

The Southern Region Pesticide Safety Education Center: A Regional Approach to Training-the-Trainer

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Abstract

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The Southern Region Pesticide Safety Education Center was created in 2001 as a "train-the-trainer" program for Cooperative Extension Service agents and state pesticide inspectors from the thirteen-state Southern Region of the United States Department of Agriculture. The goal of the center was to equip Extension agents and state pesticide inspectors with the knowledge and resources necessary for more effective and credible pesticide safety education and regulation. This paper describes the initial program offering of the Center: an on-line (Internet) tutorial and a three-day workshop emphasizing hands-on methods for teaching proper pesticide handling.

Keywords: pesticide, safety, education, center, training, professional, development

Introduction

Throughout the United States, Cooperative Extension Service agents are relied upon to deliver training on pesticide safety, use, and laws to farmers, nursery operators, foresters, homeowners, and commercial applicators. Newly hired Extension agents often lack

the knowledge and skills to teach these subjects effectively. Very few have an opportunity to attend workshops or conferences to acquire this knowledge before assuming program responsibilities. Because of the scope of their varied responsibilities, both new and experienced extension agents are constantly challenged to

update their knowledge of changing pesticide technologies and regulations. Regulatory personnel involved in pesticide enforcement also may have a limited understanding of pesticide toxicology, environmental fate, or the integration of pesticide use into a pest management program. This puts them at a distinct disadvantage when developing regulatory programs or interpreting pest management issues.

Typically, each state approaches this challenge individually. Some states offer a rather extensive training program, while other states rely more on on-the-job training. In addition, few programs exist to integrate Extension agents and regulatory personnel despite the overlap in the scope of their responsibilities to protect human

health and the environment from the adverse effects of pesticides. The Southern Region Pesticide Safety Education Center (SR-PSEC) was created to respond to these "crossover" educational needs.

This paper outlines the development of the SR-PSEC, including the funding, the overall objectives of the pilot program, and a description and evaluation of the first year of the pilot program.

Development of the SR-PSEC

The development of a regional center for pesticide safety education involved participants from many states and many levels of administration and staff over several years. The key participants in the development of the SR-PSEC are listed in Table 1.

Table 1. Key Participants in the Development of the SR-PSEC.

Person/Key Association Involved	Design Step	Who the Person/Association Represented*	Role
Barry Brennan	Concept design	University of Hawaii	Pioneered concept of a Pesticide Safety Education Center
CTAG	Identify need to train trainers	EPA, USDA, SLA, PSEP, Department of Defense	National review of state applicator and training programs
AAPSE	Concept design	PSEP, SLA, EPA, USDA	Discuss feasibility of regional PSEC
	Concept design	PSEP and SLA reps. from NC, SC, VA, GA, FL, AR; EPA, USDA, Brennan	Agreed to develop Southern Region PSEC
Wayne Buhler	Program development	NC State University	Center Director
Robert McRackan	Program development	NC State University	Center Coordinator

*Abbreviations explained in following paragraphs.

The initial concept of a regional pesticide safety education center was proposed by Barry Brennan of the University of Hawaii during the 1998 national meetings of the Certification and Training Assessment Group (CTAG). CTAG is composed of representatives from national and state organizations involved in pesticide safety. Its members represent the U.S. Environmental Protection Agency (EPA), the United States Department of Agriculture (USDA), State Lead Agencies (SLAs), Pesticide Safety Education Programs (PSEPs), and the Department of Defense.

CTAG initiated a national review of all state applicator and training programs in 1996. Their findings were reported in "Pesticide Safety for the 21st Century—The Findings and Proposals of the Certification and Training Assessment Group," (Heying 1999). One conclusion of the report was that it was essential to provide pesticide safety educators with opportunities to update their skills and knowledge through periodic training workshops.

In response to these findings, the American Association of Pesticide Safety Educators (AAPSE) invited representatives from various state Pesticide Safety Education and Certification Programs, EPA, and USDA to study the feasibility of creating regional pesticide safety education centers to train extension agents and pesticide

regulators. The group concluded that regional PSECs could effectively strengthen the infrastructure of state pesticide applicator training and certification programs. They further identified potential audiences and instructional resources, defined goals, examined possible models, recommended staffing options, explored sources of funding, and suggested evaluation measurements (Brennan 2002).

In February 2000, PSEP coordinators and/or SLA certification managers from North Carolina, South Carolina, Virginia, Georgia, Florida, and Arkansas, as well as representatives from the EPA and the USDA, met with Brennan and began the process of developing a proposal to create a PSEC to serve all the states in the Southern Region. (A list of pesticide coordinators and SLAs affiliated with the Southern Region is available on the Internet at <http://www.vtpp.ext.vt.edu/htmldocs/srpchome.html>.) Because primary funding was to come from North Carolina, it was decided to locate the center at North Carolina State University (NCSU) in Raleigh, with Wayne Buhler as the director.

The SR-PSEC was designed to include a two-year pilot program involving a hands-on train-the-trainer workshop for Extension agents and regulatory personnel. The models used for the pilot program were train-the-trainer programs developed at the

University of California at Davis by Patrick O'Connor-Marer and at Virginia Polytechnic Institute and State University by Mike Weaver and Pat Hipkins.

Funding for the SR-PSEC

Funds for the two-year pilot of the SR-PSEC were obtained from several sources. Unlike previous programs, the SR-PSEC covered multiple states and involved personnel from both universities and state regulatory agencies, making funding more of a challenge.

Major funding for both the first and second year pilot of the SR-PSEC was provided by the North Carolina Pesticide Environmental Trust Fund (PETF). This fund is administered by the Pesticide Section of the North Carolina Department of Agriculture and Consumer Services (NCDA&CS) using fees collected from companies holding registrations for pesticides in North Carolina.

The Louisiana Pest Control Association (through Mary Grodner, Louisiana State University) provided supplemental funds for the first year. A grant from EPA Region IV provided additional support for the second year. Clemson University (through Robert Bellinger) and Spraying Systems Company of Wheaton, Illinois, contributed supplies and equipment for the two-year pilot program.

Overview, Objectives and Development of the Pilot Program

The pilot program was designed to revolve around a three-day workshop to be repeated in the spring and fall for two years. Workshops were scheduled in March and October to reduce conflict with busier times of the year for agents and inspectors.

The objective of the program was to provide some basic information and to demonstrate hands-on training methods that Extension agents and state regulators could implement themselves. Three key aspects associated with the program were: (1) a Web-based distance education component providing a baseline level of knowledge of pesticide handling and safety information as a prerequisite to the workshop; (2) the three-day workshop itself, which would focus on training tools and techniques; and (3) an evaluation program to provide feedback for improvement, encourage use of the tools, and measure program success.

The workshops were held at NCSU in Raleigh, North Carolina. Enrollment was limited to 50 students per workshop in order to optimize the hands-on interaction. Because NC PETF funds were used to create the pilot, North Carolina Extension agents were given the majority of available slots for each workshop. Of the 50 openings,

North Carolina Extension agents were allotted 20 slots and North Carolina pesticide inspectors were allotted five slots. The remaining slots were divided among participating states in the region. At their discretion, PSEP coordinators and SLA certification managers from each state could agree to send one agent and one inspector, two agents, or two inspectors. A portion of the grant funds obtained for the center was used to pay for lodging, meals, break service, and take-home resources. Participants paid for travel costs to and from Raleigh. There was no registration fee.

Invitations for agents and inspectors to enroll in the SR-PSEC were distributed via e-mail to Southern Region PSEP Coordinators and SLA Certification managers and were presented at the Southern Region Certification and Training Meetings held in Charleston, South Carolina (1999), Nashville, Tennessee (2001), and Roanoke, Virginia (2002).

The Pilot Program

Though the pilot program was held in North Carolina, training resources were pooled from throughout the Southern Region and from around the nation. The first component of the program (the on-line self-study course) was developed by Mike Weaver of Virginia Polytechnic Institute and State University. The SR-PSEC Director and the Center's

Coordinator selected topics for the three-day workshop in conjunction with various PSEP coordinators and SLA certification managers from the Southern Region. Instructors for the hands-on workshop were selected from land-grant universities, the Pesticide Section of NCDA&CS, and private industry. Materials were assembled from State Cooperative Service Extension programs, agencies and industries nationwide.

On-Line Prerequisite Course

The main purpose of this course was to ensure that participants were exposed to the fundamentals of pesticide use and regulations before attending the hands-on training session. This would ensure that all participants were attending with a standardized baseline level of knowledge. The on-line course was made available to all participants approximately a month before the hands-on workshop. Each participant was provided with a password that enabled him or her to access the computer modules.

Participants completed any six of the following 13 modules:

- Introduction to Pesticides
- Federal Laws and Regulations
- Pests and Pest Control
- Pesticide Labels & Labeling
- Pesticides In the Environment
- Harmful Effects & Emergency Response
- Personal Protective Equipment

- Pesticide Application Equipment
- Nozzles & Droplet Dispersal
- Mixing, Loading & Application
- Calibration
- Drift Management
- Transportation, Storage & Disposal

Enrollment in the course is restricted, but guests can visit the Web site at: <http://www.learn.vt.edu/>. You will need to log in as a guest. When you complete this process, type or copy in the following URL: http://www.learn.vt.edu/bin/common/course.pl?frame=top&course_id=1382_1. The Web site interface is illustrated below in Figures 1 through 4.

Figure 1. This graphic shows the program interface, which functioned as part of a CourseInfo (Blackboard) Course Management System. This course management software is used at many educational institutions to deliver Web-based instruction.

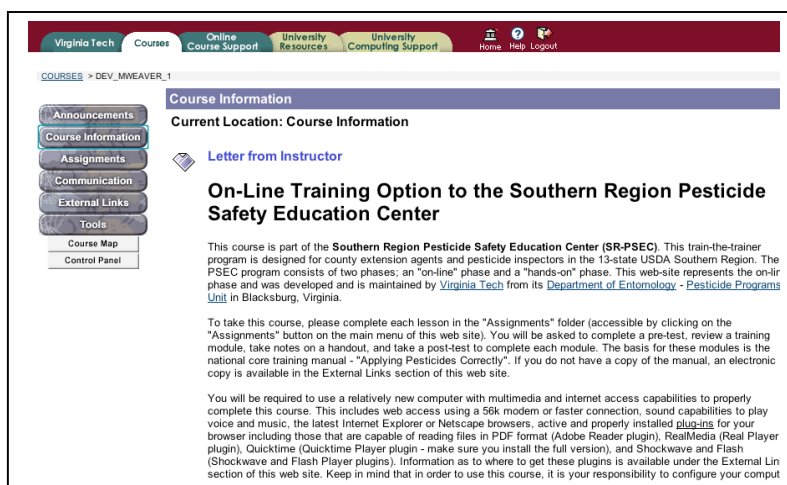


Figure 2. Most course modules used a QuickTime interface. On the left is a QuickTime movie produced using a PowerPoint presentation and audio to give the user a self-paced instruction module on "Choosing Personal Protective Equipment for Pesticide Application." Movie clips were also used alone. In this example (right), a helicopter generates a practice spray pattern to help the viewer understand the function of the equipment.

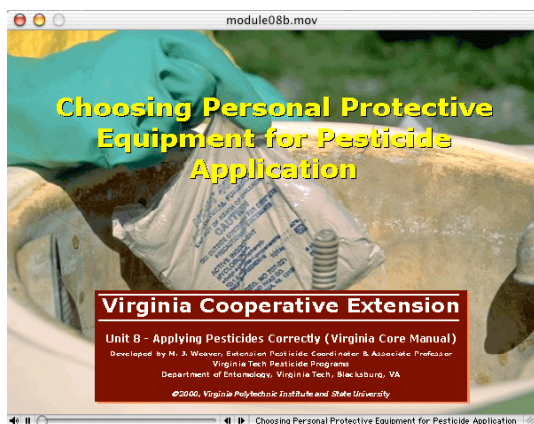


Figure 3. Other modules used Flash animation movies to explain a concept or lesson on a particular topic. Here you see an introductory module on pesticide history and terms (left). On the right you see an exercise to show the user how spray patterns are formed as they exit different types of spray nozzles. This particular module was produced by Virginia Tech and the University of Minnesota.

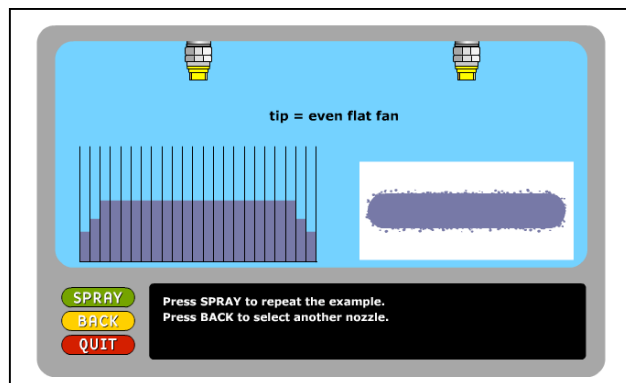
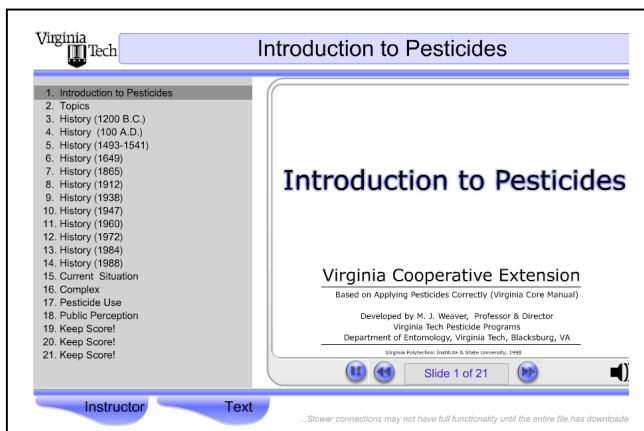
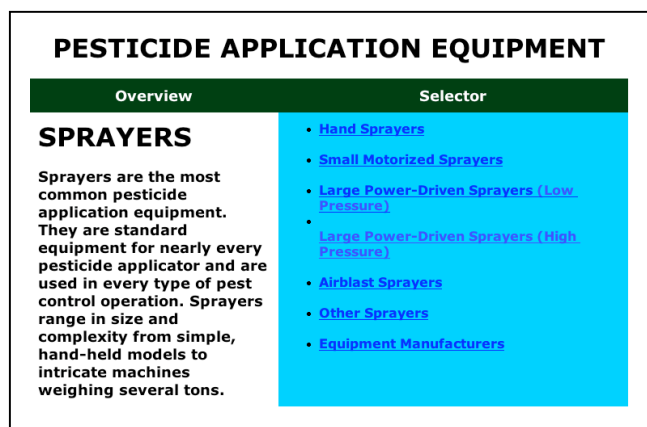
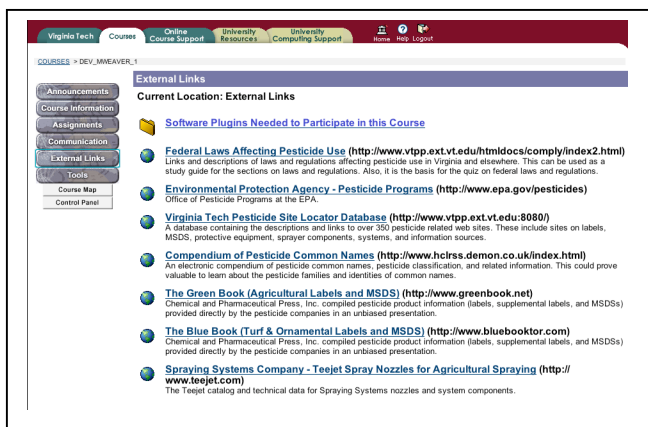


Figure 4. Other modules linked to local and outside Web sites.



Though there were technological problems that prevented the delivery of this component to all participants prior to the first session, it was successfully implemented for the second session in the fall of 2001. Most of the problems encountered in the first session were caused by the use of a UNIX-based network of computers by North Carolina

Extension agents. The systems were limited in their abilities to run media dependent upon browsers and plug-ins compatible with Windows and Macintosh operating systems. This problem was resolved for many users when the system administrator set up a proxy server to allow users to view the electronic training modules through a Windows interface. The

administrator also turned on sound on many of the field machines to allow them to play the audio on the modules. Where users had Windows- and Macintosh-based systems, the installation of browsers and plug-ins to allow the modules to run on their machines went smoothly. These users were immediately able to play the modules and use the course materials. These types of problems are common with implementing distance education and can be quite frustrating to the instructor and the student dealing with the technology and communicating with each other over long distances. Students should be encouraged to involve technical support personnel early in the process of participating in such a course.

Workshop Sessions

In addition to scheduled sessions, the three-day workshop included displays and posters that were set up in the main meeting room to provide learning opportunities throughout the day. These included tabletop displays on toxicology, a display by the NC PETF, various articles of personal protective equipment, and a spray table created by Jim Wilson, Extension Pesticide Educator at South Dakota State University. Attendees were also encouraged to "take the Worker Protection Standard challenge" by filling out a handout while referring to a series of posters and accompanying

materials developed by Mike Weaver.

In addition to materials distributed in the sessions, participants took home several reference materials:

- A binder with approximately 30 hands-on lessons participants could use in their own training programs. These lessons were organized into chapters corresponding to the national "core" manual, *Applying Pesticides Correctly*. Lessons were obtained from "Hands-On Lesson Plans for a Pesticide Applicator Workshop" by Patrick O'Connor-Marer, UC-Davis, and from the "Virginia Cooperative Extension Educator's Kit — Hands-On Pesticide Safety Education Manual" by Mike Weaver and Pat Hipkins, Virginia Tech Pesticide Programs.
- A binder with reference materials on adult training techniques and pesticide-handling issues from various state extension agencies and other institutions.
- A videotape with two instructional programs, "An American Farm Tale—Chronic Organophosphate Exposure and Treatment: The Rea Farm Case Study," by George Hamilton, Rutgers University, and "Respirator Fit Test and Fit Check Demonstration" by North, Inc.
- A CD-ROM containing numerous PowerPoint presentations and scripts that the participants could use in the training programs they taught. These were developed by several PSEP coordinators, Extension specialists, and regulatory officials in the Southern Region.
- A CD-ROM containing a "Jeopardy" type game for pesticide labeling comprehension developed by Larry Schulze and Clyde Ogg, University of Nebraska.

- A packet of eight different nozzle tips and water-sensitive cards, provided by Spraying Systems Company.

The program included lecture-format demonstrations for the entire group and smaller, hands-on breakout groups. The topics were intended both to increase the overall knowledge level of the participants and to teach them

ways to present information in their own training programs. Table 2 summarizes the lecture-format sessions and Table 3 summarizes the breakout sessions. A virtual tour of the SR-PSEC program can be viewed at <http://ipm.ncsu.edu/srpsec/promo/index.html>.

Table 2. Lecture-Format Sessions in the Pilot Program

Topic	Format	Key Points
Why Training Doesn't Work	Lecture, demonstration of training aids	<ul style="list-style-type: none"> ○ Pitfalls to be aware of in adult training sessions ○ How to incorporate hands-on training methods
Introduction of the SR-PSEC Web site ¹	Lecture, demonstration of on-line Web site	<ul style="list-style-type: none"> ○ Demonstration of how the SR-PSEC Web site is organized and how trainers can access information
Active Learning	Lecture, audience participation	<ul style="list-style-type: none"> ○ How to use active-learning techniques to teach students to interpret a pesticide label ○ Methods described at the Web site indicated at the foot of this table²
Understanding Hispanic Cultures	Lecture, role playing	<ul style="list-style-type: none"> ○ Be aware of cultural differences when communicating with Hispanic workers about pesticide safety/enforcement
Communicating Risk to the Public	Lecture	<ul style="list-style-type: none"> ○ How to increase the public's awareness of the relative risks of pesticides
Risk and the Registration Process	Lecture, demonstration	<ul style="list-style-type: none"> ○ Explanation of the methods required by EPA to register a pesticide
Changing Application Behavior	After-dinner presentation	<ul style="list-style-type: none"> ○ Insights into the pesticide certification and training process
Understanding Pesticide Labels	Lecture	<ul style="list-style-type: none"> ○ Recognition of the importance of labeling comprehension
Electronic Techniques and Tools	Lecture, demonstration	<ul style="list-style-type: none"> ○ Demonstration of how to use digital photography in presentations
Where Are We, and How Did We Get Here?	After-dinner presentation	<ul style="list-style-type: none"> ○ US history of pesticide use and regulation

¹ The SR-PSEC Web site (<http://ipm.ncsu.edu/srpsec/>) is organized according to the chapters in the national "core" manual, *Applying Pesticides Correctly*, and is comprised of links to various sites that provide fact sheets, slide sets, and other support documentation for trainers.

² <http://www.udel.edu/pesticide/educator.htm>

Table 3. Breakout Sessions in the Pilot Program

Topic	Format	Key Points
Breakout Sessions (4 groups)		
Nozzle Selection	Hands-on demonstration	<ul style="list-style-type: none"> ○ Demonstration of different nozzles' spray patterns ○ Sample problems for nozzle selection
Pesticide Chemistry – Incompatibility and Formulations	Hands-on demonstration	<ul style="list-style-type: none"> ○ Demonstration of potential incompatibility problems ○ Non-pesticide counterparts used for demonstration purposes
Pesticide Exposure Demonstrations Using Fluorescent Markers	Hands-on demonstration	<ul style="list-style-type: none"> ○ "Pesticide applications" conducted while wearing personal protective equipment (PPE) to show potential contamination
Drift Minimization	Hands-on demonstration	<ul style="list-style-type: none"> ○ Effects of wind speed, nozzle type, and sprayer pressure on spray drift using fan and water-sensitive cards
Breakout Sessions (2 groups)		
Tour of NCDA&CS Pesticide Section Complex	Field trip, Tour, Case-study investigation	<ul style="list-style-type: none"> ○ Function of the regulatory and compliance operations ○ Tour of formulations, microbiology, pesticide residue laboratories
NCSU biological and Agricultural Engineering Facility	Field trip, Hands-on demonstration	<ul style="list-style-type: none"> ○ Calibrating application equipment (boom and backpack sprayer and a drop and rotary spreader) ○ Distribution of printed resources for calibration and measuring container

Program Assessment

The success of the program was evaluated in several ways.

- 1) Program demand (participation) was an informal indication of overall interest and need
- 2) Formal evaluation surveys were conducted in which participants rated elements of the workshop.
- 3) Follow-up research was conducted to evaluate "second-generation" success among pesticide applicators taught by SR-PEC workshop attendees.

Program Participation

Thirty-eight and thirty-seven individuals attended the spring and fall workshops, respectively. The breakout of attendees is shown in

Table 4. Most of the participants came from the Southern region states. However, at the time that the SR-PSEC was launched, many of the state agencies within the region were experiencing budget constraints that prevented them from traveling out-of-state. Slots that could not be filled by Southern region state representatives were offered to others outside the region. Participants from outside the region came from California, Canada, Hawaii, Illinois, and Montana. This latter group included PSEP statewide coordinators and trainers from municipal programs. Representatives from EPA and USDA also participated in the workshops.

Table 4. Number of Participants in the SR-PSEC's First Two Pilot Workshops

	Workshop 1 March 2001	Workshop 2 October 2001
NC County Extension Agents	22	21
NCDA & CS Inspectors	6	4
Other states, regions and agencies represented	AR: 1, FL: 1, KY: 1, LA: 1, SC: 2, HI: 1, Canada: 1, USDA: 1, EPA: 1	OK: 1, IL: 1, FL: 1, CA: 1, MT: 1, LA: 1, SC: 2, VA: 2, HI: 1, USDA: 1
Total	38	37

Workshop Session Evaluation

Participants rated individual presenters against three criteria: (1) relevance of topic to you, (2) preparation and knowledge of teacher, and (3) quality of teaching materials. The criteria used to evaluate the program based on ratings included: (1) the mean ratings, (2) whether or not there was a relationship between the rating of the program and the years of pesticide training experience the participant had, and (3) if there were any differences in the ratings of the smaller hands-on

breakout sessions versus the more traditional lecture-format.

On average, participants showed a high approval rating for the program. The rating scale was a 1 to 5 Likert scale (1=Poor, 2=Fair, 3=Average, 4=Good, 5=Excellent). Overall, for both workshops and across all sessions, 84 percent of the participants rated the topics above average in relevance to them ("good" or "excellent") (Table 5). They especially appreciated the preparation and knowledge of the instructors, with 9 out of 10 of the participants rating this aspect "good" or "excellent."

Table 5. Overall Session Ratings

Aspect rated	Number of observations	Mean	% rating aspect 4 or 5 out of 5
Relevance of the topic for all sessions	532	4.30	84.4%
Preparation and knowledge of instructor for all sessions	491	4.54	91.2%
Quality of the teaching materials for all sessions	489	4.28	82.6%

When the average of the relevance of the topic was broken out by session for each workshop, very few significant differences

occurred. The mean rating for the relevance of the topic for each session is reported in Table 6. Note that where the session was

offered in both workshops, the ratings were combined, resulting in a larger number of observations.

Significant differences between the mean ratings for each session were tested using the Scheffe post hoc test of means. The Scheffe procedure is a series of pairwise comparisons of means to determine whether or not there is a statistical difference between two means of unequal sample sizes. The test uses a confidence level of 0.05. Table 6 summarizes the results of the Scheffe test by indicating which means are statistically different from each other. Each mean that is statistically the same as another mean is assigned the same letter

of the alphabet. For example, in the 4th column, because both the first session (*Electronic Techniques and Tools*) and the second session (*Where Are We, and How Did We Get Here?*) have "A's" beside them, one can conclude that the ratings for these two sessions are not statistically different. However, *Electronic Techniques and Tools* is rated significantly lower than *Risk and the Registration Process*, which is in the B group but not in the A group.

Overall, these data show that there was little difference statistically in how the participants rated the sessions as to how relevant each topic was for them.

Table 6. Mean Relevance Ratings by Session

Session Title	Number of observations	Mean	Scheffe Grouping
Electronic Techniques and Tools	15	3.53	A
Where Are We, and How Did We Get Here?	14	3.79	AB
Tour of NCDA&CS Pesticide Section Complex	34	3.94	ABC
Understanding Hispanic Cultures	52	3.94	ABC
Communicating Risk to the Public	31	3.97	ABC
Active Learning	21	4.14	ABC
Why Training Doesn't Work	52	4.38	ABC
Pesticide Chemistry – Incompatibility & Formulations	44	4.39	ABC
Nozzle Selection	43	4.47	ABC
Understanding Pesticide Labels	28	4.50	ABC
Risk and the Registration Process	17	4.59	BC
Drift Minimization	44	4.59	BC
Calibration	36	4.64	BC
Pesticide Exposure Demonstrations Using Fluorescent Markers	43	4.74	BC
Changing Application Behavior	18	4.83	C

The second area to be reviewed was whether or not the workshop was applicable to all members, regardless of their years of experience. The on-line program was designed to bring everyone to a similar base level of knowledge. Because of this, the expectation was that the sessions would be relevant, regardless of the training

experience of the participants. On average, participants had 11.1 years of pesticide training experience, ranging from less than a year to 28 years. Ordinary Least Squares Regression was used to test the effect of years of pesticide training experience on the rating given to the relevance of each session.

The basic model used was:

$$Y = \beta_0 + \beta_1 X$$

Where: **Y = rating on a 1 to 5 scale**
X = years of pesticide training experience
 β_0 and β_1 = estimated parameters

The results of this regression showed no significant response of the overall rating of relevance to years of experience. Even when the relevance of individual sessions were tested, years of experience only impacted the relevance of one session (*Understanding Pesticide Labels*) and that was a positive impact: the more years of experience, the higher the relevance rating for that session.

The third analysis of the ratings compared the ratings of the hands-on breakout sessions with the ratings of the more traditional lecture-format sessions. It should be noted that the lecture-format sessions in these workshops had more hands-on techniques and demonstrations than traditional

classroom lectures. Table 7 summarizes the ratings for the hands-on breakout sessions compared with the lecture-format sessions. The F-test statistic and significance level comparing means also is presented.

With the exception of the ratings for preparation and knowledge of the teacher, the ratings for the hands-on breakout sessions were significantly higher than those of the more traditional approaches. This suggests that the more topics that can be covered in smaller groups with hands-on topics, the more relevant the participants will perceive them to be.

Table 7. Overall Ratings for Hands-on Sessions vs. Lecture-Format Sessions

Aspect rated	Means for hands-on, smaller breakout groups	Means for lecture-format sessions	F-test statistic	Significance level of F-test
Relevance of the topic for all sessions	4.57	4.52	36.78	0.000
Preparation and knowledge of instructor for all sessions	4.57	4.52	0.85	0.357
Quality of the teaching materials for all sessions	4.48	4.14	21.68	0.000
Overall ratings combined	4.54	4.26	48.16	0.000

Overall, the ratings showed that the participants were pleased with most of the workshop. However, they were more likely to rate the hands-on sessions relevant with better quality teaching materials than those sessions with a more traditional format.

Second Generation Effectiveness Evaluation

Another evaluation tool was designed to measure the second-generation effectiveness of the workshops. That is, the evaluation would gauge a pesticide applicator's willingness to adopt a practice as a result of attending a training session conducted by a SR-PSEC participant. A form was given to SR-PSEC participants to copy and distribute to applicators at a session that focused on one of the topics offered at the SR-PSEC workshop. The form was modeled on Whitney's *Putting Safety into Practice* (Whitney 1996). At the end of the training session, the applicator could list up to three

new practices that he/she would plan to implement to improve his/her pesticide handling skills. The results could be used to gauge the impact of the training session and the change in attitude of applicators attending the training. Because of the variety of topics and number of second-generation responses, it is difficult to summarize the reports submitted by SR-PSEC participants. From the feedback received, it is clear that the agents and inspectors are putting the hands-on techniques to use in their training and are having a great deal of success by engaging their audiences in an active learning environment.

Conclusions

Through the SR-PSEC, multiple states with both extension and regulatory organizations and agencies have combined resources and expertise to deliver quality training to pesticide educators and inspectors who, in turn, can help end-users apply pesticides safely

and effectively. An unexpected but important benefit of the SR-PSEC is the opportunity it has provided for Extension agents and pesticide inspectors to engage in dialogue on a less formal, personal basis. This interaction has given each group a better understanding of their roles and fostered greater cooperation in accomplishing the shared objectives of mitigating pesticide risks to human health and the environment.

By providing a forum for agents and inspectors to interact while improving their knowledge and skills as pesticide safety educators and regulators, the SR-PSEC represents a major step in strengthening the infrastructure of pesticide certification and training programs. The initial success of the SR-PSEC will, it is hoped, enhance the prospect of sustainable funding so that it remains a valuable, ongoing, professional development program for trainers involved in pesticide safety and use.

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