**S-1068 Meeting**

**Integrated Management of Pecan Arthropod Pests in the Southern U.S.**

**Noble Foundation, Ardmore, OK**

**March 21, 2017**

Attendees: Charlie Graham, LSU AgCenter; Donn Johnson, Univ. of AR; Charles Rohla, Noble Foundation, OK; Ted Cottrell USDA-ARS, GA; David Shapiro-Ilan, USDA-ARS, GA; Tiffany Johnson, NMSU; Phil Mulder, OSU.; Bill Ree, TAMU; Clarence Watson – Project advisor, AR

The project group, S-1068 was brought to order by project vice chair Dr. Charlie Graham, LSU AgCenter, March 21 at the Noble Foundation, Ardmore, OK. Dr. Charles Rohla of the Noble Foundation and the Noble Foundation hosted the meeting. The project group opened as the first year of a multi-year project under the new designation S-1068.

Dr. Clarence Watson, project advisor said that the NIMSS system had moved to Clemson S.C. Minutes from the last meeting (2016) will also need to be submitted before the 2017 minutes can be submitted. He also pointed out that only two with the system were attached (Donn Johnson and Jackie Lee) and emphasized for members to attach to the project. Discussions were also made concerning the contact of researchers from Arizona and California to see if they would like to participate in the project group.

A discussion was held to determine the meeting location for 2018 and it was decided the project group would meet in conjunction with the Southeastern Pecan Grower Association annual meeting in Point Clear, AL. The SEPGA meeting usually takes place sometime during the last three weeks of February; however, no official dates have been set for the SEPGA meeting at this time.

Election was held for secretary for the 2018 meeting and Tiffany Johnson, NMSU was designated as secretary for the next meeting.

**Objective 1: Improved Monitoring and Forecasting Methods for Field Populations of Pecan Arthropods**

Bill Ree, TAMU: During 2016 some TX producers collected high numbers of pecan bud moth adults in pecan nut casebearer pheromone traps which created the possibility of using PNC pheromone to monitor pecan bud moth activity in pecan nurseries. Surveys of pecan orchards in the coastal area of Texas were conducted for infestations of the invasive tawny crazy ant. Currently TCA has been detected in 30 TX counties. A new county record for pecan weevil was discovered in Comal County during 2016. Pheromone traps for brown marmorated stink bug were set up around Fredericksburg, TX during 2016 but no detections were found. Wanted posters for BMSB were distributed to TX state parks which resulted in 2 interceptions (Gonzales and Burleson counties) of adults from campers and RV’s.

Phil Mulder, OSU: Monitoring of pecan nut casebearer activity was conducted with pheromone traps with data being reported to the pecan.ipmpipe website (<http://pecan.ipmpipe.org>) . There has been monitoring of invasive species, including captures of spotted wing drosophila and Formosa termite with no captures. An increase in hickory shoot curculio populations was also noted.

Tiffany Johnson, NMSU: Pecan weevil continues to be a problem in eastern NM with new detections from yard trees in urban areas. It is felt that some of these infestations are the result of infested nuts being brought into NM from west TX. Although there is a commercially available pheromone lure for pecan weevil, field trials have shown it to be ineffective. Monitoring for hickory shuckworm continues but not much activity has been reported. NMSU continues to look for better management tools for blackmargined aphid. Monitoring for pecan nut casebearer with pheromone traps continues.

Ted Cottrell, USDA, GA: Looking at pecan nut casebearer and height differential in pecan canopies but not seeing any damage. Reports that reproducing populations of brown marmorated stink bug are being found in pecan canopies in Byron, GA. Researchers still unsure how far south BMSB will be able to establish. Reports that lures only last a couple weeks and the yellow traps seem to collect more species of stink bugs than black traps.

Donn Johnson, AR: No monitoring at this time. Still waiting on funding for Dr. Jackie Lee.

Charles Graham, LSU: Monitoring for first generation PNC with pheromone traps but more emphasis is needed for third generation. In 2015, LA had problems with pecan leaf scorch mite and black pecan aphids and still seeing problems with pecan phylloxera.

**Objective 2: Improved control systems of pecan arthropod pests**

David Shapiro Ilan, USDA, GA: Conducted test for controlling pecan weevil with Grandevo biological insecticide and nematodes for an organic system. Grandevo @ 3 lbs per acre did as well as the standard carbaryl treatment. Also saw some control of blackmargined pecan aphid. Future tests will look at reduced rates of Grandevo for a more economical treatment. Observed that the soil cell created by pecan weevil larvae have some sort of anti-microbial properties which are not understood at this time.

Bill Ree TAMU: Bait stations containing a liquid bait of sugar water and 4% boric acid caused mortality of the tawny crazy ant in a commercial u-pick fruit and vegetable operation.

Tiffany Johnson, NMSU: Looked at imidacloprid spray volumes for pecan aphids and observed higher leaf concentrations at 50 gallons per acre than 100 gallons. Further investigation into spray volume will continue for other chemistries, such as spirotetramat, sulfoxaflor, and flonicamid. Insecticide trials with Carbine, Movento, Closer and Sivanto looked good against black pecan aphid and blackmargined aphid. Will be looking at organic methods for pecan aphids in 2017.

Ted Cottrell, USDA GA: Used ProGib against black pecan aphid with good results. Also, ProGib caused black pecan aphid to take longer to develop. Did not observe an impact on return bloom from the use of ProGib. Gibberellic acid (GA) does mitigate the chlorotic feeding injury caused by black pecan aphid. Working with Dr. Tom Phillips, Kansas State University, with sulfuryl fluoride (ProFume® fumigant) for pecan weevil.

**Objective 3.    Integrate Pecan Arthropod Pest Control Methods with Pecan Production Methods**

Bill Ree, TAMU: No active studies using trap crops for stink bugs currently being conducted, however, some producers are using the system in their insect management programs. The pecan insecticide list of labeled products for pecan has been updated for 2017. A data base of insects that feed on pecan is in development. The list will contain insects by feeding site; family, genus and species and common name if available, at least on literature citation and pictures of life stages and damage.

Ted Cottrell, USDA, GA: Using crape myrtles in pecan orchards to generate beneficial insects, however, crape myrtles acted as a sink for beneficial insects that migrated to the trees to feed on crape myrtle aphids.

 **Objective 4.    Develop real-time Decision Aids for Delivery on the Internet.**

Bill Ree, TAMU: Producers are recruited to run pecan nut casebearer pheromone traps and to submit data to pecan.ipmpipe.org for posting on the PNC Risk map. Producers that run traps also have available to them the PNC Forecast model to assist with predicting PNC oviposition and timing treatments when needed.