Texas AgriLife Extension

Texas PD Notes

AgriLIFE EXTENSION
Texas A&M System

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Texas Pierce's Disease Research and Education Program

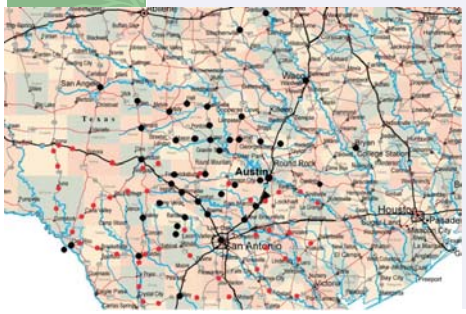
The "Other" Vector Trapping Program

While many growers are familiar with the APHIS Pierce's disease vector trapping program that has been in place for the past five years, there is however another monitoring program that has quietly been conducted. The insect group stationed at the PD Research Lab in Fredericksburg under the leadership of Isabelle Lauziere has sought to understand the basic biology of PD vectors over the winter and through early spring. This over-wintering survey is comprised of trapping and observation points across central Texas. The area is roughly bounded by Waco to the north, College Station to the east, Crystal City to the south and Ozona to the west. Recent conversations with the team revealed some notes of interest.

We are now all too familiar with the mass migration of Glassy-winged sharpshooter into Texas vineyards around Memorial Day, but as we get later into summer, numbers fall off due to high parasitism, especially egg predators. While fewer in number, surviving adults are more commonly "hot" with the bacterium and quite capable of infecting grapevines. Trap catches dramatically fall off through autumn and GWSS, as most other sharpshooters in our area, over-winter as adults. But where are they?

As deciduous trees lose their foliage, GWSS shifts feeding hosts and seek out evergreen species such as yaupon holly, yucca and live oak. Throughout December and January, sharpshooters become increasingly difficult to find. The group noted that during deep winter, when GWSS are found, for some reason the populations they collect appear to be predominantly males. At this time of the year, sharpshooters appear to actively seek shelter from cold weather and move into crevices of tree bark or even concrete to reduce exposure to the elements.

Winter feeding hosts in central Texas also include agarita and mountain laurel, especially as they bloom. By late March, over-wintering adults die off and very few males can be found. This probably means all mating of over-wintering adults has stopped, and males are no longer needed for survival of the species. The same fate awaits females after they have deposited their eggs. We are currently seeing active egg deposition at this time of the year and indeed some of the first eggs deposited on oviposition hosts are beginning to hatch. Mountain laurel is an especially favored host for egg-laying for the first generation, but egg masses can also be found on live oak at this time of year. There appears to be an overlap of generations in spring whereby some of the earliest hatching eggs produce adults capable of reproduction while the end of the over-wintering females finish their jobs. From an evolutionary prospective, it makes good sense for females to chose a wide variety of plants to choose for egg-laying. Oak, redbud, ash, elm, sycamore are all common



Sharpshooter Overwintering Trapping and Observation Sites

***Agarita (Berberis trifoliate)* serves as an important winter and spring feeding host for GWSS in central Texas**

Egg Masses & 1st Generation GWSS Nymphs on Mountain Laurel

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Additional Articles Contributed by Members of the Texas Pierce's Disease Research and Education Program

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"Other Trapping Program", Continued

feeding and reproductive hosts. This said, there are favored choices and some obscure particulars. *Nandina* is a favored egg host, but the group has never seen sharpshooters feeding on them. Later in the season crepe myrtle becomes both a common feeding and oviposition host, but for some reason, sharpshooters prefer dark flowered cultivars (deep red is their favorite) over white flowered ones. With *Vitex*, purple is a strongly favored feeding host while white is selected for reproduction.

The question is commonly asked "Well you tell us what they like, what plants do sharpshooters not like?" The answer is nothing. Just like humans, if they are hungry enough, they will eat anything. In rearing cages, sharpshooters will feed on plants that they avoid in nature.

Another interesting fact is that GWSS in captivity favor feeding on weak or stunted tissue. The question is whether they prefer stunted growth or that feeding is the cause of stunting. In nature, they favor feeding on "sucker" growth of trees. This phenomenon appears true on oaks, mountain laurel, crepe myrtle and other plants that readily produce basal growth. One big question remaining is what environmental or plant cue prompts sharpshooters to enter vineyards in large numbers toward the end of the year.

While this study continues to reveal cryptic details of how sharpshooters survive in their native habitat, every detail represents a piece of the puzzle. As more detail is added, the picture becomes clearer and weaknesses in sharpshooter biology can be identified. Ultimately this work is setting the stage for management strategies that can be employed to limit the risk these vectors pose. We have learned much in the past six years and with every find, our industry grows more sustainable, even in the presence of Pierce's disease.

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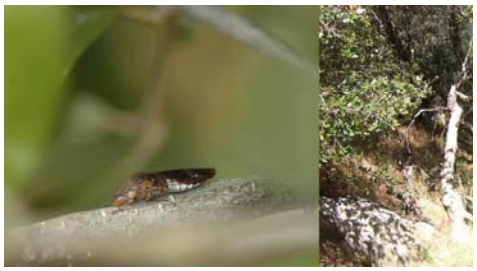
Sharpshooter photos in this article by Dennis Voulgaris



The Abundance of Live Oaks Probably Plays a Major Role in Winter Sharpshooter Survival in

The Fredericksburg Insect Group works under the direction of Dr. Isabelle Lauziere and includes (left to right): Marlene Nebgen, Isabelle, Dennis Voulgaris, and Aaron Hassell

2008-2009 Grower Advisory Board Seated

The Texas PD Grower Advisory Board is charged with keeping research and education goals in line with grower needs. Board chair Joy Johnson has announced the ballot results for open seats on the board. For the 2008/2009 funding cycle, board members now include:

Robert Boehm
Old Spanish Trail Vineyard
Bakersfield, TX

Les Constable
Brushy Creek Vineyard & Winery
Alvord, TX

Bobby Cox
High Plains Winegrower
Lubbock, TX 79403

Gary Elliott
Driftwood Vineyards
Driftwood, TX

Gene Estes (Secretary)
Lone Oak Winery
Burleson, TX

Anthony Fasano
Leaning Oaks Vineyards
Spring Branch, TX

Jim Johnson
Tio Pancho Ranch Vineyard/Alamosa Wine Cellars
Bend, TX 76824

Joy Johnson (Chairman)
Granite Hill Vineyards
Willow City, TX

Andy Martin
Martin Vineyard
Lubbock, TX

Rick Naber
Flat Creek Estate
Marble Falls, TX 78654

Michael Oubre
Rising Star Vineyards
Rising Star, TX

Susan Z. Steger
Tara Vineyard and Winery
Athens, TX , and

Margarette Williams,
Winegrape Grower
Burleson County, TX

Ex Officio Members Include:

Dacota Haselwood
TWGGA Executive Director

Dr. James Supak
Texas PD Task Force A&M Liaison

George Nash
USDA-APHIS-PPQ , and

David Kostroun
Regulatory Programs – Texas Dept. of Agriculture

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2008 Texas PD Research Symposium Slated for Wednesday, April 30th at the Thurman Mansion at the Salt Lick, Driftwood, Texas

Plans are now being finalized for the upcoming research symposium next month. Here are pertinent Details

When: Wednesday, April 30th, 2008, 9am to 5pm.

Where: Thurman Mansion at the Salt Lick, Driftwood, TX

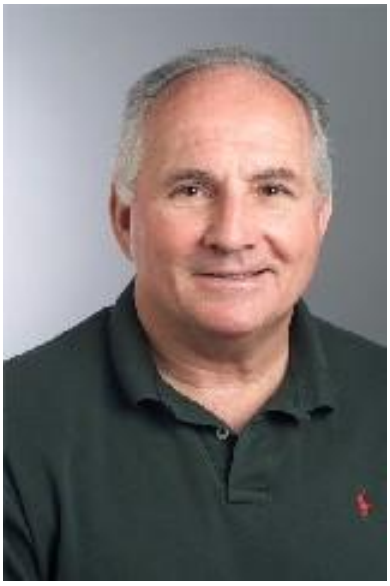
As we continue to rotate venues, this year our gracious host is the Salt Lick, home to rapidly expanding winegrape plantings in Hays County.

Registration this year is $40 and will include morning refreshments, a first-class BBQ lunch from the Salt Lick's own pits and a wine reception following the event. Attendance will be limited to 100 including speakers, so be sure to register while there is still space available.

The 2008 Texas PD Research symposium will feature a top-notch group of scientists with relevant findings that have a practical application in your vineyard operation. This year our featured keynote speaker is Dr. Nick Toscano, entomologist at University of California, Riverside and his presentation is entitled **" The Use of Neonicotenoid Insecticides in Managing Insect Pests of Grapevines".** Nick has been instrumental in the development of using imidicloprid (Admire) in vineyards and citrus groves. Respected by grower and research groups alike, Nick will present information on the strengths, weaknesses and practical application of these materials as well as what changes in materials we might expect in the next few years. If you have a vineyard at risk of PD, you need to know about the materials that represent our first line of defense against xylem feeding insects.

Other Symposium Presentations & Speakers Include:

*2007- New Directions in PD Epidemiology in Texas Vineyards-
David Appel
**Xylella's* Fingerprints- So Just How Did PD Get So Widespread?-
Lisa Morano
*The 2008 High Plains Trapping Program-
Isabelle Lauziere
*The Texas Plant Disease Diagnostic Lab Overview and PD Capabilities-
Larry Barnes
*Beyond the Glassy-winged Sharpshooter-
Jeff Brady & Forrest Mitchell
*Bacteria/bug Interface: Who, What, When and Where-
Blake Bextine & Forrest Mitchell
*Natural Enemies of *Xylella*-Phage and How They Might Just Be an Answer-
Carlos Gonzales



2008 Texas PD Research Symposium Keynote Speaker
Dr. Nick Toscano
University of California at Riverside