**S-1068 Meeting**

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

**Embassy Suites, San Marcos, Texas**

**July 15, 2018**

Attendees: Brad Lewis, NMSU; Barrett Moore, Noble Research Institute, OK; Charles Rohla, Noble Research Institute, OK; Bill Ree, TAMU; Angel Acebes, University of GA; Dennis Ring, LSU AgCenter; Ted Cottrell, USDA-ARS, GA; Phil Mulder, OSU; Charlie Graham, Noble Research Institute, OK; Tiffany Johnson, NMSU

* The S-1068 project group was brought to order at 1:15 pm on July 15th by project chair Charlie Graham. The meeting was held in conjunction with the Texas Pecan Growers Association 97th Annual Conference & Trade Show at the Embassy Suites in San Marcos, Texas.
* Dr. Clarence Watson, advisor to the S-1068 project, retired as of December 31, 2017. In response to his retirement, Dr. Henry Fadamiro from Auburn University has been assigned as the new project advisor.
* Minutes from the project meeting on March 21, 2017 at the Noble Foundation in Ardmore, Oklahoma were presented to the group. A motion to accept the minutes as presented was made by Phil Mulder, seconded by Ted Cottrell, and approved by majority.
* Two potential locations for the 2019 project group meeting were discussed: the Noble Research Institute in Ardmore, Oklahoma during the month of June, or in conjunction with the Oklahoma Pecan Growers Conference to be held June 12-14, 2019 in Ardmore, Oklahoma. It was decided that the choice would be made at a later time upon further site investigation.
* Election was held for the secretary position for the 2019 group meeting. Angel Acebes, University of Georgia, was designated for the position.

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

Brad Lewis, NMSU: Monitoring for pecan nut casebearer with pheromone traps has continued this year. Pecan weevil still persists on the eastern side of the state, thought to have moved in from vacationers and workers. The commercially available lure for pecan weevil is ineffective for what the state needs for detection of weevil at accumulation points and stop stations. With funding from the state, growers, and USDA, investigations of a pheromone lure has been started this year.

Charles Rohla, Noble Research Institute, OK: Students are currently working on imposing a laser to circle trunk traps for pecan weevil just below the cap. Information is collected when the laser beam is broken from the weevil entering the trap, which is sent up to one mile to a computer receiver. This system is inexpensive, as the receiver would be $40, and the laser would add $5 per trap. There was some talk about incorporating a camera in the future, which could add shading or imagery to the sensor.

Bill Ree, TAMU: The pecan.ipmpipe website is currently non-functional, however there are people working on the coding security issues keeping it offline. Primary feedback from growers has been that they miss the PNC forecast the most. Current recommendations for PNC treatment has been to go back to scouting fields by trap to determine spray dates. PNC populations were early last year, but were closer to historical emergence dates this year. Pecan budmoth was trapped at higher densities this year as well. Brewster County was added to the pecan weevil county list due to new sites detected in Alpine, Texas. Efforts have been made to spread information on pecan weevil, including creating pamphlets for homeowners, posters for regions that don’t currently have weevil, reproducing the commercial pecan weevil guide, and reaching out to the Master Gardeners. Monitoring has continued for granulated ambrosia beetle, which is considered a minor pest but can be a problem in younger trees.

Angel Acebes, University of GA: Collaborative trapping efforts have been underway on granulated ambrosia beetle to quantify numbers in low lying, flooded orchards. Beetle attraction is due to the ethanol produced by drought stressed, flood irrigated trees. The beetle attacks are believed to be secondary to the stress. Investigations on prionus root borer from Dr. Dutcher’s lab has continued. Samples collected using panel traps were baited with prionus sex pheromone. Samples thought to be broadnecked prionus, a species that attacks pecan, were actually a prionus species that attacks pine.

Ted Cottrell, USDA-ARS, GA: Brown marmorated stink bug has been monitored for in Georgia. Observations show that populations build in the woods and then spread to pecans late in the season. No observations have been made on pecan feeding by this stink bug, but plans are to perform those observations later this year. There are known native parasitoids for brown marmorated stink bug, including several that attack the eggs.

Dennis Ring, LSU AgCenter: Walnut caterpillar issues have been reported recently, which could be attributed to a lack of spray treatments. There are plans to present on prionus bug at the Tri-State Pecan Growers Association meeting in Raymond, Mississippi. There is possible development of an IPM model for prionus that will envelope tree health, interrupting ovipositioning by adults, and ground chloropyrifos treatments. A sequential sampling plan for pecan nut casebearer is available.

Charlie Graham, Noble Research Institute, OK: An increase of incidence has been seen with pecan nut casebearer this year, with more damage reported from growers as well. Treatments used has mostly been with Intrepid.

**Objective 2: Improved Control System for Pecan Arthropod Pests**

Phil Mulder, OSU: Pecan nut casebearer traps were given to 6 to 8 growers at workshops and they reported back captures. The information was then reported back to everyone else in the workshop. Most growers don’t reach thresholds on the first generation. However, if the first generation is not treated, then there will be problems with the second generation or fall webworm.

Ted Cottrell, USDA-ARS, GA: Studies have been conducted on Progib (gibberellic acid) as a treatment for black pecan aphid, which all cultivars are susceptible to in late season. Current findings show that the chemistry will slow black pecan aphid development and density by preventing the chlorotic spot created from feeding. Gibberellic acid also appears to help with leaf retention. The yellow pecan aphid does not create a chlorotic spot, so this treatment has little effect on their densities.

Brad Lewis, NMSU: Chemical control was used on early season blackmargined aphid populations. It appeared that chemistries deployed seemed to have less control than usual and needed to be reapplied 2 to 3 times to knock down populations below thresholds.

Angel Acebes, University of GA: Deployment of predaceous mites was performed using wet traps as a method of controlling plant feeding mites. There were also drone releases of predaceous mites higher in the canopy.

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

Bill Ree, TAMU: An insect database and pesticide list was created. However, there is no place to post these while the IPMpipe is down.

**Objective 4: Develop Real-Time Decision Aids for Delivery on the Internet**

Angel Acebes, University of GA: “My IPM” is an app that is a fact sheet/spray guide currently used in peaches. Included in the app are lists of insects and diseases, as well as chemical applications and rates. The app makers have been approached to see if pecan can be added to the crop list, but information on pests and effective pesticide control rates will be needed.A possible complication would be assuring the proper labelling for specific regions.

Bill Ree, TAMU: The long-term prognosis of the IPMpipe website is not good. There are currently technology, security and safety issues associated with the current webpage. The webpage also needs consistent work to maintain and update the content. There has been discussion on PNC scouting and monitoring becoming an application. There has also been some discussion with the Noble Research Institute hosting the webpage, but money has been a concern.

* Brad Lewis, NMSU: There is potential for farm bill marketing money. If and when this money comes into play, we can discuss bringing in money to support this project. Letters of support from the Noble Research Institute, Western Pecan Growers Association, South Eastern Pecan Growers Association, and the S-1068 group will assist in appropriating these funds for the support of the webpage. A budget from the Bill Ree and the Noble Research Institute would also be helpful.
* Ted Cottrell, USDA-ARS, GA: Southern Region IPM has the structure in place to support the webpage and could be an option to consider.
* Meeting was adjourned at 4:43 pm.