Listening Sessions on Eastern Tree Fruit Farms: North Carolina & South Carolina

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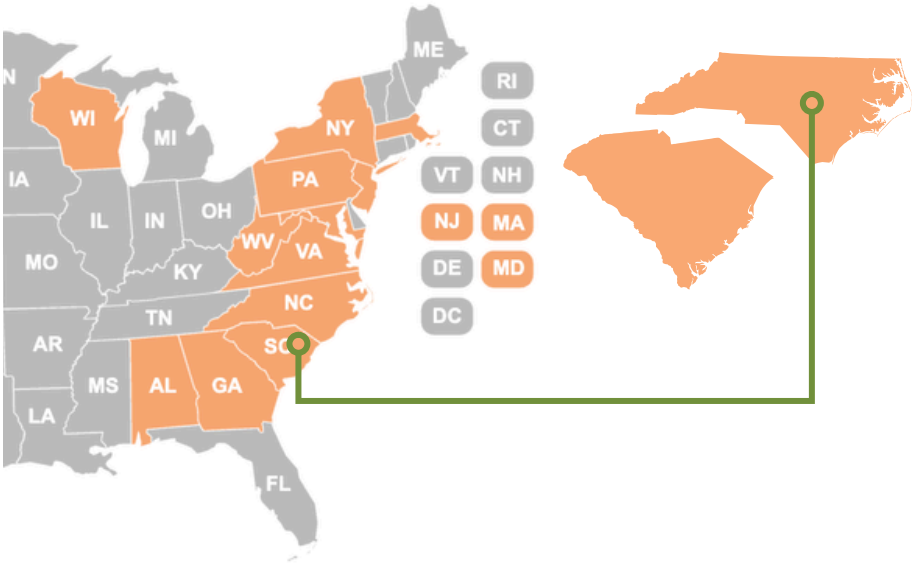
Seven listening sessions were held across various U.S. regions in early 2025 as part of a four-year USDA-funded project called, ***Cultivating Tomorrow's Orchard: Evolving and Enhancing IPM in Eastern Tree Fruit Systems.*** Each session focused on gathering the experiences, challenges, and needs of orchard owners and managers regarding pest management, Integrated Pest Management (IPM) adoption, regulatory constraints, economic pressures, and weather pattern impacts. This fact sheet summarizes results from a listening session that took place over Zoom. Participants included both North Carolina and South Carolina orchard owners and managers. Participants grow peaches, apples, pumpkins and other crops. Participants sold to major retailers, direct to consumers and some wholesale.



Key Pest Challenges

- **Brown Marmorated Stink Bug (BMSB)**
- **San Jose Scale**
- **Eastern Peach Scale**
- **Oriental Fruit Moth**
- **Codling Moth**

Produced with funding from USDA NIFA SCRI 2024-05413.

Special thanks to the growers who participated in the listening sessions.

Integrated Pest Management Strategies

- **Current Strategies:**
  - Brown Marmorated Stink Bug (BMSB): Heavy reliance on pyrethroid sprays despite concerns over environmental impact.
  - Mating Disruption: Successfully used for Codling Moth, Oriental Fruit Moth, and Plum Curculio.
  - Pheromone Trapping: Experimentation with pheromone baits and trapping models.
  - Scouting & Phenology Models: Manual monitoring remains a primary pest detection method.

Social & Regulatory Challenges

- **Consumer Perceptions:**
  - Growers frequently address customer concerns about pesticide use at farmers' markets and direct-to-consumer outlets.
- **Neighbor Complaints:**
  - Some residents test for pesticide drift, adding pressure on growers to maintain transparency and compliance.
- **Walmart's Mandatory Audited IPM Program:**
  - Introduced new requirements for pollinator and biodiversity management.
  - Requires detailed scouting reports and justification for all pesticide applications.
  - Increased paperwork and compliance burdens.
- **EPA Fungicide Regulation:**
  - Possible bans on broad-spectrum ungicides (Captan, Ziram, Mancozeb), critical for fruit production.
  - Past pesticide bans (e.g., Chlorpyrifos) led to higher-cost alternatives.
- **Future Government Regulations:**
  - Growers expect IPM regulations to evolve similarly to food safety regulations, with mandatory federal compliance programs in the future.

Economic Considerations

- **Cost of Pest Applications**
  - Mating disruption techniques offer cost savings over broad-spectrum insecticide sprays.
  - However, maintaining a marketable crop outweighs cost concerns during the growing season.
- **Rising Operational Costs:**
  - Labor costs have risen by 37% in the past five years.
  - Pesticide and input costs increased by 15-20%.
  - Small and medium farms struggle with record-keeping and compliance costs.

Environmental & Weather Concerns

- **Soil Health & Microbial Impact:**
  - Heavy pesticide use is reducing beneficial microbes and nematodes in the soil, potentially weakening tree immune systems.
  - Research is needed to explore how microbial restoration can improve orchard longevity.
- **Extreme Weather Pattern Effects**
  - Warmer temperatures increase pest populations, with pests emerging earlier in the season.
  - Rapid Apple Decline (linked to Ambrosia Beetles) is a growing threat in apple orchards.

Research Priorities

- **Brown Marmorated Stink Bug Control:**
  - Threshold models for border sprays: Help growers determine when and where to apply treatments.
  - Biological control using *Trissolcus japonicus*: Evaluating parasitoid releases for natural stink bug suppression.
  - Attraction-based control methods: Developing bait stations or pheromone-based traps to reduce reliance on pyrethroids.
- **San Jose Scale Management:**
  - Phenology Models: To predict scale infestation cycles and reduce unnecessary sprays.
  - Alternative Control Methods: Exploring mating disruption and biological solutions.

Communication Preferences

- **Growers rely on multiple sources for timely pest management updates:**
  - NC State Research Portal (Email-based updates with archived resources).
  - Michigan State's "Coffee Chats" (Weekly Zoom meetings with grower participation).
  - Chemical suppliers as a key "water cooler" for information exchange.
- **Preferred Communication Strategy:**
  - Push-based updates (email, text, or mobile alerts).
  - A centralized online portal for past research findings.
  - Regional Zoom meetings with optional broader research briefings.

Concluding Thoughts

- Growers emphasized the importance of timely, accessible, and regionally relevant pest management updates.
- Walmart's influence on IPM adoption was a significant driver of pest management changes.