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## **Team Approach to Pesticide Applicator Training, Testing, and Recertification in Four Central Florida Counties**

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**Abstract:** A regional team approach to pesticide training and certification improves clientele opportunities to comply with regulations and requires less time per agent to implement the program. Agents in central Florida identified pesticide licenses with high public demand and developed education opportunities for this group. Program success was measured by comparing exam results from clients taking exams immediately after pesticide training with the results from clients who took the exams without training. Attendees realized a 21% increase in passing percentage. Agents can stretch limited resources and expand quality programs by reaching across county lines in a regional team approach.

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## Introduction

The Florida pesticide applicator certification and licensing program is administered jointly by the Florida Department of Agriculture and Consumer Services (FDACS), Division of Agricultural Environmental Services, (AES) and the University of Florida, Institute of Food and Agricultural Sciences (IFAS) (Braxton & Broadstreet, 2006). The licensing and certification process in Florida is complicated and has 21 pesticide applicator license categories and seven applicator certifications, each with its own test and training manuals. Certification and license requirements are usually determined by pesticide use (by whom and where applied). This stratification of requirements makes administration of the program on the local level confusing for agents and clientele.

## Cooperative Effort

Extension agents in four central Florida counties have formed a pesticide applicator-training group with the goal of focusing local program efforts on those pesticide license and certification categories with the most public demand by agriculture and green industry clientele. Presentations, videos, DVD's, fact sheets, label exercises, and calibration problems were identified or developed to target four license categories, Private Agriculture Applicator, Ornamental and Turf, Aquatic Pest Control, and Right of Way, and two certification categories, Limited Lawn and Ornamental and Limited Commercial Landscape Maintenance.

Each year a CD has been produced by the team with all updated training materials. A pesticide training and testing schedule was developed in November and distributed by bulk mail to clients in December and January, with all training and testing dates and times for the upcoming year. Two of the five agents in the group team-teach each class. This team approach allows scheduling more classes in the region while reducing the time each agent spends on the program. The result is increased program availability to clients in all counties.

At least six to 10 training and testing classes are offered each year and spaced to provide clientele with multiple options by location and calendar date to comply with licensing requirements. In addition, two regional CEU Days for recertification by educational hours are offered each year. These classes offer CEU's for educational recertification in nearly all the licensing and certification categories required by FDACS (Braxton & Broadstreet, 2006).

## Summary of Team Efforts

Over the last 3 years, 1,819 exams were administered in Seminole, Orange, Lake, and Osceola counties in 11 different license categories. Training was offered in four of those license categories (Tables 1, 2, and 3). In those categories where training by the team was conducted, a comparison of exam results for those clients who took the exams immediately after the class (post-train) was compared to the results for those who took

the exam without training by appointment at the Extension offices (walk-ins).

Results indicate an increased passing percentage of 20%, 25%, and 17%, and an increased grade of 5, 6, and 7 points for years 2005, 2006, and 2007 respectively (Tables 1, 2, and 3). During the same period, exams for nearly 600 applicator certifications were administered in three different categories and training offered in two certification categories. Complete exam results for certifications were not available at the time of publication.

**Table 1.**

Selected Pesticide License Exam Results for 2007 in Seminole, Orange, Lake, and Osceola Counties, Florida

<b>Exam</b>	<b>Number of Exams</b>	<b>Percent Passing</b>	<b>Average Grade</b>
<b>General Standards <sup>z</sup></b>			
Post-train	97	78	81
Walk-in	184	75	75
<b>Private Agriculture Applicator <sup>y</sup></b>			
Post-train	28	71	74
Walk-in	39	56	70
<b>Ornamental &amp; Turf <sup>y</sup></b>			
Post-train	59	63	71
Walk-in	62	45	66
<b>Aquatic Pest Control <sup>y</sup></b>			
Post-train	22	68	77
Walk-in	68	46	65
<b>Right of Way <sup>y</sup></b>			
Post-train	10	80	72
Walk-in	32	38	64
<b>Total All Exams <sup>w</sup></b>			
Post-train	216	72	77
Walk-in	385	60	70
<sup>z</sup> General Standards exam required for all four license categories. <sup>y</sup> FDACS pesticide applicator license category. <sup>w</sup> Weighted average - no. of exams x % or grade divided by total number.			

**Table 2.**

Selected Pesticide License Exam Results for 2006 in Seminole, Orange, Lake, and Osceola Counties, Florida

Exam	Number of Exams	Percent Passing	Average Grade
<b>General Standards <sup>z</sup></b>			
Post-train	85	87	82
Walk-in	208	62	74
<b>Private Agriculture Applicator <sup>y</sup></b>			
Post-train	32	84	83
Walk-in	21	62	70
<b>Ornamental &amp; Turf <sup>y</sup></b>			
Post-train	53	55	69
Walk-in	62	40	64
<b>Aquatic Pest Control <sup>y</sup></b>			
Post-train	18	44	63
Walk-in	70	44	67
<b>Right of Way <sup>y</sup></b>			
Post-train	17	41	67
Walk-in	43	42	64
<b>Total All Exams <sup>w</sup></b>			
Post-train	205	71	76
Walk-in	404	53	70
<sup>z</sup> General Standards exam required for all four license categories. <sup>y</sup> FDACS pesticide applicator license category. <sup>w</sup> Weighted average - no. of exams x % or grade divided by total number			

**Table 3.**

Selected Pesticide License Exam Results for 2005 in Seminole, Orange, Lake, and Osceola Counties, Florida

Exam	Number of Exams	Percent Passing	Average Grade
<b>General Standards <sup>z</sup></b>			
Post-train	102	88	81
Walk-in	148	61	73
<b>Private Agriculture Applicator<sup>y</sup></b>			
Post-train	45	89	81
Walk-in	32	78	75

<b>Ornamental &amp; Turf <sup>y</sup></b>			
Post-train	62	45	68
Walk-in	44	45	66
<b>Aquatic Pest Control <sup>y</sup></b>			
Post-train	-	-	-
Walk-in	55	42	63
<b>Right of Way <sup>y</sup></b>			
Post-train	-	-	-
Walk-in	35	46	61
<b>Total Exams <sup>w</sup></b>			
Post-train	209	75	77
Walk-in	224	60	72
<sup>z</sup> General Standards exam required for all four license categories. <sup>y</sup> FDACS pesticide applicator license category. <sup>w</sup> Weighted average - no. of exams x % or grade divided by total number, Aquatic and Right of Way not included in total since training did not occur in 2005.			

Three random sampling mail surveys from 2005-2007 were sent to 169 individuals who attended the pesticide training classes prior to taking the exam. Twenty-one percent of those individuals responded to the survey. An average of 85% of respondents felt that the training helped them pass the examinations. Based on telephone surveys of agriculture and green industry businesses, Hispanic agricultural workers who obtained their Private Agriculture Applicator pesticide license realized an average increase in salary of \$2.28 per hour, resulting in a \$4,742 yearly salary increase per person. In addition, those obtaining their Ornamental and Turf pesticide license (green industry employees) realized an average increase of \$2.53 per hour, resulting in a \$5,262 yearly salary increase.

Many agriculture and green industry jobs require employees to have pesticide licenses to obtain upper level or supervisory positions with concurrent salary increases. This Extension program produces a significant economic benefit for clientele by increasing access to training, testing, and CEU recertification opportunities and by increasing pesticide license exam passing percentages by an average of 21% for those participating in the program.

## Conclusion

Extension agents with responsibility for administering pesticide applicator training, testing and recertification programs can increase the number and quality of educational opportunities for clientele, with less time per agent in planning and implementing the program, by developing a regional team approach. Agents in four central Florida counties focused their efforts and targeted four license categories and two applicator certifications that were in most demand by clientele. They identified and developed training materials and held multiple yearly classes across the region. Participants realized an average increase in exam passing percentage of 21% after taking the training compared to those testing without training. A significant

economic impact results for individuals obtaining pesticide license certification.

## References

Braxton, E., & Broadstreet, D. (2006). Pesticide applicator certification and licensing in Florida. AES, Florida Department of Agriculture and Consumer Services, Tallahassee, FL. Retrieved February 5, 2008 from: <http://www.flaes.org/pdf/Certification%20Manual%201-18-06.pdf>

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