

Pecan

U.S. Department of Agriculture <b>Accomplishments Report AD-421</b> U.S. Dept. of Agriculture, State Agricultural Experiment Stations and Other Institutions			Date (Month, Day, Year) 03/20/2012
1. Accession 0223215	Agency Identification No. 2. NIFA 3. LA.B	5. Work Unit/Project No. LAB94055	6. Status Annual Report
7. Title Integrated Management of Pecan Arthropod Pests in the Southern U.S.			
12. Investigator Name(s) (Last Name and Initials) Hall, M. J.			
20. Termination Date 09/30/2015		40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011	
Outputs: Results from insecticide efficacy trials for control of hickory shuckworm were published in Arthropod Management Tests and the Proceedings of the Western Pecan Growers Association Annual Conference. Insecticide efficacy rates for control of pecan nut casebearer and pecan phylloxera were presented to stakeholders at the annual meetings of the Tri-State Pecan Growers, Western Pecan Growers Association, and the Texas Pecan Growers Association. Results from the pecan phylloxera trials were submitted to Arthropod Management Tests for publication. Farm visits, newsletters, and e-mail updates transferred information to stakeholders. A video conference in conjunction with Mississippi State University provided growers in multiple counties of Mississippi with information on control of pecan phylloxera and pecan scab. Pecan insect pest management strategies were also discussed at a pecan management short course hosted by the Louisiana Pecan Growers Association. Research updates and insect pest management information also was presented to Arkansas pecan producers at the Four-States AgExpo, Texarkana, Arkansas.			
Outcomes/Impacts: Pecan phylloxera emergence studies were conducted at two sites; one near Melrose, Louisiana, and the other south of Shreveport, Louisiana. Emergence patterns in 2011 were similar to those observed in 2010 at both sites. At Melrose, onset of emergence was observed to occur on 10 March, peak emergence on 6 April, and duration of emergence approximately 55 days. At the Shreveport location, onset of emergence occurred on 9 March, peak emergence on 12 April, and duration of emergence approximately the same at 56 days. The orchard at Melrose is about 80 miles south of the Shreveport orchard, and the bud development of the 'Desirable' trees was slightly ahead of bud development of the 'Success' trees at the Shreveport location. Peak emergence was observed to occur at approximately the same stage of bud development (leaves unfurled to early leaf expansion), making it possible to schedule insecticide applications on bud development. This will be useful for growers who have difficulty in monitoring phylloxera emergence. Results from a trial to evaluate the efficacy of a single application for control of pecan phylloxera indicated that the optimum time to make the application is when bud development is in the range of the leaves being unfurled to early leaf expansion. This period coincides with peak emergence has occurred and gall initiation. Trees treated with a single application of Movento, Centric, Fulfill, and Trimax Pro for control of pecan phylloxera had significantly fewer galls than the non-treated trees. Trees treated with a single application of HGW86, Intrepid, Altacor, and Proclaim had significantly fewer nut clusters damaged by pecan nut casebearer than the non-treated trees. In a second trial, trees treated with Altacor and Intrepid had significantly fewer nut clusters damaged than the non-treated trees. Many of these products are effective and have modes of action that are different from products currently labeled. Delaying the development of insecticide resistance is more successful when insecticides with a greater diversity in modes of action are available.			
Publications: Hall, M. J. and K. S. Burnham. 2011. Control of hickory shuckworm in a commercial pecan orchard with selected insecticides, 2010. Arthropod Management Tests. doi; 10.4182/amt.2011.D19.  Hall, M. J. and K. S. Burnham. 2011. Two trials for control of hickory shuckworm in a commercial pecan orchard, 2010. Arthropod Management Tests. doi: 10.4182/amt2011.D20.  Hall, M. J. and K. S. Burnham. 2011. Hickory shuckworm: biology and control. Proceedings, Annual Meeting of the Western Pecan Growers Association. Vol 45: 13-19.			
Participants:			

M. J. Hall (PI), K. S. Burnham, LSU AgCenter, Syd Burt, Cat Island Plantation, Benton, LA; Kristy Jones, Melrose Plantation, Melrose, LA; Richard Elston, Greensleeves Plantation, Shreveport, LA; Mike Volentine, Soda Fount Plantation, Dixie, LA; and Roger Wilson, Honey Bayou Farms, Harmon, LA. Scientists, extension personnel, and stakeholders participated in a Pecan Research/Extension Planning Conference held in Ardmore, OK, to develop grant proposals for submission to SCRI.

Target Audiences:

The target audience for this project are members of the S1049 Multi-State Project 'Integrated Management of Pecan Arthropod Pests in the Southern U.S.'; pecan producers in Texas, Oklahoma, New Mexico, Arkansas, and Mississippi. Additional target audiences include pecan horticulturists, plant pathologists, crop consultants, agchemical representatives, and others involved in pecan related businesses. Additional audiences include home owners with pecan trees and the general citizenship who have an interest in pecans.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
		