Texas Cooperative Extension

TEXAS PD NOTES

DECEMBER 28, 2007 VOLUME 3, ISSUE 3

Highlights From the California PD Symposium

This past week, researchers from across the U.S. and indeed from around the world met to exchange ideas at the seventh annual Pierce's Disease Research Symposium in San Diego, California. This meeting has evolved over the years and many attendees not only know each other now, but we follow developments in each other's work and have cultured professional cooperative relationships. As the available funding has become less available and directed toward specific projects, attendance has dropped, but its now down to the "hard core" group of scientists that are making good progress. Some key points of the reports follow:

GWSS Flight & Feeding

Sandy Purcell reminded us that Glassy- winged sharpshooters can fly for several kilometers, they do so when some environmental factor favors dispersal. While GWSS can selectively seek out plants under moderate drought stress, when water potential affects xylem flow, sharpshooters seek out new feeding and oviposition areas.

When they are not dispersing, the visual range for GWSS to identify and travel to feeding hosts is about 100 meters. This finding will help us refine our recommendations regarding proximity of riparian habitat to vineyards to that distance. The previous information in California and Texas recommendations was 30 meters, which represents the host visibility of smaller sharpshooter species.

Xylella sub-species

While researchers have long described strain differences in *Xylella* based on the plants they colonize, geneticists now recognize three broad groupings of *Xylella* strains that currently exist in the United States. The first subspecies has been named "*multiplex"* and includes strains that colonize ragweed, oak, sycamore, almond and peach. Another sub-species *"sandyi"* is described as the oleander strain. The remaining North American sub-species of greatest interest to us is "*piercei*" that causes Pierce's disease in grape. Among other scientists reporting on strain diversity, Texas' own Lisa Morano and Blake Bextine gave a well received joint presentation on *Xylella* strain diversity in Texas. As Texas growers are well aware, plant species in and around vineyards have been extensively sampled in an attempt to identify important sources of inoculum important for PD spread into vineyards.

Blake Bextine & Lisa Morano Offer Insight into Xylella Strain Diversity in Texas

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Symposium Highlights, Continued

From the over 70 isolates collected and cultured by Black, Appel and others, the only samples which contain the sub-species *piercei* are those which were recovered from either wild grape or cultivated grape. Even Heart-Leaf Ampleopsis (*Ampleopsis cordata*) a member of the Vitaceae family carries *multiplex*, not *piercei* strain of the bacterium. This fact and other DNA fingerprint data suggest that humans, not insects may be strongly implicated in some movement of grape pathogen from one vineyard to another across the state.

Xylella in South America

João Lopez, a researcher working on Citrus Varigated Chlorosis and Coffee Leaf Scorch addressed the disease complex as it currently exists in Brazil. The striking similarity is that the abundance of vectors and the seemingly widespread incidence of disease strongly resembles the epidemiology of Pierce's disease in Texas. For the Brazilian citrus industry, rouging of infected plants, the systemic use of imidicloprid and other neonicotinoids, vector monitoring with topical insecticides when warranted and the use of nicotinoid treated trap crops represents a multi-faceted disease management approach. We certainly have something to learn from the Brazilians.-*jk*

Texas Contingent of PD Workers Discuss New Texas Developments and Objectives for 2008

New PD Tolerant Grape Varieties To Be Evaluated in Texas

While vector and pathogen research can help us learn to slow the PD epidemic within our vineyards, the ultimate solution to this problem will be in learning how to deactivate the pathogen or the development of new varieties that can withstand the disease as do 'Black Spanish' or 'Blanc du Bois'. This coming year, new advanced selections will be planted at the PD Research Vineyard in Fredericksburg and perhaps at a grower location yet to be determined.

Among the new select-ions, Dr. Andy Walker grape breeder at U.C. Davis has offered us the opportunity to evaluate his three most advanced selections which are 87.5% *Vitis vinifera*. Andy's breakthrough was finding out that *Vitis arizonica* has all of its genes for resistance/tolerance on a single locus. Walker's group can perform laboratory tests to eliminate susceptible individuals allowing more time to select for fruit quality. This factor allows for the time-efficient breeding of tolerant varieties through classical means. Walker's lab made test lots of wine from a number of advanced selections this past year and all appear to have promise.

In addition to Walker's material, other new PD tolerant selections from USDA/ARS, University of Florida and the University of Arkansas will also be under evaluation. In order to propagate and evaluate this plant material, we will be required to sign a strict non-propagation agreement. If these selections stand up to high disease pressure and have good to acceptable wine quality, they may be released and made available in the not too distant future.-*jk*

Drs. Lisa Morano and Andy Walker at the San Diego PD Meetings

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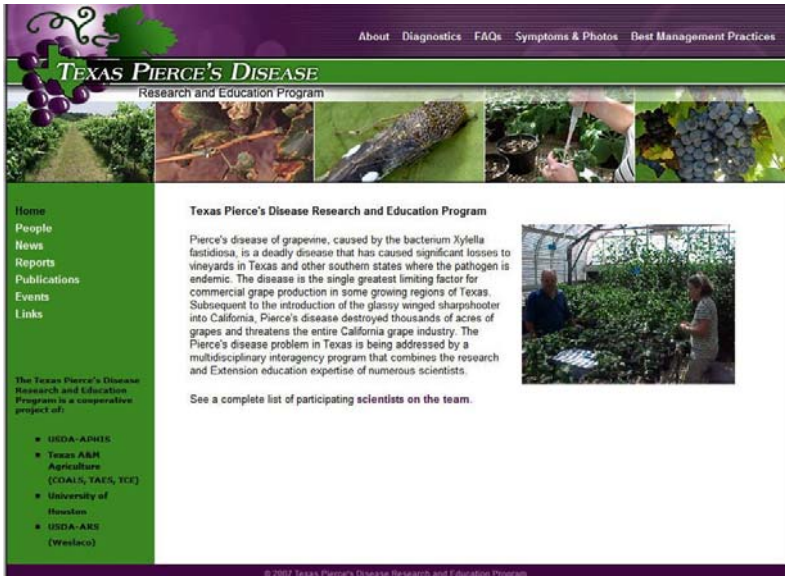
2007 Observations on New Selected Progeny with the PdR1 Resistance Source

Genotype	% Vinifera	Berry Color	° Brix	pH	TA
U0501-12	87.5	Black	29.4	3.87	0.68
U0502-01	87.5	Black	25.9	3.77	0.61
U0502-10	87.5	Black	23.7	3.48	0.85

New PD Website Up and Running



Starting in early fall of this year, the Texas Pierce's Disease Research & Education Program has a newly designed website offering news and educational material for growers at risk to this disease. This new site offers multimedia presentations on site selection, vector identification and management, diagnostics and a program overview.

While this site is revised and updated, it is indeed a work in progress. Suggestions on needed site content or improvement are welcome.

Note New URL!!!!!:

http://pd.tamu.edu/.html