using bio-based manipulations, so the ES concept is readily applicable. Pollination and biological control are regulatory ESs used in IPM. Trap cropping for stink bugs, a related tactic, will be discussed for its potential use in multifunctional plots that provide a number of ESs.

9:20 [29]
Crape Myrtles, *Lagerstroemia indica* and *L. faurei* Are Important But Unknown Pollen Sources for Many Native and Exotic Pollinator Species in the Southern U.S. Russell F. Mizell, III and T. Charles Riddle. NFREC-Quincy, UF-IFAS, 155 Research Rd, Quincy, FL 32351-5684. rfmizell@ufl.edu

Crape myrtles are arguably the most widely-planted non-native ornamental plant species in the southern U.S. Previously, we have demonstrated the importance of this plant species in augmentation of predacious insects. Crape myrtles have large flower spikes that occur through the summer months in a range of colors. Flowers exhibit heteroanthicity and attract a wide range of pollinating insects. Results from a field study examining the Hymenopteran pollinators associated with crape myrtle will be discussed.

9:35 [30]
Thresholds for HLB Vector Control in Infected Commercial Citrus and Compatibility with Biological Control. Cesar Monzo and Philip A. Stansly. Southwest Florida Research and Education Center, Institute of Food and Agricultural Sciences, University of Florida, 2685 SR 29 N., Immokalee, Florida 34142-9515. cmonzo@ufl.edu

Three-year field experiments were initiated 2010 in two commercial orange blocks with high HLB incidence. Experimental design is RCB with 4 replicates and 4 treatments: (1) No insecticide, (2) Calendar applications (3) threshold of 0.2 psyllids/tap, and (4) threshold of 0.7 psyllids/tap. Yield loss will be related to the accumulated number of adults/tap as well as the average HLB titer as estimated using Q-PCR. Beneficial arthropods and secondary pests are also being evaluated by various methods.

10:10 [31]
Augmentative Release of the Parasitic Wasp *Tamarixia radiata* (Hymenoptera: Eulophidae) to Enhance Biological Control of *Diaphorina citri* (Hemiptera: Psyllidae) in Florida. Jawwad A. Qureshi and Philip A. Stansly. University of Florida, Southwest Florida Research and Education Center, 2685 SR 29 N, Immokalee, FL 34142. jawwadq@ufl.edu

Tamarixia radiata, is a species specific ectoparasitoid of *Diaphorina citri* Kuwayama, also known as Asian citrus psyllid (ACP). ACP vectors *Candidatus* Liberibacter asiaticus, a bacterium which causes huanglongbing (HLB) or citrus greening disease, now wide spread in Florida. *T. radiata* has been effective in controlling ACP in the islands of Reunion, Guadaloup and Puerto Rico. Initial releases of *T. radiata* in 1999 were made from a mixed colony imported from Taiwan and South Vietnam. Although a survey in 2006-2007 revealed widespread establishment of *T. radiata* throughout the state, incidence of parasitism was generally low. Therefore, we initiated a mass rearing and release program using the already established

strain and brought in new colonies from Pakistan, South China and North Vietnam. More than 270,000 adults of *T. radiata* from all 4 colonies were released during 2009-2011. Parasitism rates of up to 60% were observed at release sites during spring and summer compared to < 20% at sites with no releases, showing that augmentative release can potentially increase incidence of parasitism by *T. radiata* in the field, particularly during spring when young shoots and psyllids are abundant and natural parasitism rates low.

10:25 [32]
Novel, Hands-On Educational Methods for Pest Control Professionals. Ellen Thoms. Dow AgroSciences, 7257 NW 4th Bvld, #20, Gainesville, FL 32607. emthoms@dow.com

The presentation will review novel hands-on methods for training pest control personnel, including training facilities for control of wood-destroying pests, Washington State University Structural Pest IPM Facility, University of Florida School of Structural Fumigation, and the University of Georgia Pest Management Certificate Program.

10:40 [33]
Evaluation of Tuber Characteristics on the Larval Infestation Potential of the Andean Potato Weevil (*Premnotrypes Suturicallus*). Alfredo Rios. OARDC/Entomology Department, The Ohio State University, 1680 Madison Avenue, Wooster 44691. rios.43@osu.edu

Intensification of agriculture in the Andes has increased the use of high yielding over native potato varieties. This study evaluates the impact of tuber characteristics including tuber position within the potato hill on the larval colonization potential of the Andean potato weevil (*Premnotrypes suturicallus*). Evaluations were made in a native and a high yielding variety through the use of artificial infestations.

10:55 [34]
Evaluation and Implications of Andean Potato Weevil Infestation Sources for Its Management in the Andean Region. Alfredo A Rios and Jurgen Kroschel. OARDC/ Entomology Department, The Ohio State University, 1680 Madison Avenue, Wooster 44691. rios.43@osu.edu

This study quantified Andean potato weevil (*Premnotrypes suturicallus*) infestation sources in Peruvian crop rotation systems. Infestation sources were mainly potato fields with the highest infestation (89%) followed by olluco (*Ullucus tuberosus*) and oat (*Avena sativa*) fields having volunteer potato plants (35%) and fallow fields (20%). Weevil larval densities per plant showed that fields on 2-year potato rotations had eight times more overwintering weevils than 1-year rotations confirming the importance of potato crop rotations for weevil management.