Southern Region Small Fruit Consortium Grant Progress Report - Outreach

Title: Strategies for Managing Neopestalotiopsis in Commercial Strawberry Production-Producer and Agent Training

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Public Abstract:

Strawberry growers across the Southeast are facing significant challenges from Neopestalotiopsis (NPT), an aggressive fungal disease now affecting every stage of plant production. Recent NPT species have caused severe yield losses and, in some cases, complete field failures. Because the pathogen persists in southeastern conditions, growers must rely on early detection and strong integrated pest management (IPM) to protect their crops. Grower surveys confirm that NPT is their top concern. Many reported that fungicide programs were only moderately effective or ineffective during the past season. To address this, growers received training on NPT biology, symptom recognition, cultural practices, and fungicide program design. Hands-on demonstrations, laminated reference sheets, and discussions with researchers and industry stakeholders helped strengthen disease awareness and management skills. The meeting also opened the door to potential partnerships with western nurseries supplying disease-free plants. The main focus of this project is teaching growers how to avoid or manage NPT while maintaining sound fungicide rotation strategies that also protect against other economically important diseases such as Botrytis and Anthracnose.

Introduction:

The strawberry industry throughout the Southeast US is facing a significant obstacle as we enter the 2024/2025 growing season. A potentially devastating disease, NPT, has affected every sector of the industry; including tip production, plug production, and field grown operations. NPT is a

fungal pathogen with multiple species impacting strawberry production. Recently identified species have proven to be extremely aggressive and have significantly impacted strawberry yields infecting both foliage and fruit. In recent years, many strawberry fields have been destroyed due to this pathogen's ability to persist in our southeastern climate. Early detection as well as adhering to sound IPM practices is crucial for maintaining a healthy strawberry crop when dealing with this disease. While some symptoms of this disease may appear similar to other leaf spot diseases of strawberry, management practices differ greatly when compared to other foliar diseases. Because of this, growers must be keenly aware of symptoms of this disease and how to properly address issues during the growing season. Grower adoption of an adequate IPM program will be an important aspect of this project. Utilizing cultural practices and developing a sound fungicide program are vital to preventing infection.

By utilizing in-person meetings, participants will be able to experience first-hand how to identify this pathogen and learn what resources are available to help with identification. A significant portion of this project will also focus on fungicide mode of action rotation and how to utilize current EPA approved products at crucial times of the growing season. Because of the importance of botrytis fruit rot and anthracnose fruit rot fungicide applications, careful consideration must be given to controlling NPT without increasing the likelihood of fungicide resistance to these other fruit rot diseases. Through these grower and agent trainings, participants will be educated on NPT management while also considering season-long fungicide recommendations to protect against all potential pathogens targeting strawberry production. Due to travel and scheduling differences, not all of those who are interested in attending will be able to. Therefore, meetings will be recorded and disseminated through multiple media outlets to inform a broad audience. Research has shown that viewers are more likely to watch multiple short videos rather than one long video. Because of this, videos will be edited and broken down into specific topics which will be more appealing to viewers. In addition to these recordings, timely video blogs and articles will be submitted to inform growers of findings throughout the year.

The Southeast Regional Strawberry Integrated Pest Management Guide in an invaluable resource for strawberry producers and Extension personnel. This guide provides the latest information on pest management strategies as it relates to pesticide selection, efficacy, and safety. While it is available online, many growers and Extension personnel benefit from having the guide in printed form. Because many strawberry operations in the Southeast are in rural areas, internet service is not always a guarantee when growers are making IPM decisions in the field. Making the guide available in printed form will help many growers who depend on this valuable resource.

Description of Outreach Activity:

Industry stakeholders who are key players in the strawberry plant supply chain participated in the program and shared their outlook for the strawberry industry in light of the fungal disease Neopestilotiopsis (NPT), including opportunities to expand availability of disease-free plants for Alabama and the broader Southeast.

A survey was developed to gauge growers' willingness to adopt IPM practices for managing NPT. Plant pathology researchers presented what we currently know about the effectiveness of labeled fungicides for NPT control, along with cultural management tools that should be used in combination with chemical applications.

Strawberry growers were updated on cultivars that appear to show some level of tolerance to NPT. These cultivars will be included in our variety evaluations, and we plan to present those data at upcoming meetings before growers begin placing plant orders.

Finally, attendees will receive training on how to properly inspect transplants for signs of the disease and how to handle plants prior to planting so they can reduce the risk of introducing NPT into their fields.

Results or Outcome:

Despite ongoing challenges with NPT, strawberry acreage is expected to increase in the coming year. Results from the grower survey indicated that 31% of attendees at the annual strawberry meeting were most concerned about NPT, followed by 28% who were primarily concerned about potential weather-related damage. Anthracnose accounted for 21% of growers' concerns, Phytophthora for 13%, and 7% expressed concern about overall plant quality.

Growers received additional training on the biology of the NPT fungus—its longevity, pathways for spread, and the conditions that favor infection. Laminated handouts with color photos of symptoms, the disease cycle, and common look-alike problems were provided. A roundtable discussion with researchers and industry stakeholders allowed growers to ask practical, management-focused questions about how their production practices might affect disease spread.

This past year, many growers faced a difficult choice: purchase plants that were likely infected or forego the strawberry season altogether. During the meeting, growers were informed of the potential consequences of planting infected material, which can range from shortened harvest seasons to complete crop loss. Several growers with confirmed NPT in their fields reported that their fungicide programs were either only moderately effective or not effective at all, with NPT-related losses ranging from 5% to 100%.

Growers were also informed of nurseries in the western United States that are known sources of disease-free strawberry plants. Importantly, the meeting helped initiate what may become a productive partnership between these nursery stakeholders and Alabama growers moving forward.