

INTERAGENCY AGREEMENT – WSU & SFCC (Elmann Award: “Efficacy of granular and gel baits placed in laboratory trial colonies with and without larvae for carpenter ants (*Camponotus modoc*) and odorous house ants (*Tapinoma sessile*)”)

**INTERAGENCY AGREEMENT
BETWEEN
WASHINGTON STATE UNIVERSITY
AND
SPOKANE FALLS COMMUNITY COLLEGE**

THIS INTERAGENCY AGREEMENT (the “Agreement”) is by and between Washington State University, an institution of higher education and agency of the state of Washington (hereafter referred to as “WSU”), and Spokane Falls Community College, an institution of higher education an agency of the state of Washington, located in Spokane, WA (hereafter referred to as “SFCC”).

IT IS THE PURPOSE OF THIS AGREEMENT to memorialize the terms and conditions under which “Efficacy of granular and gel baits placed in laboratory trial colonies with and without larvae for carpenter ants (*Camponotus modoc*) and odorous house ants (*Tapinoma sessile*)” will provide from January 1, 2014 to December 31, 2014.

NOW, THEREFORE, the parties agree as follows:

I. STATEMENT OF WORK

Each party shall do all things necessary for and incidental to the performance of the duties set forth below.

A. Duties of WSU:

1. Reimbursement of qualified project expenditures by award invoicing.
2. See RFP (att. 1) and Proposal (att. 2)

B. Duties of SFCC:

1. Conducting approved proposal with timely reporting and invoicing.
2. See RFP (att. 1) and Proposal (att. 2)

II. PERIOD OF PERFORMANCE

Subject to its other provisions, the period of performance of this Agreement shall be for one (2014) year, and shall commence on January 1, 2014, and be completed on December 31, 2014 (the “Term”), unless terminated sooner as provided herein.

III. PAYMENT

Compensation for the work provided in accordance with this Agreement has been established under the terms of RCW 39.34.130. The parties have estimated that the annual cost of accomplishing the work will not exceed \$5,500. Payment for satisfactory performance of the work shall not exceed this amount unless the parties mutually agree to a higher amount prior to the commencement of any work which will cause the maximum

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payment to be exceeded. Compensation for services shall be based on the following rates and in accordance with the following terms:

- A) As requested by RFP (att. 1), completion of Proposal (att. 2); and
- B) Reporting as required by att. 2; and
- C) Successful funding from WSCPR (att. 3).

IV. BILLING PROCEDURES

SFCC shall submit invoices to WSU on a quarterly basis for all approved and completed work by warrant or account transfer within thirty (30) days of invoicing.

Invoices shall be submitted to:

PO Box 646382
Department of Entomology
Washington State University
Attn: Adam Williams
Pullman, WA 99164-6382

V. RECORDS MAINTENANCE

The parties to this Agreement shall each maintain books, records, documents and other evidence which sufficiently and properly reflect all direct and indirect costs expended by either party in the performance of the services described herein. These records shall be subject to inspection, review or audit by personnel of both parties, other personnel duly authorized by either party, the Office of the State Auditor, and federal officials so authorized by law. All books, records, documents, and other material relevant to this Agreement will be retained for six year after expiration and the Office of the State Auditor, federal auditors, and any persons duly authorized by the parties shall have full access and the right to examine any of these materials during this period.

Records and other documents, in any medium, furnished by one party to this Agreement to the other party, will remain the property of the furnishing party, unless otherwise agreed. The receiving party will not disclose or make available this material to any third parties without first giving notice to the furnishing party and giving it a reasonable opportunity to respond. Each party will utilize reasonable security procedures and protections to assure that records and documents provided by the other party are not erroneously disclosed to third parties.

VI. RIGHTS IN DATA

Unless otherwise provided, any data that originates from this Agreement shall be "works for hire" as defined by the U.S. Copyright Act of 1976 and shall be owned by WSU. Data shall include, but not be limited to, reports, documents, pamphlets, advertisements, books, magazines, surveys, studies, computer programs, films, tapes, and/or sound reproductions. Ownership includes the right to copyright, patent, register, and the ability to transfer these rights.

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VII. INDEPENDENT CAPACITY

The employees or agents of each party who are engaged in the performance of this Agreement shall continue to be employees or agents of that party and shall not be considered for any purpose to be employees or agents of the other party.

VIII. MODIFICATION

This Agreement may be modified or amended by mutual agreement of the parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the parties.


IX. TERMINATION

Either party may terminate this Agreement upon 30 days prior written notification to the other party. If this Agreement is so terminated, the parties shall be liable only for performance rendered or costs incurred in accordance with the terms of this Agreement prior to the effective date of termination. Under this section or the following section, if the parties choose to partially or completely terminate this Agreement, the parties shall either mutually agree how any property involved shall be disposed of. If they are unable to do so, they shall submit the dispute to the Dispute Panel provided for in Section XI.

X. TERMINATION FOR CAUSE

If for any cause, either party does not fulfill in a timely and proper manner its obligations under this Agreement, or if either party violates any of these terms and conditions, the aggrieved party will give the other party written notice of such failure or violation. The responsible party will be given the opportunity to correct the violation or failure within fifteen (15) working days. If failure or violation is not corrected, this Agreement may be terminated immediately by written notice of the aggrieved party to the other. See Section IX for the provisions for disposition of property upon the partial or complete termination of this Agreement.

XI. DISPUTES

In the event that a dispute arises under this Agreement that the parties can't resolve, they shall allow the dispute to be decided by a Dispute Panel in the following manner: Each party to this Agreement shall appoint one member to the Dispute Panel. The members so appointed shall jointly appoint an additional member to the Dispute Panel. The Dispute Panel shall review the facts, contract terms and applicable statutes and rules and make a determination of the dispute. The determination of the Dispute Panel shall be final and binding on the parties hereto. ~~There shall be no charge to the parties for these services of the Dispute Panel.~~ The parties shall share in the costs, if there are any, for the services of the Dispute Panel. 

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As an alternative to this process, either of the parties may request intervention by the Governor, as provided by RCW 43.17.330, in which event the Governor’s process will control.

XII. GOVERNANCE

This Agreement is entered into pursuant to and under the authority granted by the laws of the state of Washington and any applicable federal laws. The provisions of this agreement shall be construed to conform to those laws.

In the event of an inconsistency in the terms of this Agreement, or between its terms and any applicable statute or rule, the inconsistency shall be resolved by giving precedence in the following order.

- A. applicable state and federal statutes and rules;
- B. statement of work; and
- C. any other provisions of the Agreement, including materials incorporated by reference.

XIII. ASSIGNMENT

The work to be provided under this Agreement, and any claim arising under this Agreement is not assignable or delegable by either party in whole or in part, without the express prior written consent of the other party, which consent shall not be unreasonably withheld.

XIV. WAIVER

A failure by either party to exercise its rights under this Agreement shall not preclude that party from subsequent exercise of such rights and shall not constitute a waiver of any other rights under this Agreement unless stated to be such in a writing signed by an authorized representative of the party and attached to the original Agreement.

XV. SEVERABILITY

If any provision of this Agreement or any provision of any document incorporated by reference shall be held invalid, such invalidity shall not affect the other provisions of this Agreement which can be given effect without the invalid provision, if such remainder conforms to the requirements of applicable law and the fundamental purpose of this agreement, and to this end the provisions of this Agreement are declared to be severable.

XVI. ENTIRE AGREEMENT

This Agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind any of the parties hereto.

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XVII. CONTRACT ADMINISTRATION

A designated contract administrator for each of the parties shall administer this Agreement and be responsible for and shall be the contact person for all communications and billings regarding the performance of this Agreement.

The Contract Administrator for WSU is:

Name: Adam Williams
Department: Entomology
Address: PO Box 646382
Washington State University
Pullman, WA 99164-6382
Telephone: 509-335-5425
Fax Number: 509-335-1009

The Contract Administrator for SFCC is:

Name: Doug Mitchell/Laurel D. Hansen
Department: Biology Department MS 3280
Address: Spokane Falls Community College
3410 Fort Wright Drive
Spokane, WA 99224
Telephone: 509-533-3666
Fax Number:

XVIII. SIGNATURES

The parties affirm they have designated the persons below to have signature authority for the parties. By their signatures on this Agreement, the parties agree to all of its terms and conditions.

WASHINGTON STATE UNIVERSITY

SPOKANE FALLS COMMUNITY COLLEGE

("WSU") ("SFCC")
Recommended by: _____ Recommended
By: _____
Name: Walter S Sheppard
Title: Department Chair Title
Date: _____

by:
By: n/a
Name: Janet Gullickson
: President
Date: 5-30-14

Approved by:
By: Christine R. Hoyt
Name: Christine R. Hoyt
Title: Contracts Manager
Date: Washington State University
5-13-14

Approved by:
By: Janet Gullickson
Name: Janet Gullickson
Title: President
Date: 5-30-14



Department of Entomology

**Norm Ehmann Urban Pest Management Award
August 2013 RFP**

Request for proposals: Researchers or educators involved with urban pest management problems which occur in the Pacific Northwest are invited to apply. Research may be conducted outside the Northwest if it involves pests that also occur in the Northwest, like bed bugs.

Purpose: This endowment was developed through donations from the Oregon and Washington Pest Management Associations, the Pacific Northwest Pest Management Conference and a variety of pest control industry suppliers. It is intended to support research and extension and/or educational activities relevant to Urban Pest Management issues.

Funding: Proposals are welcome from all Urban Pest Management researchers and extension educators, but we do expect the proposed research and training to include pests that are located in the Pacific Northwest. The amount of each grant has not been established, but we are planning for a total amount of up to \$30,000 to be made available for this funding period (January 1, 2014 – December 31, 2014). It is expected that one or more projects will be funded. The selection committee encourages applicants to seek matching funds from supporting agencies, such as the Washington State Commission on Pesticide Registration and the Pacific Northwest Pest Management Conference.

Evaluation and Selection Criteria: Research and Extension Proposals addressing all Urban Pest Management issues will be accepted, with priority placed on those addressing pests in the Pacific Northwest such as:

- Odorous house ants, carpenter ants and other pestiferous ants
- Bed bugs
- Subterranean termites, anobiid beetles, and other wood-destroying organisms.
- Yellowjackets and other wasps.
- Arthropod pests of all stored products
- Mosquitoes and other medically important arthropods
- Rodents
- Training workshops or programs for Pest Control technicians

Proposal format: Proposals are limited to 5 pages with 12-point font size and one-inch margins. Applicants should include a two-page vitae as an addendum.

Rationale and Significance: Each proposal should contain a detailed description of the pest problem and its impact on the affected industry and/or stakeholders.



Department of Entomology

Project Description: Provide a detailed description of the project including objectives, procedures (including statistical design parameters and analysis when appropriate), time line, matching funds and personnel.

Deadline: Proposals will be accepted until September 15, 2013. Submit one electronic or written copy of the proposal to Walter S. Sheppard, Department of Entomology, Washington State University, Pullman, WA, 99164-6382 (shepp@wsu.edu). The applicants will be notified of the selection committee choice by October 1, 2013.

Budget: A budget narrative and totals must be provided for salaries and benefits, hourly wages, required travel, equipment, and other related expenses. Indirect or overhead costs are not permitted.

Reporting: Mid-term and final progress reports are required for funded projects (June 30, 2014 and January 15, 2015, respectively). At the request of the Norm Ehmann Urban Pest Management Award Committee, the researcher may be asked to make a presentation at the annual meeting of the Pacific Northwest Pest Management Association. Funding to attend this meeting will be provided by the Association and should not be included in the proposal.

Project Title

Efficacy of granular and gel baits placed in laboratory trial colonies with and without larvae for carpenter ants (*Camponotus modoc*) and odorous house ants *Tapinoma sessile*

Rationale and Significance

Odorous house ants and carpenter ants are widely distributed throughout the United States and have become two of the most serious pests in structures in the Pacific Northwest, either as a nuisance pest or structurally damaging. The industry considers these ants as the number one and two 'call-back' pests in the United States (NPMA 2012 Ant Industry Research Survey). Pest management professionals (PMPs) and homeowners employ a wide variety of management strategies with varying degrees of success. Many bait formulations (granular, gels, liquids, and prepared stations) are available for both of these species.

The complex food cycle within an ant colony varies with the species of ant. Foraging ants bring food or water back to the colony and pass it to other workers by a mouth-to-mouth process called trophallaxis. The number of active foragers in a colony ranges from 1% to 10% of the population. They also regurgitate liquid food to larvae. The crop that carries and distributes food in this way has been called a 'social stomach'. The recognition of the role that liquid foods play in the nutrition and colony cohesion has led to bait development, particularly liquids (Oi and Vail 2011). Trophallaxis by larvae has been observed in carpenter ants (Wheeler 1928) but not odorous house ants (Holldobler and Wilson 1990). The complex food cycle used by ants is why bait insecticides are becoming an effective strategy in controlling ants.

Literature on ant research gives conflicting reports regarding the digestion of solid food by workers and larvae. A filtering mechanism (infrabuccal plate) in adult ants prevents solid food particles from entering the digestive tract (Hansen and Klotz 2005). Hedges (2010) and Bennett et al. (2010) state that solid pieces of food are carried back to the colony and are fed to the larvae that eat and digest them. The larvae then regurgitate the digested food back to the workers. The possibility that larvae serve as specialized digestive castes has been supported only for the one subfamily of ants (Myrmicinae) (Holldobler and Wilson 1990). This subfamily of ants does not include either carpenter ants (Subfamily Formicinae) or odorous house ants (Subfamily Dolichoderinae). There is also the possibility that larvae are producing enzymes that are passed to workers and digestion occurs in the infrabuccal sac of adult ants where solid food is stored. Wheeler and Wheeler (1976) indicate that the workers lick the larvae and receive saliva and possibly food nutrients.

As advertised in their technical bulletin (DuPont), Indoxacarb, the active ingredient in Advion granules and Arilon gel bait, is a member of the chemistry class, the oxadiazines. Indoxacarb is labeled as a 'reduced risk' chemical and when ingested by insects its effectiveness increases because an insect's enzymes convert the molecule into a more powerful compound. Comparison of this molecule in a gel form (Arilon) versus a solid form (Advion granules) will assist in determining if larvae are required in the conversion of this chemical. Other currently registered granular and gel baits will be included in these trials. In both field research and laboratory studies, mortality of workers has occurred with granular baits in varying length of time. Larvae

were not present in laboratory studies. These tests will look at the importance of larvae in this transition.

The purpose of this study is to examine the use of granular baits versus gel baits for the control of odorous house ants and for carpenter ants and to determine if larvae are a factor in the consumption and distribution of the toxicants of the baits. Understanding the mechanism that toxicants enter the colony is fundamental to control. Application of baits is acceptable by homeowners as less toxicant is applied to their surroundings and to the environment.

Project Description

Objectives:

Determine the effect of carpenter ant larvae included in laboratory colonies in the distribution of a toxicant through granular or gel baits:

- Efficacy of the toxicant with and without larvae
- Timing of the toxicant in nests with and without larvae

Determine the effect of odorous house ant larvae included in laboratory colonies in the distribution of a toxicant through granular or gel baits:

- Efficacy of the toxicant with and without larvae
- Timing of the toxicant in nests with and without larvae

Procedures

Two species will be used in these trials: *Camponotus modoc* (carpenter ants) and *Tapinoma sessile* (odorous house ants). The procedure will be the same for both species.

Colonies will be collected in May and June, transferred to the lab and maintained until tests are initiated. Both species have been successfully maintained in the lab in previous years. Previously collected colonies will not be used; only colonies collected this season will be used in trials. Ants will be collected in Washington and Idaho.

From large collected colonies, nest boxes of ants for trials will be established with 40 ants per dish or 40 ants plus 20 larvae per dish. Ants will not receive food for 24 hours before bait is added. After 24 hours exposure to bait, food will be added to provide a choice of food or bait. Controls will be offered honey as a food source and no bait. Five reps will be made for each treatment. Mortality of workers (and larvae) will be monitored and recorded daily for two weeks.

Baits selected for this study include:

1. Advion Insect Granules (0.22% Indoxacarb)
2. Maxforce Granular Insect Bait (1.0% Hydramethylnon)
3. InVICT Xpress (granules) (0.5% Imidacloprid)
4. Niban FG (5% Boric acid)
5. Abathor Ant Bait (granules) (0.011% Abamectin)
6. Advion Ant Gel (0.05% Indoxacarb)
7. Optigard Ant Gel Bait (0.010% Thiamethoxam)
8. InTice Ant Bait (gel) (3.0% Sodium Tetraborate Decahydrate)
9. Control: honey

Time

Colonies of ants will be collected in May and June. Trial boxes will be established beginning in June and trials will run through June and July. Differences in behavior have been noted through previous work with carpenter ants by mid August. All work will be completed by this time.

Matching funds

A request for matching funds will be made to the Washington State Commission on Pesticide Registration. If matching funds are not available, restricting the number of baits in the study or concentrating on one species will reduce the study.

Personnel

Trips for ant collections and laboratory work will be made with technicians employed at Spokane Falls Community College. These include Sharon Carroll, Arlana Nielsen, and Jenifer Parker who have worked in ant research for 10, 8, and 3 years respectively. These technicians are paid hourly. As project director, I request no salary, wages, or benefits.

As project director, I have conducted research on carpenter ants for 30+ years and on odorous house ant for five years. My technicians and I conducted a large lab study (Pest Management Foundation, NPMA) in 2013 using aged baits with odorous house ants. We were successful in locating and collecting over 15 nests, transferring and maintaining them in the lab, and distributing the ants into boxes used in trials. Although we did not work with larvae from the nests, they were observed in most nests and we believe they can be collected and distributed for this comparative work.

Carpenter ant larvae are regularly collected when whole nests are obtained working with our supplier in North Idaho. Larvae have previously been maintained in the laboratory.

Budget

Hourly wages + benefits

120 hours @\$13.90 +3.10 benefits x 3 technicians \$6120

(Note: No salary or compensation for the project director is requested)

Travel costs

6 trips@ 360 miles (odorous house ants)@ \$.50/mile \$1080

2 trips @ 250 miles (carpenter ants) @\$.50/mile 250

Meals (only) per diem 500

Expenses

Carpenter ant colonies (2 @ \$1000) \$2000

Trial boxes, baits, nest boxes, misc. supplies, 1050

Total cost: \$11,000

Funding requested in this application is \$5,500

(\$5,500 will be requested for matching funds from the Washington State Commission on Pesticide Registration).

References cited:

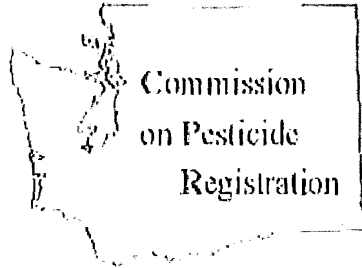
Bennett, G. W., J. M. Owens, R. M. Corrigan, 2010. Truman's scientific guide to pest management operations. 7th ed. Questex Media Group, Cleveland, OH

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- Wheeler, W. M. 1928. The social insects: their origin and evolution. Kegan, Treanach, Trubner and Co., London
- Wheeler, G. C. and J. Wheeler. 1976. Ant larvae; review and synthesis. Memoirs of the Entomological Society of Washington, No. 7. Entomological Society, Washington, D.C.

Project Director

Laurel D. Hansen
Biology Department MS 3280
Spokane Falls Community College
3410 Port Wright Drive
Spokane, WA 99224
509-533-3666
laurelh@spokanefalls.edu

WASHINGTON
STATE



Att. 3

2621 RINGOLD ROAD
ELTOPIA, WA 99330
Phone: (509) 266-4305
Fax: (509) 266-4317
Email: aschreib@centurytel.net
www.wscpr.org

March 25, 2014

Terry Whitworth
Washington State Pest Management Association
2433 Inter Ave.
Puyallup, WA 98372

Dear Terry,

At the December 17-18, 2013 meeting of the Washington State Commission on Pesticide Registration (WSCPR), a decision was made to fund proposal PN14002 in the amount of \$5,500. A final report for this project should be submitted within one year from today.

Commission funding is contingent upon the provision of funds from the sources and in the amount indicated (\$5,500) in your proposal. Please send confirmation of those contributions when they are made available. (WSU matches should list the Program, Budget and Project that is used for matching; non-WSU funds can be documented with a letter certifying that the cost sharing has been or will be done.) If there is a change in the status of the matching funds, you are required to contact us.

WSCPR is pleased to help support *Structural Pest Management*. Should you have any further questions in regard to this funding, please feel free to contact me.

Sincerely,

Jonathan Peterson, Assistant Administrator
Washington State Commission on Pesticide Registration

cc: Laurel Hansen
Mike Petrusky

**WASHINGTON STATE UNIVERSITY
2015-17 State Capital Budget Request**

Priority No.	PROJECT TITLE	Stage	WSU TOTAL PROJECT \$	Prior Funding	2015-17	2017-19	2019-21	2021-23	2023-25
					1	University Center of North Puget Sound-Everett	C	75,000,000	10,000,000
2	Plant Sciences (R&EC#5)	D	66,000,000	500,000	6,600,000	58,900,000			
3	Minor Works - Program (MCI & Omnibus Equipment)	All	On-going		21,000,000	21,750,000	22,500,000	23,750,000	24,500,000
4	Minor Works - Preservation	All	On-going		42,000,000	42,500,000	45,000,000	47,500,000	50,000,000
5	Troy Hall Renovation	C	36,571,000	2,121,000	34,550,000				
6	Washington Animal Disease Diagnostic & Research Facility (WADDRF-GAHBI)	D	72,300,000		5,300,000	67,000,000			
7	Tri-Cities - Classroom/Lab/Office Building	PD	69,000,000		400,000	6,485,000	62,114,000	-	
8	Spokane Real Estate Acquisitions		27,900,000		1,900,000	26,000,000			
9	Plant Growth (Greenhouse) Facilities, Phase 1	D	15,000,000	225,000	2,250,000	12,525,000			
10	Dairy Research/Teaching Milking Parlor	D/C	8,300,000		8,300,000				
11	Infrastructure-Underground Utilities Replcmnt-Colorado St	All	4,900,000		4,900,000				
12	Infrastr-Underground Utilities/Road Replacement & Expan.	All	44,000,000		20,000,000	20,000,000	4,000,000		
13	SCIENCES-Fulmer Hall Renovation	PD	29,100,000		500,000	3,000,000	25,600,000		
14	Riverpoint-Tech Data Ctr & Facils Maint Bldg	PD	24,000,000		300,000	3,000,000	20,700,000		
15	Computational & Data Sciences Building	PD	64,198,000		640,000	6,400,000	57,158,000		
16	Greenhouses Replacement	PD	40,000,000		400,000	4,000,000	35,600,000		
SUBTOTAL - 2015-17 STATE CAPITAL REQUEST					214,040,000				

Operating-Preventative Facility Maintenance & Repairs

10,115,000

← Assume state will leave this oper. budget item on capital.

TOTAL 2015-17 CAPITAL BUDGET REQUEST+OPERATING BUDGET ITEM:

224,155,000

Sample of Additional Projects on the Ten Year Capital Plan (54 total)									
17	Tri-Cities Building Exter/Inter Renewals					4,915,500			
18	Wenatchee - Fruit Quality & Integrated Pest Mgt Facility		14,000,000			140,000	13,850,000		
19	Agricultural Animal Health Research Facility		40,100,000	250,000		3,155,000	36,698,000		
20	Murrow Hall East Renovation		16,400,000	100,000		1,900,000	14,400,000		
21	Vancouver - Life Sciences Building		55,000,000			100,000	5,005,000	49,895,000	
22	Mount Vernon - Plant Growth Facil/Eq Stor/Repair Shop		3,000,000			3,000,000			
23	Holland Renov for Academic Space & Libr Offsite Storage		35,600,000	180,000		4,605,000	30,815,000		
24	Major Capital Infrastructure		On-going			10,000,000	11,600,000	8,000,000	5,250,000
25	Facilities HVAC and Building Envelope Renewals		On-going			15,000,000	16,000,000	19,000,000	22,000,000
26	SCIENCES - Eastlick Hall Renovation		58,400,000			580,000	5,800,000	52,020,000	