Entomology research program on Pierce's disease

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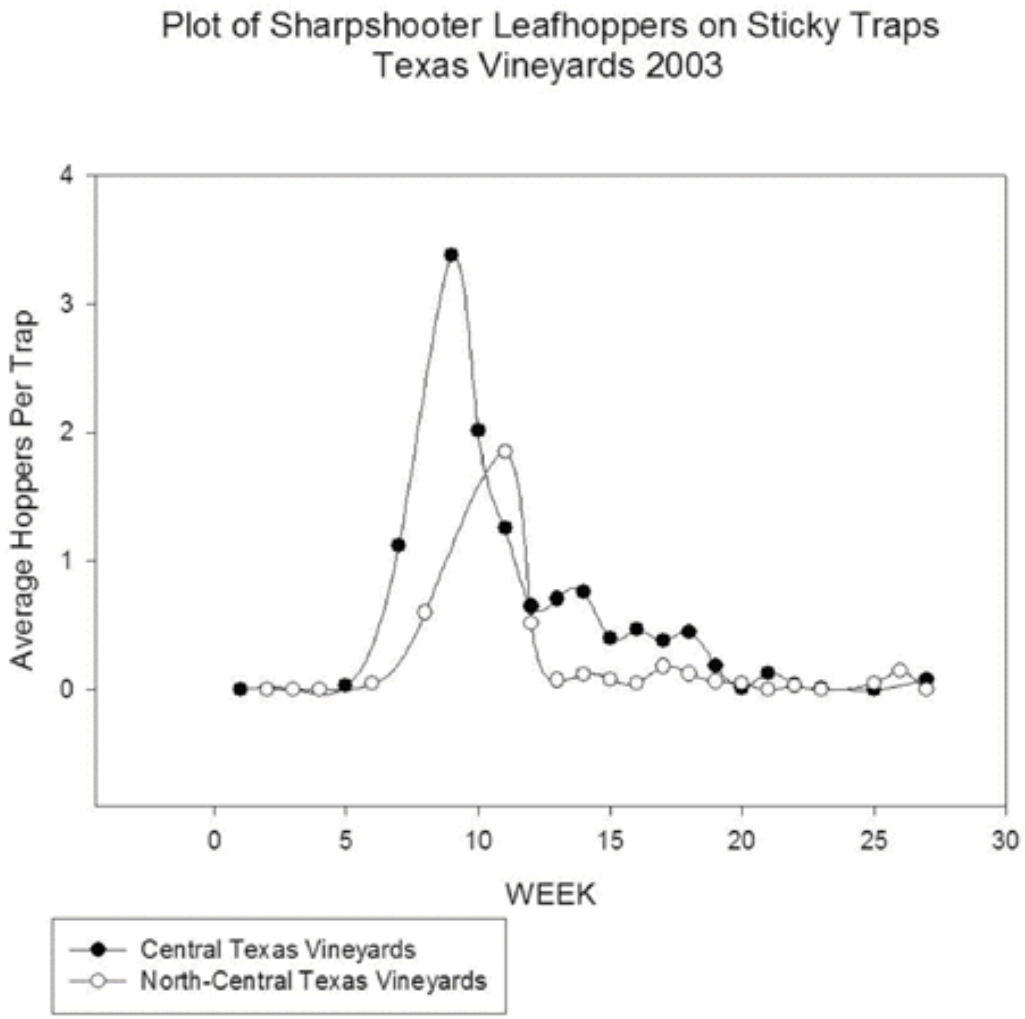
- Six Vineyards in central Texas and two vineyards (three sampling sites) in north-central Texas.
- Fifty two species of leafhoppers seen, others categorized by size.
- Each sampling site had five stations, one at each cardinal compass point, one in the center of the vineyard. Each station had four sticky trap faces, also oriented in cardinal compass directions.
- Traps were sampled biweekly in the early spring, weekly in the late spring, summer and and biweekly in the fall and winter.
- A total of 3,335 trap faces have been counted to date. Approximately 148 specimens have been submitted for formal identification.

Results - Sampling programs based on Taylor Power Law fits have been developed for Homalodisca sp. Correlation coefficients exceeded 97%.

Trapping Statistics	
If the # of Homalodisca sp. per trap average:	Number of trap stations needed to predict at a 20% level of accuracy
0.1	46
0.5	16
1.0	10
5	4
10	2
20	1

The 20% probability level is sufficient to predict population change either up or down and the program is flexible enough to accommodate any of the leafhopper species or species groups (including size groups) that we encounter in the Texas and California vineyards.



Homalodisca sp. leafhoppers are absent from counts early in the season, perhaps indicating they are not present in the environment. These leafhoppers appear in abundance central Texas before the do in north central Texas, lending support to the idea that they may be migratory. Counts in the figure above are cumulative by region, but counts varied dramatically between vineyards and the vineyard with the highest count is the one worst affected by PD. Generational peaks are evident in central Texas and are successively smaller, although the dramatic early peaks are exaggerated as a result of biweekly sampling. Subsequent peaks represent weekly sampling. The peaks are not as clear in north central Texas.