Western IPM Center

Project Report Form

How to submit: Please submit your completed report electronically, as an attached Microsoft Word file, to Jane Thomas at jmthomas@tricity.wsu.edu. If you have questions, contact Linda Herbst, (530) 752-7010. **Content:** Reports should follow the outline below and include responses to as many of the questions listed in Attachment A as are relevant to your project. *These are guidelines.* Provide your readers with enough detail that someone who is not familiar with your project can understand what you were trying to achieve, how you went about it, and what you accomplished, but please keep it concise.

A. Report Data

Date: September 23, 2009
Reporting Period: October, 2008 to September, 2009
Report Type (please check one):
☒ Progress Report ☐ Final Report

B. Grant Data

- Grant Agreement #: 207-51120-03885
- Title: Increasing regional communication to improve orchard spray application efficiency.
- Grant Type: Work Group
- Lead investigator:
  - Name: Franz Niederholzer
  - Title: Farm Advisor
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- Team members (name, title, institution): Jeffrey Jenkins, Extension Specialist, Oregon State University; Carol Ramsay, Extension Pesticide Education Specialist, Washington State University; Lynn Wunderlich, Farm Advisor, University of California
- State(s) involved: CA, OR, WA

C. Nontechnical Summary. An overview of the project, briefly outlining the problem(s), how your project addresses them, and your results, *written to a lay audience.* (500 words)

Spray application practices and equipment to improve efficiency and uniformity of pesticide deposition will reduce off-target chemical movement and grower costs, benefiting the environment, the community, and growers. Progress towards these goals is hindered by limited intraregional communication on the subject.

Improved communication among the diverse groups working to improve efficiency and uniformity of pesticide application is crucial to achieving progress towards these goals. TheWestern Region Orchard Crops Pesticide Application work group facilitates improved information exchange among researchers, extension educators, commodity groups, growers, manufacturers of equipment and agrichemicals, and regulatory agencies. We held a regional meeting in Portland, OR on January 13, 2009 to review current research, exchange ideas, and plan future collaboration. Grower focused articles and presentations are and have been developed using information presented at this meeting.

As a results of this meeting and conversation that followed the January 13 meeting in Portland, a $50,000 Specialty Crop Research Initiative (SCRI) plannng grant was developed, submitted, and awared to Washington State University, with cooperating personnel in California, Oregon, Ohio, and New York. The participation of California and Ohio personnel was a direct outcome of the January 13 meeting, which was supported by the WIPM WG project.

The goal of the SCRI planning grant is to gather information and support for a major SCRI grant addressing new avenues in efficient pesticide application..

D. Objectives and Progress. List your objectives and describe your progress for each objective.

1. Hold a regional meeting to Improve communication among researchers, extension, growers, fruit and nut industries, state and federal regulators, equipment manufacturers, pesticide manufacturers, and ag chem. distributors on the topic of improving pesticide deposition efficiency and uniformity. This communication will increase the awareness of existing research results and facilitate the development of cooperative research. This meeting will also function as multi-directional information exchange among the diverse stakeholders present at the meeting.

A successful meeting was held in Portland, OR on January 13, 2009.

2. Inform growers of current and recent research developments in application technology using popular press, newsletter articles, and/or narrated PowerPoint presentations.

Several popular press/newsletter articles on improving spray application efficiency were written and published. More are planned..

E. Outputs. List your project's outputs, which might include publications, information, data, meetings held, attendance at meetings held, etc.

A regional meeting in Portland, OR on January 13, 2009 drew approx. 20 individuals from university faculty, USDA research, cooperative extension and industry. Important relationships were developed as a result of this meeting.

Two popular press articles were developed and published in ag professional publicaitons and/or newsletters. One article was "picked up" and run in two local extension publications in California.

A tower sprayer manufactured by Slimline Manufacturing of Penticton, BC, Canada has been leased by the Univeristy of California for one year. Slimline's owner gave a presentation at the January 13, 2009 meeting, and the relationship that was initiated at the meeting produced this lease arrangement. The tower sprayer leased by UC has been demonstrated at two growers meetings in California in 2009 and will be part of research and demonstration projects until spring, 2010. The funds used to lease the sprayer came from sources other than the WIPM WG grant.

One indirect outcome was the successful SCRI planning grant proposal ($50,000) titled "Development Of A Smart Targeted Spray Application Technology Roadmap For Specialty Crops". The involvement of University of California (UC) employees and, through their contacts, California ag stakeholders contributed significantly to this proposal. The January 13, 2009 meeting funded by the WIPM WG grant faciliated the involvement of California researchers, extension personnel, and stakeholders in the SCRI project. The meeting also facilitated the involvement in the SCRI planning grant of USDA ARS researchers from the USDA Spray Appliation lab in Wooster, Ohio. Dr. Rich Derksen, Agricultural Engineer and Lead Scientist at the USDA Wooster Lab, was a speaker at the January 13, 2009 meeting and subsequently Co-Project Director in the SCRI grant.

F. Impacts and Potential Impacts. The "impacts" and "potential impacts" sections of your report will help the Western IPM Center highlight the value of IPM research and education by detailing the real-world impacts of Center-funded projects. We will use the information in news articles, reports, and informational brochures to showcase the impacts of projects that our program supports. *See Attachment A at end of form for questions to assist you in describing the impacts of your project.*

1. Impacts. Describe any impacts of your work. ***Impacts*** are specific changes in condition for those affected by your work. Impacts include adoption of technology, creation of jobs, reduced cost to the consumer, less pesticide exposure to farmers, access to more nutritious food, and a cleaner environment and healthier communities.

To date we can report no documented impacts on applicators. However, the project is intended to improve communication within and between public and private entities engaged in spray application techology use and education. There, we have produced significant impact including the California and Ohio involvement in the SCRI planning grant, sprayer leasing, and general information exchange.

2. Potential impacts. Describe your project's potential impacts. ***Potential impacts*** are the ways that your project's outputs could directly lead to changes in condition that will unfold in the future.

This project has produced a broader regional coordination regarding information exchange on spray application efficiency. This could potentially lead to reduced pesticide drift and runoff that will benefit the environment and local communities. In addition, improved spray application efficiency will reduce pest management costs to growers, thus improving their economic sustainabiltity and supporting the greater community.

G. Appendices

1. With your report, please attach ***at least two (2) photographs*** that illustrate your project. Please describe the photo and indicate the name and institution of the person who took the photo. (If you submit more than two photographs, please include those additional descriptions and photo credits under "H. Additional Information," below.)

Photo #1 description:

A tower sprayer in a high density pear orchard, Sacramento County, CA.

Photo #1 credit (photographer's name and institution):

Franz Niederholzer, University of California Cooperative Extension.

Photo #2 description:

Dr. Ken Giles, UC Davis Ag & Biol. Engineering Department, addresses a field meeting on spray applicaton in Sutter County, CA.

Photo #2 credit (photographer's name and institution):

Franz Niederholzer, University of California Cooperative Extension

2. Also attach any printed fact sheets or other publications resulting from your work that will enhance our understanding of your project and its impacts. Please provide a description of each attached publication below.

Document #1 description:

Document #2 description:

Document #3 description:

H. Additional Information

Credit: *Some of the language about impacts and potential impacts was adapted from a PowerPoint presentation by H. Michael Harrington, Executive Director, Western Association of Agricultural Experiment Station Directors, Colorado State University.*

Attachment A

Questions to Help in Reporting Impacts and Potential Impacts

Below are some questions that will guide you in assessing and then describing the impacts and potential impacts of your project. The relevance of each question may vary depending on whether yours is a research or extension project. Please answer as many as you can to the best of your ability, and feel free to describe any additional types of impacts not mentioned below. Remember to identify any potential impacts.

1. ***Innovations in IPM:***
   Are there new IPM practices that have been (impacts) or could be (potential impacts) adopted as a direct result of your project? What is the total number of acres (or homes, schools, greenhouses, nurseries) on which these practices could realistically be implemented?
2. ***Safeguarding human health and the environment:***
   a. Has the project reduced risk (or could it potentially do so) by changing the use of pesticides on farms, in homes, in schools, etc.? For example, could it result in fewer sprays per season or a switch to lower-risk pesticides? If possible, quantify the changes in condition. (Since there is no unanimous definition of *high* and *low risk,* investigators selecting this indicator are asked to categorize the pesticides they are reporting on as *high* or *low risk* according to the particular situation [e.g., lower risk to natural enemies]).
   b. Are there any other impacts or potential impacts on human health or the environment as a result of your project?
3. ***Economic benefits:***
   a. What is (or could be) the economic benefit (e.g., dollars saved) for clientele who adopt IPM strategies and systems you studied? Do you envision potential commercialization or mass production of these systems?
   b. How many clients are satisfied with IPM results (such as improved yield, improved quality of yield, reduced pest populations, more effective pest control, greater preservation of nonpest species)?
   c. Are there other financial benefits that might be realized (potential impact) as a result of your project?
4. ***Implementation of IPM:***
   a. How many IPM strategies and systems have been validated through this project (e.g., through on-farm trials, large plot tests, or other methods used to confirm efficacy)?
   b. How many educational materials were delivered? To whom? And what are the impacts or potential impacts?
   c. What is the number of growers/personnel trained? And what are the impacts or potential impacts?
   d. For a Web site, what volume of traffic and type of use has the site experienced? (For example, number of visitors per day or month; number of page views; number of unique user sessions; change in volume during growing season; average viewing time.) And what are the impacts or potential impacts?
   e. How many more people adopted IPM practices as a direct result of your project, or how many people adopted new IPM practices?
   f. Are there other ways in which your work will result in improved use or increased implementation of IPM strategies in your region or across the West?
5. Has your project or study increased collaboration among stakeholders interested in the development and implementation of improved IPM strategies and systems?