Leading the Charge! Volusia County Leaders in the State BMP Enrollment

KAREN STAUDEMAN*

University of Florida/IFAS, Volusia County Extension, 3100 E. New York Avenue, DeLand, FL 32724

ADDITIONAL INDEX WORDS, Best Management Practices

Volusia County growers recognize the importance of Florida Best Management Practices (BMPs). These practices are crucial and include irrigation efficiency, uniformity, and the monitoring of nutrient levels in leaves and soil. The goal of this effort was to lead the state in BMP enrollment, assist growers with interpreting annual soil and plant tissue tests, and to aid in smart decisions with water and fertilizer use. Early in 2013, Volusia County began with seven growers enrolled with 209.15 acres under cultivation. Growers were offered three classes, one field day, and two advisory meetings reinforcing the importance of the BMP concept. Two grants were procured to provide free soil, tissue samples, and promotional items in order to entice growers into enrolling. The commercial horticulture program began soliciting growers to become compliant through email reminders, educational programming, and through field consultations. The extension agent obtained grower contacts that were directly submitted to a Florida Department of Agriculture and Consumer Services agent in attempt to enroll them. By early 2016, a total of 73 growers within Volusia County became compliant along with 3863.63 acres—granting the county the fourth highest enrollment per acre in the state of Florida in citrus, fruit and nut, nursery, and row/field crop acreage. The long-term outcome will be for growers to become habitual with yearly testing, improved nutrient awareness, monitor rainfall, and gain funding from competitive cost share programs.

In 2004, the Florida Department of Agriculture and Consumer Services (FDACS) adopted an Agricultural Best Management Practices (BMP) program. Most of the participation was focused on large acreage farms throughout the state. Polk and Highlands Counties had the highest grower/acreage ratio enrolled in the program in citrus, fruit & nut, nursery, sod, vegetable, and agronomic crops. By 2013, the Volusia County commercial horticulture program saw a need to increase Volusia grower enrollment. The BMP program would serve to bring about awareness on water use and quality, fertilizer needs, and ensure a presumption of compliance with state and water quality standards. Additionally, those enrolled would receive preferential treatment in competitive governmental cost share programs. This would enable potential economic funding for commercial operations. The extension agent formed a partnership with an agent employed by the FDACS to introduce the BMP program to growers and actively register them into the program.

Objectives

- To achieve the highest Notice of Intent (NOI) BMP enrollment rate in the state.
- Demonstrate irrigation techniques and tools, such as soil moisture meters and nutrient equipment, for implementation in field exercises.
- Encourage rainfall monitoring by the use of rain gauges.
- Motivate yearly soil and plant tissue testing participation with improved nutrient awareness in crop-group teaching.
- Procure funding through cost share programs in cooperation with other agencies, such as the Tree Assistance Program-TAP, NRCS, EQIP, FDACS, and Saint Johns River Water Management District.

Materials and Methods

From 2014–16 the commercial horticulture program offered three classes, one field day, and two advisory meetings with a total attendance of 143 people, including 83 growers. The extension agent also presented eight additional BMP programs during that time period that encouraged all growers to enroll. For this report, only Volusia County numbers were tracked. Aside from programs, the extension agent continuously alerted all growers through email, listserv, word of mouth, field visits and through telephone the importance of becoming BMP compliant and the preferential treatment in governmental financial assistance and cost share programs that would be available to them once they signed a NOI into the program.

The field day, held in June 2015, involved a half-day field and classroom presentation that explained why and how attendees could sign up for BMPs. It introduced the Florida Mobile Irrigation Lab (MIL) service and how to measure leaching fraction and overhead frond capture. Allied representatives explained cost share programs, irrigation practices, and the Florida Automated Weather Network (FAWN) online tool. In the field, attendees watched demonstrations on irrigation uniformity, irrigation efficiency, and rain gauge placement and mounting. Twelve
growers were issued a Stratus rain gauge valued at $49 each and were instructed to install them and record daily rainfall amounts over a 2-week period. Then, they were to send the readings via email or postal back to the commercial agent. This was meant to promote a daily routine to monitor rainfall.

One activity demonstrated field sap testers, using blue dye to observe fertilizer leaching and irrigation rates. A post exit survey confirmed perceived increase in knowledge by growers. The extension agent also used promotional products as rewards to “classical conditioning” behavior in enrollment and attendance to BMP updates and educational workshops.

Two additional educational workshops, in Oct. 2015 and Jan. 2016, offered growers already enrolled in the BMP program the opportunity to take part in a group study anonymously. They were provided five free soil and two tissue tests valued of $120 each. The soil and tissue tests were used to establish baseline readings for citrus, leatherleaf, flowers, and cut foliage with tissue and soil nutrient readings and to assess current conditions in the field. The growers would have the test results to implement and maintain a presumption of compliance that requires yearly soil and tissue testing. Several of the classes offered up to three free pesticide license Continuing Educational Units, valued at $10 each, which serves to keep their private pesticide applicator’s license renewed. The extension agent obtained two competitive BMP grants totally $3,733.4 and $5,499 in calendar year 2015–16. This funding helped to finance the efforts.

Results

Since inception in 2004 of the BMP program in Volusia County up until 30 Mar. 2016, a total of 73 growers became compliant with 3863.63 acres under cultivation, granting it the fourth highest percentage (19%) enrolled per acre in the state of Florida preceded by Orange (46%), Miami-Dade (44%), and Polk (21%) counties (Table 1). These figures referred to the enrolled acres in citrus, nursery, sod, fruit & nut, vegetables and field crops only.

Table 1 also indicates the 2012 total cash receipts of agriculture commodities in the state of Florida as reported by FDACS in which Orange County ranked tenth ($262 million), Miami-Dade County second ($604 million), Polk County fifth ($350 million) and Volusia County nineteenth ($111 million).

Out of the 13 growers who received Stratus rain gauges, nine (69.2%) growers complied with the assignment, 3 (23.1%) mounted them only but did not report gauge readings and one (7.7%) neither mounted nor used the rain gauge. This revealed that a significant number of growers were actively participating in regular monitoring of rainfall when given a proper rain gauge or were willing to use it as a tool by proper mounting in the field. Growers took advantage of the free nutrient soil and plant tissue testing. Thirty-two plant tissue and 92 soil samples were paid in testing fees to growers enrolled in the program through grant funding. This laid the ground work for establishing the first ever baseline nutrient readings for cut foliage and citrus.

Government agencies including the Farm Service Agency (FSA), Natural Resource Conservation Service (NRCS), Florida Department of Agricultural Consumer Service (FDACS) and St. John River Water Management District (SJRWMD) report between the years 2015–16

- two foliage growers received $47,198.03 in cost sharing programs (SJRWMD) with two more pending in 2017.
- Five citrus growers received $7,378 in cost sharing programs (TAP) with 10 more pending in 2017.
- EQUIP paid out $17,248.16, Wildlife Habitat (WHIP) program paid $28,348.90 and Crop Share Program (FSA) paid $70,487 to Volusia County commercial growers.

These payouts were received by commercial growers after their enrollment into the BMP program by way of the Volusia County commercial horticulture extension agent. This is a monitory gain to Volusia County of $170,660.09.

Conclusion

The results reflect that a diversity of tactics are needed to motivate growers to enroll in the BMP program. Hearing about a grower facing financial fines from lack of enrollment did stimulate a few growers to enroll. The best tactic by the extension agent was facilitating the interview with the FDACS compliance officer. Growers gained trust though the extension agent and allowed for the 1–2 h interview by the FDACS representative to register. Promotional items (such as pencils) were successful in rewarding clients for attendance. Enrollment in the program was improved when they were also obtaining free CEUs, soil and tissue laboratory tests, and rain gauges.

The results from the extension agent’s marketing efforts indicated that Volusia County growers became highly motivated averaging 1.9 growers (NOI) per enrolled acre in the BMP program. Cooperating growers with smaller operations outnumbered larger ones making the marketing effort more challenging. Compounding this issue was that the effort required more site visits by the extension agent and FDACS representative in order to achieve more NOIs. As a smaller player in state’s agricultural receipts (19th place), Volusia County growers complied willingly. This agent was successful in convincing growers of the benefits of the program which indicated trust, cooperation, and value with the commercial extension agent.

Table 1. Statistics for four Florida counties participating in the Best Management Practices Program.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>24203.22</td>
<td>360</td>
<td>4.6</td>
<td>$262 million</td>
<td>10th</td>
</tr>
<tr>
<td>Miami-Dade</td>
<td>10591.69</td>
<td>471</td>
<td>4.4</td>
<td>$604 million</td>
<td>2nd</td>
</tr>
<tr>
<td>Polk</td>
<td>68449.27</td>
<td>1440</td>
<td>2.1</td>
<td>$350 million</td>
<td>5th</td>
</tr>
<tr>
<td>Volusia</td>
<td>3863.63</td>
<td>73</td>
<td>1.9</td>
<td>$111 million</td>
<td>19th</td>
</tr>
</tbody>
</table>

*Notice of Intent.
According to FDACS, failure to adopt BMPs or conducting self-monitoring to show they are not violating water quality standards is very expensive. Implementing (and maintaining) verified FDACS-adopted BMPs provides a presumption of compliance with state water quality standards for the pollutants addressed by the BMPs. Some BMPs can help you operate more efficiently and reduce costs, while you help protect the environment.” The marketing, educational, and incentive actions by the commercial horticulture program were successful in getting Volusia County to the fourth highest in the state of Florida for NOIs per enrollable acre. This county was proactive in obtaining their NOIs. In the end, the growers were eager to become compliant, solid stewards for our water resources. The combinations of these tactics will be for growers to read, understand and make decisions based on their soil and tissue test on a yearly basis. Become habitual with yearly testing resulting in improved nutrient awareness within their crop, avoiding excess fertilizer usage resulting in a lower impact on the environment. The growers also were rewarded with financial gains that serve to stimulate the economic economy in jobs and return on investment. These tactics should be considered for use in other counties to promote cooperation with extension and our State BMP program.