

Western IPM Center Grants Program

Western Region Urban Pest Ant Workgroup Report

September 14, 2008

A. Grant Data

- Grant #: 956006142W
- Title: Integrated Pest management of Ants of Urban Importance in the Western Region
- Type: Workgroup Project
- Lead Investigator: Michael K. Rust, Department of Entomology, University of California, Riverside, Riverside, CA 92521-0314, (951) 827-5327, (951) 8273086 (FAX), michael.rust@ucr.edu
- Team Members: Paul Baker (Professor, University of Arizona), Pat Coops (Regional Manager, Orkin Pest Control), David Cox (Research & Development, Syngenta Corp.), Les Greenberg (Specialist, University of California Riverside), Laurel Hansen (Lecturer Spokane Community College), John Kabashima (Orange County Director, UC Coop. Extension), John Klotz (CE Specialist, University of California Riverside), Donald Reiersen (Staff Research Associate, University of California Riverside), Neil Reimer (Control Branch Chief, Hawaii Department of Agriculture), Mark Robertson (Staff Environmental Scientist, California Department of Pesticide Regulation), David Tamayo (Sacramento County Stormwater), Cheryl Wilen (Area IPM Advisor UC Coop Ext.), Keith Willingham (Vice President Technical services, Western Exterminator Co.).
- States involved: Washington, California, Arizona, and Hawaii
- Funding year: 2008
- Funding amount: \$10,000

B. Non-technical Summary

Ants are the major urban pests throughout the western region of the United States. The major objectives of the workgroup was to identify which species are the most important urban pests in the western region and to determine which important knowledge gaps exist in terms of ant control and management. The workgroup consisted of a regional group of stakeholders, including extension specialists, researchers, and pest management professionals (PMP's) working in ant Integrated Pest Management (IPM). Potential research topics included the reduction in the amounts and timing of pesticide applications to control ants, the incorporation of baits and least toxic approaches, and the reduction in the amount of insecticide that might run-off after rains or irrigation events.

C. Objectives

The overall objective of the Western Region Ant Workgroup was to identify the research and extension priorities for ants of urban importance throughout the western region. The following action points will be incorporated into a comprehensive research proposal that focuses on developing Integrated Pest Management (IPM) strategies that reduce the amount of insecticide used to control pest ants in urban environments, thereby reducing or eliminating

potential insecticide runoff into watersheds and adverse effects on non-target animals and other organisms.

Topic 1. Development and documentation of the efficacy of pest management strategies that reduce the amount of insecticide applied around structures to control pest ants.

Specific approaches to reducing the amount of insecticides applied including the use of baits, low volume and site-specific applications. The use of ant baits may reduce the amount of insecticide applied to control ants by more than 100-fold. However, two major obstacles to the widespread use of baits are that current baiting programs are labor intensive and bait preference and efficacy vary among ant species. To reduce the amount of labor, changeable bait stations and disposable stations need to be developed and evaluated. To increase bait acceptance by species throughout the Region, regimens of protein and sweet-based baits will be tested. Few protein baits are readily accepted by Argentine ants, carpenter ants, and fire ants early in the season when the colonies are producing brood. Later in the summer, sweet-based baits are more readily accepted. Alternate baiting regimens will be evaluated. Some species in Hawaii and introduced invasive pest species on the mainland are arboreal and require special formulation and placement in order to be effective. A second approach to reduce the amount of insecticide applied is precision applications along ant trails and around potential nesting sites. Active ingredients that provide slow knockdown activity, delayed toxicity and potential for horizontal transfer will be evaluated in these studies.

Topic 2. Development of strategies that reduce the frequency of insecticide applications.

Many pest management professionals (PMPs) market pest control services in which they routinely apply insecticides according to specific calendar timing rather than on an 'as need' basis. Monitoring, surveillance, or observation before treatment to determine the necessity of treatment is usually not an option. Ant control is often a part of a larger, more encompassing pest control service. To decrease the frequency of insecticide applications, strategies that emphasizes inspections, monitoring, and treating active infestations will be emphasized. Insecticides will be applied only when ants are present or troublesome.

The reduced spray treatments and baits will be evaluated in this approach and the amounts of insecticide will be compared to traditional service. The emphasis will be on reducing the amount and cost of the insecticides being applied. These IPM strategies must be competitive and acceptable to homeowners and customers.

Topic 3. Development of strategies that will reduce potential insecticide runoff into urban watersheds.

Sprays and granules are routinely applied around structures without concern for their potential run-off in storm drains after irrigation or rain events. With the detection of insecticides in urban water run-off, this issue has gained increasing attention and concern. Changes in irrigation practices as well as application practice may have dramatic effects on the potential run-off. For example, reduced-flow sprinkler heads designed to lower water runoff and better timing of the irrigation process may reduce runoff. Another method may be to avoid applying insecticides near French drains that remove excess water away from flower beds and lawns.

To examine the impact of changes in irrigation practices and insecticide applications, water run-off samples will be tested for insecticides. Studies will focus on those application techniques that reduce insecticide run-off.

Topic 4. Demonstrate cost-effective control measures to control ants utilizing low impact IPM programs.

The acceptance and adoption of low-impact IPM strategies to control ants will depend upon us demonstrating that these strategies are economically feasible. With the help of PMPs, these strategies will be compared to conventional services. Customer satisfaction and economic considerations will be determined for each treatment.

Procedure

Fifteen participants were invited to a two-day workshop on the campus of the University of California, Riverside. Each of the participants prepared a Power Point presentation outlining the important urban pest species and issues in each of their states. On the second day, specific research topics and issues in each state were discussed. A priority of research needs and direction were identified.

Western Region IPM Ant Workshop August 20-21, 2008

Wednesday August 20, 2008 UCR Cooperative Extension Center

8:00 a.m.	Registration
8:30 a.m.	Welcome and Introduction – Michael Rust
8:45 a.m.	Research Priorities in California – John Klotz
9:15 a.m.	Urban Ant PMA Project – Donald Reiersen
9:45 a.m.	Research Priorities in Arizona – Paul Baker
10:15 a.m.	Coffee Break
10:45 a.m.	Urban Pesticide Water Runoff – Dave Tamayo Santa Margarita Region MS4- Permit – Pyrethroid Evaluation – Jason Uhley
11:15 a.m.	Research Priorities Hawaii – Neil Reimer

11:45 a.m. – 1:00 p.m.	Lunch (catered)
1:00 p.m.	Research Priorities in the Pacific Northwest – Laurel Hansen
1:30 p.m.	Industry Perspective – Keith Willingham
2:00 p.m.	Regulatory Perspective (IPM initiative) – Mark Robertson
2:30 p.m.	Red Imported Fire Ant Update – Les Greenberg
3:00 p.m.	Coffee break
3:30 p.m.	Extension and PMA Website - Cheryl Wilen
4:00 – 4:45 p.m.	Roundtable discussion
6:00 p.m.	Dinner

Thursday August 21, 2008	
8:30 a.m.	Coffee (Entomology Conference Room)
9:00 a.m.	Strategy session
10:30 a.m.	Coffee break
11:00 a.m.	Strategy session
12:00 – 1:00 p.m.	Lunch - Catered
1:00 – 3:00 p.m.	Drafting Research Objectives
3:00 p.m.	Coffee break
3:30 p.m.	Assigning Tasks
5:30 p.m.	Dinner

D. Results

The research presentations on August 20, 2008 will be posted on the Urban Pest Management Website maintained by the University of California and the Urban Ant Pest Management Alliance website (<http://groups.ucanr.org/UrbanAnt/>).

Specific members of the team have been assigned tasks and are currently compiling data and information to submit in a large and comprehensive IPM project for urban ant control in the

Western Region. The projected completion date is December 2008 for the final research proposal.

E. Appendices

List of Participants

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