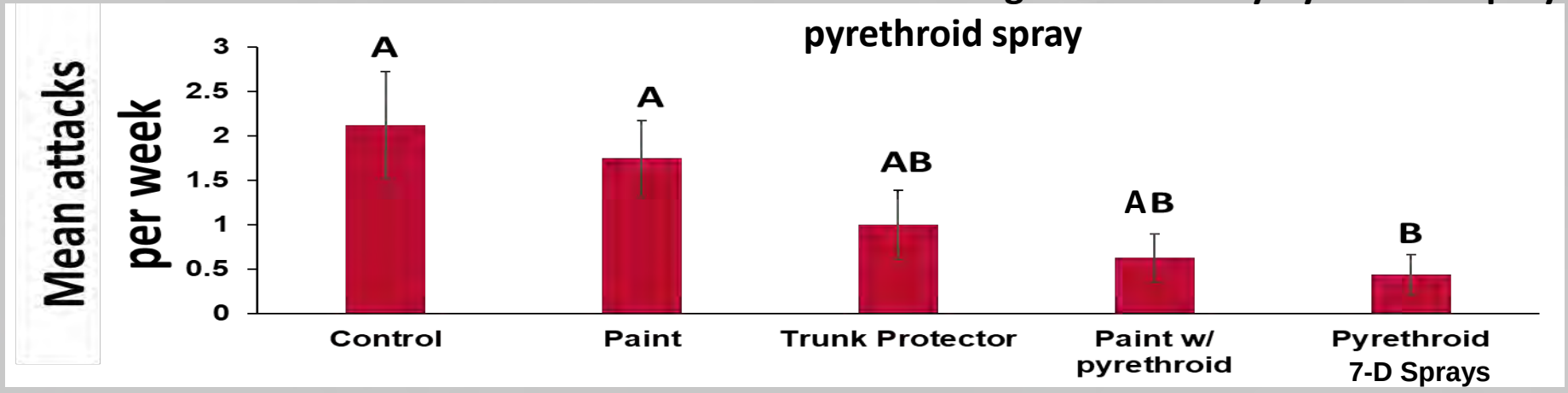
What options can be used for ambrosia beetle management?

Tree Painting

Trunk Protector

Tree Painting + 1 pyrethroid spray

7-Day Pyrethroid Sprays



What does this mean for growers?

- Tree painting is ineffective in protecting trees from attacks.
- Tree protectors should be removed to scout for injuries.
- Pyrethroid spraying every 7 days can protect vulnerable trees

Future Research Goals:

- Find a more sustainable option: pyrethroid vs biopesticide
- Compare pyrethoid spray intervals: 1x, every 7-D and 14-d

Do growers really need to spray every 7-10 days during periods of ambrosia beetle flight activity?

What is the main line of defense against ambrosia beetles?

Beetles are present season-long starting in early Feb.

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

Beetles are attracted to stressed and unhealthy trees.

Maintain healthy trees!

TIMELINE OF INSECT PESTS IN PECAN ORCHARDS

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

- Ambrosia Beetles
- Pecan Phylloxera
- Bud Moth
- Nut Casebearer

Spring to early summer

- Leaf-feeding Caterpillars
- Yellow Aphid Complex
- Black Pecan Aphid
- Leaf Scorch Mites
- Hickory Shuckworm
- Pecan Weevil
- Stink Bugs

Summer pests

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PECAN PHYLLOXERA

- Leaf and stem species
- Orchards with previous history of infestation
- Spray **with imidacloprid** at budbreak **with pre-pollination spray**
- Time sprays before the insects are enclosed by the galls
- Too late to spray once damage is observed
- Phylloxera outbreaks = potential increase in 1st gen shuckworm

BUD MOTH

- Early season attack can seriously damage young trees (can kill terminals, can cause multiple branching)
- Larvae feed on leaves, buds and shoots
- Scout for bud moth damage in young trees

Management

- Spray insect growth regulators (IGR)
- Time application before caterpillars bore into the shoots
- Systemic diamide insecticides can be used to protect the new foliage for an extended period, requiring fewer retreatments.

Bud Moth

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 adult emergence

Pecan Nut Casebearer (PNC) Monitoring

Pecans
AG PEST MONITOR

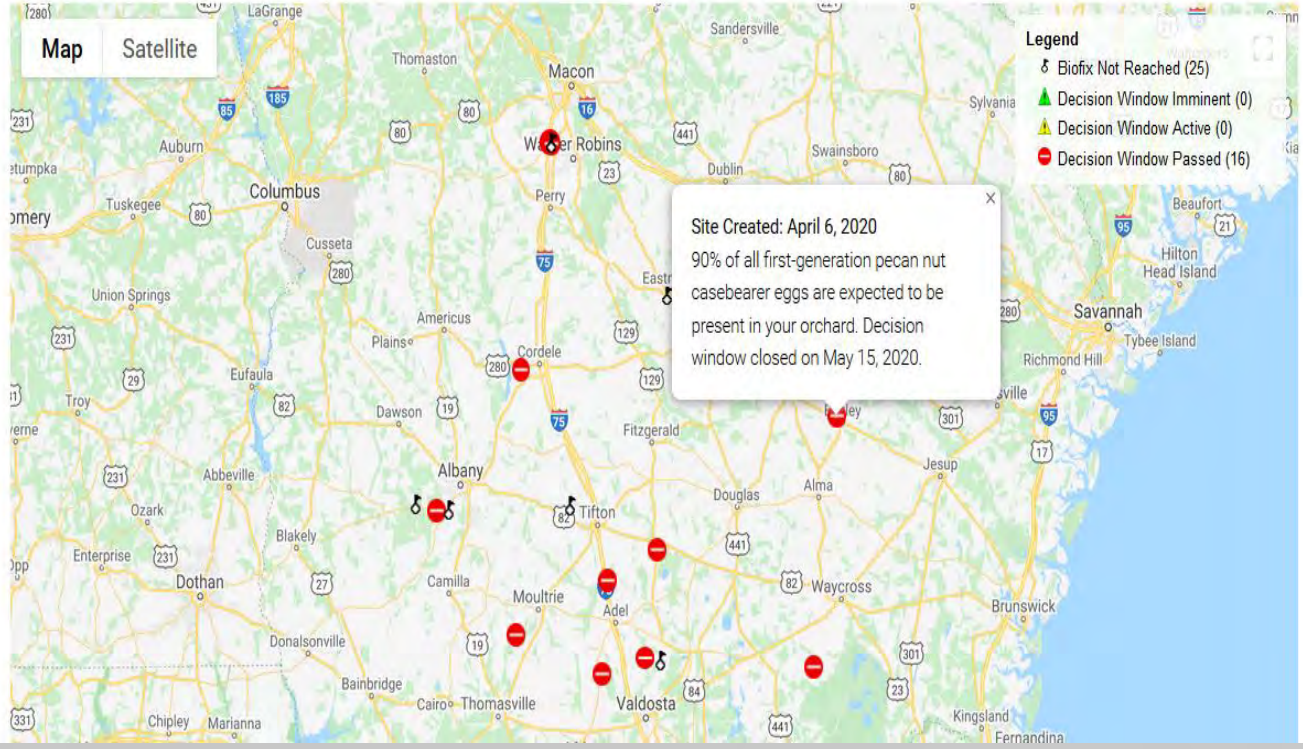
Home | Pest Alert | News | PNC Risk Map | Site Request | Toolbox | Links

HOME > PECAN NUT CASEBEARER RISK MAP FOR 2020

Pecan Nut Casebearer Risk Map for 2020

Pecan Nut Casebearer Risk Map for 2020

Share | Flag | FullScreen



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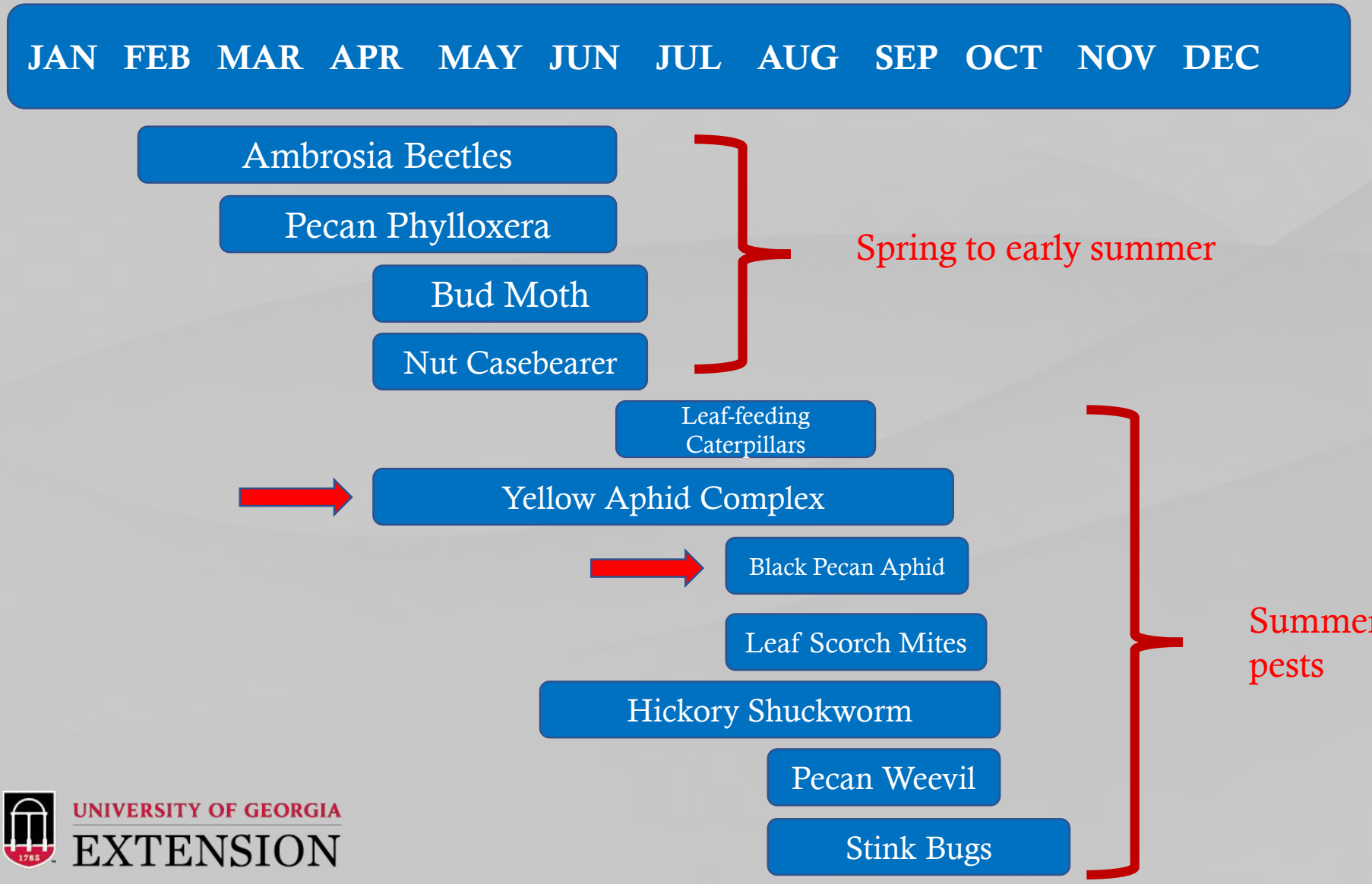

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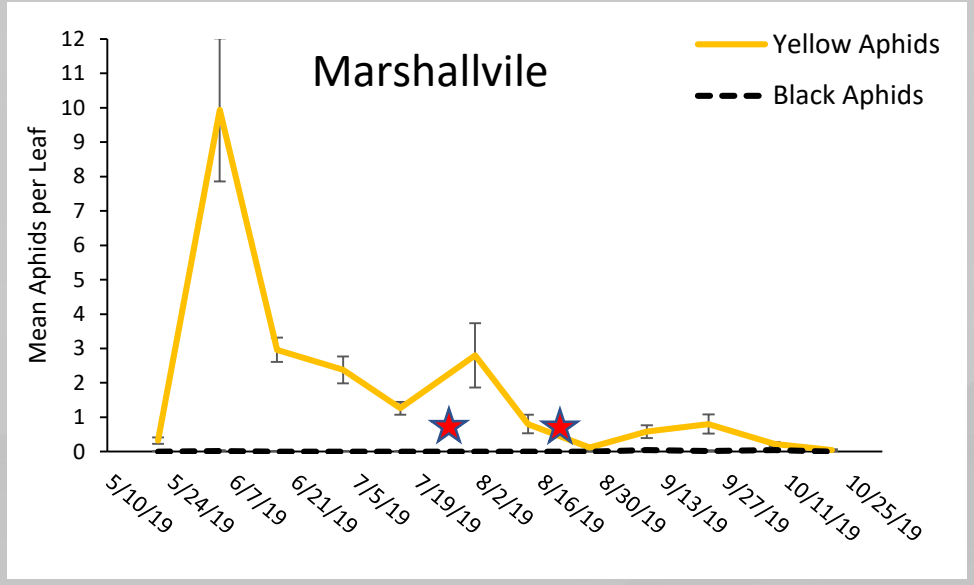
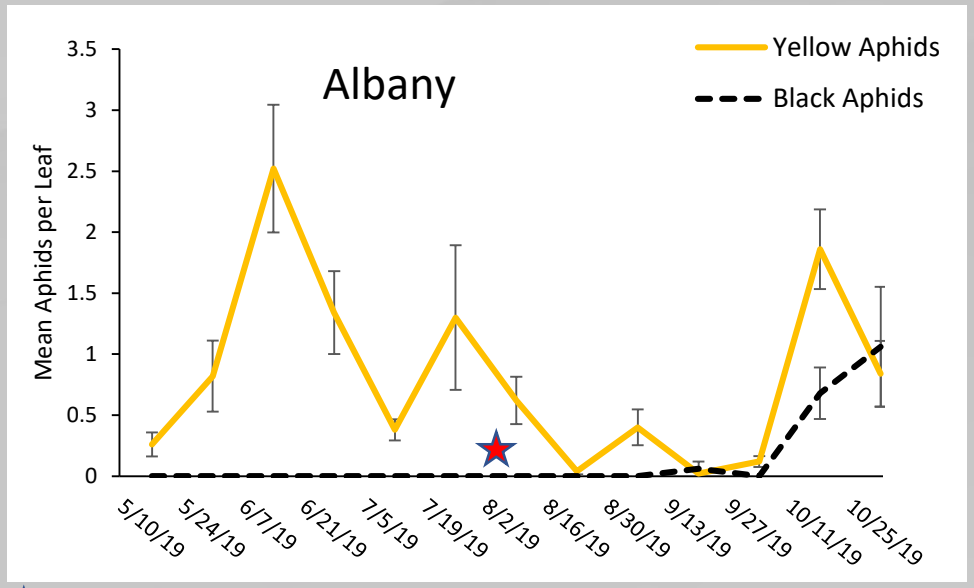
- Sumner trees sampled at two commercial orchards in 2019
- Yellow aphids more abundant than black aphids
- Growers applied insecticides in the summer
- Yellow aphid numbers crashed even without insecticidal applications

What does this mean for growers?





★ Timings of aphid sprays.

SPRAYING FOR APHIDS EARLY IN THE SEASON IS NOT NEEDED.
DEFINITELY DO NOT USE PYRETHROIDS OR LORSBAN!
YOU WANT TO PROTECT THE PREDATORY INSECTS!

Predatory Insects

Lacewing

Lady Beetles (Predator)

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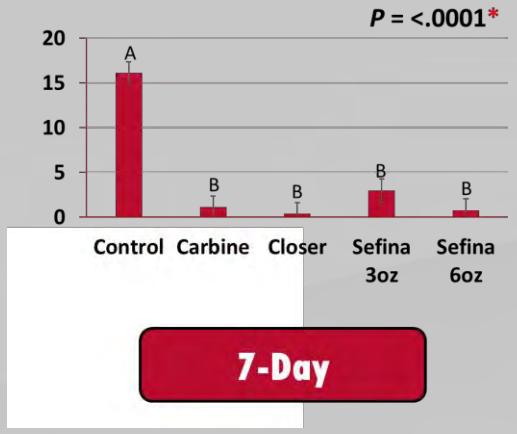
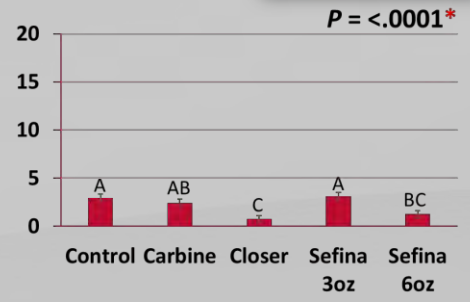
Minute Pirate Bug

APHID LATE SEASON SPRAY TRIALS

Results: Mean Aphid Abundance Per Leaf

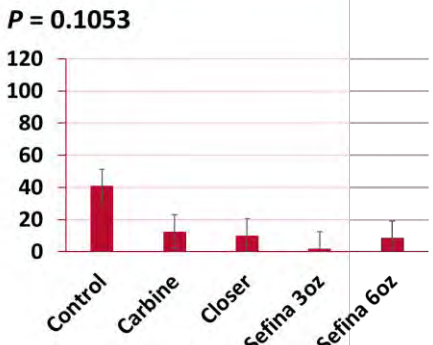


7-Day

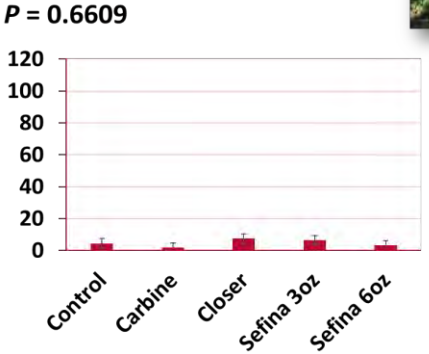


14-Day

Results: Mean No. Parasitic Wasp Per Card



7-Day



14-Day

Highlights

- All the materials tested (Carbine, Closer, Sefina) decreased aphid numbers, 7-D post spraying.
- Aphid numbers remained low on trees sprayed with Closer and Sefina 6 oz, 14-D after spraying.
- PQZ included in 2020 trial and showed similar results.
- Good news! All materials showed no negative effects on parasitic wasp population.

LATE-SEASON RECOMMENDATIONS
APHIDS

Yellow and Black Pecan Aphids:

Carbine, PQZ

Sefina is officially labelled now for pecans

Closer is now available as Transform

APPLY ONLY IF NEEDED!

If mites are also present:

Nexter

Rotate/Alternate materials to delay resistance development.

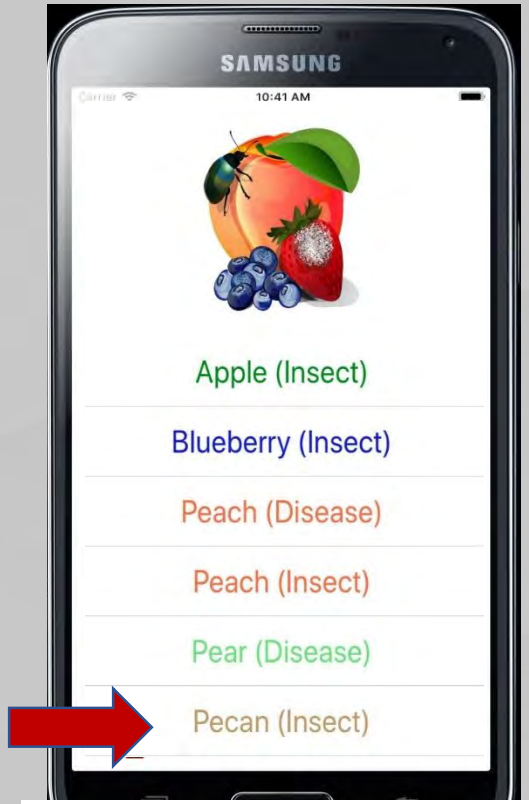
Take Home

- **Accurate pest identification and monitoring are important.**
- **Assess infestation levels and only treat if needed.**
- **If you choose to treat, timing of application and type of material to use need to be considered.**
- **Make sure to rotate materials to use for specific pests.**

REMEMBER: NOT ALL INSECTS ARE PESTS

EXTENSION: App- and Web-based Resources

MyIPM App



Android Iphone

Pecan Pest Reporting

Pecan Nut Casebearer

UGA Pecan Blog

PECAN MANAGEMENT

UNIVERSITY OF GEORGIA EXTENSION

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

TREE PHENOLOGY

DISEASE MANAGEMENT

PDF COPY LINK:

INSECT AND MITE PEST MANAGEMENT

FERTILIZATION

IRRIGATION

OTHER PRODUCTION ACTIVITIES

Acknowledgment

Georgia Pecans

Georgia Pecan Commodity Commission

Georgia Pecan Growers Association

Research Collaborators:

Dr. Ted Cottrell (USDA)

Dr. David Shapiro-Ilan (USDA)

Andrew Sawyer

Several Extension Agents

Pecan Growers

MyIPM App Collaborators:

Guido Schnabel (Clemson University)

Brett Blaauw (UGA)

The Southern Integrated Pest Management Center

Fostering the development and adoption of IPM in the South

USDA

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