

SPECIAL TECHNOLOGY DEVELOPMENT PROGRAM PROGRESS REPORT

PROJECT NUMBER: R08-2001-03

PROJECT TITLE: Control of the Balsam Woolly Adelgid in Natural Stands and Plantations of Fraser Fir with an Introduced Predator *Pseudoscymnus tsugae*

PROJECT STATUS: Continuing

EXPECTED PROJECT DURATION: Three years

EXPECTED COMPLETION DATE OF THE PROJECT: December 31, 2003

SUBJECT: Biological Control 1; Invasive Species 1; Population 2

STATUS OF SUBJECT SPECIES: Non-native noxious

PROJECT OBJECTIVES: 1) To determine if balsam woolly adelgid populations can be reduced below damaging levels in natural stands and plantations of Fraser fir by releases of the introduced predator *Pseudoscymnus tsugae*. 2) Establish a second colony of *Pseudoscymnus* to augment the regional biocontrol effort of hemlock woolly adelgid as well as balsam woolly adelgid.

BRIEF DESCRIPTION OF PROJECT:

- 2001 Establish colony of *Pseudoscymnus* on balsam woolly adelgid (BWA) in the NC State Insectary.
Visited the N.J. Department of Agriculture lab and observed their rearing procedures. Constructed four rearing chambers. More will be constructed as the need arises. Received a shipment of 100 beetles from the NJDA lab and began rearing the predator on hemlock woolly adelgid.
Once a thriving colony is established, we will attempt to rear a portion of the predators on the balsam woolly adelgid.
- 2001 When enough *Pseudoscymnus* are produced, a release program in a natural stand will begin.
The project got started too late to accomplish this goal. However, two releases of predators reared in the N.J. facility and the Pennsylvania facility were done in N.C.
- 2002 Continue releases in natural stands and plantations.
- 2002 Begin monitoring program for *Pseudoscymnus* and BWA.
- 2003 Complete monitoring for *Pseudoscymnus* and BWA.
- 2003 Analysis and manuscript preparation.

CHANGES TO ORIGINAL PROJECT SCOPE OR OBJECTIVES: At this time we are just getting started on the project and no changes are contemplated.

ADDITIONS TO ORIGINAL PROJECT SCOPE OR OBJECTIVES: Once we have determined that the balsam woolly adelgid is or is not a suitable host for rearing the predator, additions to the project's scope or objectives will occur. To this point the emphasis has been on establishing a viable colony on the hemlock woolly adelgid.

FHP LEAD CONTACT:

<u>Name</u>	<u>Affiliation</u>	<u>Phone, E-mail, Fax</u>
James Rhea	Forest Health Protection Asheville, NC, Region 8	(P) 828-257-4314 (Fax) 828-257-4856 rrhea@fs.fed.us

PRINCIPAL INVESTIGATOR:

<u>Name</u>	<u>Affiliation</u>	<u>Phone, E-mail, Fax</u>
Fred Hain	Department of Entomology North Carolina State Univ. Raleigh, NC	(P) 919-515-3804 (Fax) 919-515-7273 fred_hain@ncsu.edu

COOPERATORS:

<u>Name</u>	<u>Affiliation</u>	<u>Phone, E-mail, Fax</u>
Scott M. Salom	Department of Entomology Virginia Tech.	(P) 540-231-2794 (Fax) 540-231-9131 salom@vt.edu
Kathy Kidd	NC Dept. of Agriculture	(P) 919-233-8214 kathleen.kidd@ncmail.net

COOPERATOR INVOLVEMENT:

<u>Name</u>	<u>Role</u>	<u>Time Commitment</u>
S. Salom	Backup source of <i>Pseudoscymnus</i> ; will provide additional rearing protocol when acquired (they are maintaining a small research colony of <i>Pseudoscymnus</i>).	2%
Association	Financial support	0%
Kathy Kidd	If additional rearing space is required, the NCDA can provide it.	0%

PRODUCTS AND DUE DATES: By January 2004, mass rearing protocol should be well established, and the effectiveness of *P. tsugae* as a biocontrol agent should be well established. Recommendations for the continued implementation of the program will be made and explored.

STATUS OF PRODUCTS/PRESENTATIONS: Establishment of the predator colony is in progress.

ACCOMPLISHMENTS TO DATE: See above

Products: None

Publications: None

Technology Transfer: We have adopted the rearing procedures of the NJDA.

FIRST FISCAL YEAR FUNDED: We just received the funding. Progress to date is the result of using other funds that were available to us.

FUNDS OBLIGATED FROM BEGINNING OF PROJECT THROUGH CURRENT FISCAL YEAR:

	Item	Requested Funding	Expended Funding	Unused Funding
FIRST YEAR				
Administration	Salary	22,878	0	22,878
	Overhead		0	
	Travel	3,000	0	3,000
Procurements	Contracting			
	Equipment	12,000	0	12,000
	Supplies	1,957	0	1,957
Year Totals		39,835	0	39,835
SECOND YEAR				
Adminstration	Salary			
	Overhead			
	Travel			
Procurements	Contracting			
	Equipment			
	Supplies			
Year Totals				
CURRENT YEAR		Requested FHP STDP Funding	Other Source Funding	Source
Administration	Salary	22,878	10,178	NCSU
	Overhead		18,336	NCSU
	Travel	3,000		
Procurements	Contracting			
	Equipment	12,000		
	Supplies	1,957	1,000	NCSU
Year Totals		39,835	29,514	NCSU
PROJECT TOTALS				

FUNDS NOT USED FROM PREVIOUS FISCAL YEAR: None

EXPECTED BUDGET FOR NEXT FISCAL YEAR:

	Item	Requested FHP STDP Funding	Other-Source Funding	Source
Administration	Salary	22,878	10,178	NCSU
	Overhead		12,613	NCSU
	Travel	3,000		

Procurements	Contracting			
	Equipment			
	Supplies	957		
Totals		26,835	22,791	NCSU

DIFFERENCE BETWEEN ORIGINAL AND AMENDED REQUESTS AND JUSTIFICATION: None

STDP FUNDING NEEDED:

Fiscal Year	STDP Funding	Other-Source Funding	Source
2003	26,835	22,791	NCSU