

Search for Excellence Horticulture

Integrated Pest Management (IPM) Scouting Workshops Improve Skills of Greenhouse/Nursery Employees

In 2018, total sales by Florida nursery, landscape services and horticulture retailers was just over \$21 billion. The industry employed 242,000 workers. Central Florida, on any given year, can be the second or third largest production area in the state with total sales for Lake, Orange, Osceola, Seminole and Sumter counties at \$2.23 billion (Hodges, Khachatryan & Court, 2018). In recent years, there has been an uptick in sales due to an interest in gardening and in 2020 because of impacts from the pandemic.

Ornamental production is challenging because of the diversity of crops grown, the many pest problems, the zero tolerance for less than aesthetic perfection, and the potential economic loss due to failure (Bethke and Cloyd, 2009). Increases in pest resistance, in chemical costs, and in public concern over environmental risks, raises the need for alternatives to conventional pest control methods. There is a great need to elevate the awareness of using IPM tactics to reduce chemical use and increase the utilization of other practices that have less impact on the environment.

Florida growers use a variety of IPM techniques, but usage ranges from 72.5% to 2.9% depending on the practice (Hodges, 2014). In a State of the Industry survey done in 2011 by Greenhouse Magazine, greenhouse growers reported spending an average of \$22,000 on pest control products nationwide, although the size of each operation was not reported. By training IPM scouts and applicators to recognize pests and anticipate potential insect and disease pressures, growers can plan to implement biological control or use low risk pesticides to reduce pesticide resistance and avoid use of older classes of chemistry that have high potential for environmental consequences. While online trainings work well for some topics, there is extreme value in hands-on classes for IPM scouting and insect & disease identification as these skills are best developed through practice. It is important to note that this year marks the 25th consecutive year this workshop has been offered.

Educational Objectives: Twenty-five commercial horticulture industry members will participate in the IPM Scout training workshop and increase their knowledge by 80% about integrated pest management practices and 75 % will increase adoption of these practices. Participants would be able to also make pest management choices that would have less impact on the environment. To be measured by attendance and with a follow-up survey 12-24 months after the completion of the class.

Program Activities: This workshop is a three day mini-series that runs from 9 am – 4 pm each session. It is limited to the first 25 registrations because of the intense number of hands-on activities. Spanish translation is available upon request on the registration form. Participants were taught how to identify insect pests, beneficial insects, weeds, diseases, nematodes and abiotic symptoms, how to monitor soil pH and fertility and the importance of water quality. The program is a team effort that consists of five

commercial horticulture Extension agents and four Extension research specialists from the UF/IFAS Mid-Florida Research and Education Center in Apopka, FL.

Teaching methods : Participants attended a three-part nursery/greenhouse scouting workshop to improve their skills in developing action plans for insect, weed, disease, and abiotic pest problems. Each participant received a notebook with class materials as a reference for future scouting endeavors. The workshop has two sponsors and they provided a 10x hand lens to each participant along with pocket sized identification card decks and reference books and meals. Each day begins with PowerPoint presentations followed by lab demonstrations. The whole class attends a field trip at the end of each session where they take their hand lens, a clip board and record keeping sheets into a local greenhouse or nursery and practice what they have learned. The participants also have homework assignments such as to bring in a plant with a problem, a weed for identification, or insects or plants with diseases for the whole class to discuss. They also are given a yellow sticky card to trap insects at their job site and asked to bring it back to class the following week for discussion

Results: A total of 67 people have been trained between the 2018 and 2020 offerings. According to the post test results, 75 % increased their pest identification skills. Additionally 83 % stated their job performance would increase. Early detection of plant problems would allow the growers to use the least toxic means of control. One of the owners who sent at least two employees to this annual class stated, "My employees come back energized and say they are proud of where they work and what they do."

Impact Statement: Although the US economy is struggling, the average consumer is spending more time at home and spending on indoor foliage and home landscape materials have increased. Producers have struggled to keep a steady work force. This class provides basic terminology and skills to workers that do not have any experience in the industry as well as educating workers that want to diversify their skills. The series develops skills for entry level workers and elevates the skills of existing employees of the greenhouse/nursery workforce and provides a toolkit to assist employees on the job. By gaining knowledge about IPM scouting the workers have provided themselves with an avenue for increasing their income. According to the evaluation results a dollar an hour pay raise would equate to \$2,000.00 more per year.

Evaluation: Based on a post-test, 84% of attendees (n=66) increased their pest identification skills. Ninety-three percent of attendees indicated their job performance would improve as a result of the series. Almost 77 % indicated they had implemented one or more IPM practice at their job site. In a follow up survey with participants from the 2018 class (n=21), 100% agreed or strongly agreed that what they learned in the class was useful in their job. Based on survey data 29% reported the training helped them get a higher paying job or a pay raise at their current position. The amount of

money received was a dollar more per hour. Thus increasing the worker's income by \$2080.00 per year that can be returned to the local economy.

References

Bethke, J. A., & Cloyd, R. A. 2009. Pesticide use in ornamental production: what are the benefits? *Pest Management Science*. 65(4), 345-350.

Hodges, A. 2014. Production and Marketing Practices in the Florida Nursery Industry. *UF/IFAS Electronic Data Information Service publication # FE894*. <http://edis.ifas.ufl.edu/fe894>. Retrieved 12/18/14.

Hodges, A., Khachatryan, H., & Court, C. 2019. Economic Contributions of the Florida Environmental Horticulture Industry in 2019.

State of the Industry. Tough to Predict, Pest-Control Costs Should Stay Flat. A Supplement to Greenhouse Management. October 2011. Page 8.
http://www.greenhousemag.com/FileUploads/file/2011SOIgm_supplement.pdf. Retrieved 12/18/14.