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Final Report

Farm to School Bus Tour Evaluation

With FDACS

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Executive Summary

USDA/FDACS Specialty Crop Block Grant/Farm to School Bus Tour Evaluation
JULY 2014

Introduction

The Florida Specialty Crop Foundation, Florida Fruit & Vegetable Association, and the UF/IFAS Center for Public Issues Education collaborated to host a bus tour for school food service directors at the Florida School Nutrition Association Conference in October 2013. A USDA/FDACS Specialty Crop Block Grant funded the bus tour and the research. The PIE Center conducted a short evaluative survey and reflective oral discussion with bus tour participants to understand their experiences on the tour, what they had learned, and their perceptions of the farm to school program. Additionally, the researchers took observational notes throughout the bus tour.

Findings

The key findings from the survey and oral reflection consisted of information about what the participants had learned, challenges and opportunities they had identified regarding purchasing specialty crops for their farm to school program, and recommendations for future bus tours.

- Knowledge — Participants indicated that the bus tour provided opportunities to gain knowledge about farmers' day-to-day operations, marketing considerations, food safety, and food distribution.
- Challenges — Communication was repeatedly identified as a challenge of purchasing specialty crops for farm to school programs. The lack of communication among producers, distributors, and food service directors hindered the success of the farm to school program. A lack of Internet access and compliance with food safety regulations that met school requirements were also barriers that the participants faced when working with farmers. Other challenges included the price of specialty crops, staffing in school food service, and acceptance of new fruits and vegetables among school children. The newly developed communication tool, Florida Food Connect, was not perceived as an effective tool to improve the communication of those involved in the farm to school program.
- Opportunities — Participants identified opportunities for the success of the farm to school program through effective communication (e.g. email alert), collaboration, connection through middlemen, and the utilization of Extension.

The key finding of the researcher observations was the identification of a gap between producers and food service directors:

- Knowledge gap — Participants asked questions about food packaging, processing, food safety, and marketing. Through these questions it became evident that there was a knowledge gap between producers and food service directors. Neither party was knowledgeable of how the other operated.
- Communication gap — During conversations between producers and foodservice directors it became apparent that they communicated in different measurement units, which caused confusion. For example producers commonly communicated in bushels, while food service directors communicated in number of servings. The lack of a common language made it difficult for both parties to understand the potential buying and selling of products. In addition, the participants often discussed that they did not know when a product was available and

the producers indicated that they did not know when schools needed certain products. This break in the line of communication was impeding the success of the farm to school program.

Recommendations

Recommendations for farm to school

- Extension and farm to school district coordinators should work closely with producers and food service directors to help them identify opportunities through Florida Food Connect.
- Extension should develop programming for food service directors that helps them understand the different food safety regulations and permits that farmers may have. In addition, programming should be developed to aid school districts in contracting directly with producers.
- Farm to school coordinators should help to facilitate relationships and collaborations between school districts as well as between school districts and producers.
- Opportunities should continue to be created that allow producers and school food service personnel to connect and have conversations. It was evident throughout the tour that both parties learned a lot about how the other operated and how they can work together.

Recommendations for further research

- Assess the effectiveness and usefulness of Florida Food Connect (or other alert based communication tool) among farm to school participants
- Understand how large school districts and small school districts differ in their participation in the farm to school program
- Assess the role of the distributor in the farm to school process and the relationships they have with producers and food service systems
- Assess the type (size, commodity, location) of producer typically participating in the farm to school program and explore ways to encourage other producers to consider school markets
- Assess the role Extension is currently playing in the farm to school process
- Understand the role school gardens play in the farm to school process
- Understand the barriers preventing non-participating school districts from implementing the farm to school program

Background

To identify and examine the perceived barriers of purchasing specialty crops as part of the farm to school program in K-12 schools in Florida, the Florida Specialty Crop Foundation, the Florida Fruit & Vegetable Association, and the UF/IFAS Center for Public Issues Education collaborated to host a tour for participants at the Florida School Nutrition Association Conference on October 22, 2013. A USDA/FDACS Specialty Crop Block Grant funded the bus tour and the research.

Sixteen Florida school foodservice directors participated on the tour, representing Collier, Hamilton, Hernando, Leon, Martin, Nassau, Osceola, Pasco, and Pinellas counties.

The bus tour started in Winter Haven at Wm. G. Roe & Sons. A citrus grove, and a citrus packinghouse were visited. Then the group headed to Plant City where they had a short visit of a strawberry farm, and then participated in a grower panel discussion at the Florida Strawberry Growers Association office. The grower panel included a representative from The Florida Tomato Committee, a representative from the Florida Strawberry Growers Association, a commercial berry grower, and a commercial strawberry and vegetable grower. The grower panel addressed the group and participated in a question-and-answer session with the bus tour participants. The foodservice directors were able to ask very specific questions of the growers and share the challenges and opportunities they saw with the farm to school program.

This report is a summary of the bus tour and an analysis of what participants have gained from the tour, challenges and opportunities they identified with the farm to school program so as to shed light on future research and to improve the trip next year.

Methods

A short evaluation and an oral reflection were conducted to collect school foodservice directors' opinions of the bus tour. At the beginning of the trip, foodservice directors were informed about the evaluation and oral reflection. The informed consent forms were signed by foodservice directors and were collected. At the conclusion of the tour, participants were asked to complete a short survey about their experiences on the tour. In addition, the 16 foodservice directors were divided into two groups (eight in each) to participate in a 30-minute oral reflection. Each reflection was conducted with the same question guide.

The evaluation survey included questions about whether the foodservice directors learned something new or gained a better understanding of the operations, and concluded with open-ended questions to specify their understandings. The survey also asked participants to compare their level of understanding regarding the food production relationships between distributors and growers before and after the tour on a five-point Likert-type scale. The scale ranged from one (strongly disagree) to five (strongly agree). Lastly, foodservice directors were asked about their favorite part of the tour, ideas for improvement, and to provide additional comments and feedback.

Descriptive statistics were used to analyze participant understanding regarding food production, food safety, and the relationship between producers and distributors. The statistical software IBM SPSS 22 was used in the analysis.

The oral reflection allowed participants to share what they learned or observed during the bus tour about food production, food safety, challenges and opportunities as well as provide recommendations to improve the trip next year.

The oral reflection was audio-recorded and transcribed. Both the oral reflections and open-ended questions in the survey were analyzed for common themes.

In addition to the evaluative survey and oral reflection, four researchers took observational notes during the tour regarding the participants' challenges and conversations related to getting fresh local food in their school districts. The notes were analyzed for common themes.

Results

Evaluation Survey Results

Learned something new

When asked if they had learned something new on the bus tour, all of the participants ($n = 16$) reported that they learned something new. The participants provided short open-ended responses regarding what they learned at certain stops on the tour as well as things learned in general as a result of the tour.

Learned at specific stops:

- A participant reflected on the visit to Wm. G. Roe & Sons and the grower panel discussion at Florida Strawberry Grower's Association and wrote, "Packing of oranges, how strawberries grow."
- Similarly another participant wrote, "I understand 'greening' and learned that strawberry plants are grown from runners."
- One participant highlighted the knowledge gained from the visit to Wm. G. Roe & Sons and wrote, "[I] didn't know we grew Pomelos in Florida. [I] enjoyed hearing about different variety of citrus available to us."
- Another participant reflected on the visit to Wm. G. Roe & Sons and wrote, "[I learned] how the blueberries grow, time tables for fruits such as tangerines."

Learned in general:

- When reflecting on the tour as a whole, a participant recorded learning about "How produce gets to [the] distributor."
- Another participant holistically reflected on the bus tour and wrote, "[I have a] better understanding of growers' processes."
- A participant reflected on the knowledge gained that could help their school district and farmers. This participant wrote, "I know more about the seasonality and how we can use that to our advantage and help the farmers too."

Understanding of day-to-day operations

All 16 participants said that following the bus tour they had a better understanding of the day-to-day operation of the farms they visited. Many participants reported that they had a better understanding of how much work, how many people, and how many challenges farmers have to deal with in their day-to-day operation.

Challenges that farmers face:

- One participant reflected and wrote, "It [farming] takes a lot of people and work."
- Similarly, another participant wrote, "There is a good deal of hand sorting/harvesting."
- Thinking about all of the challenges a participant wrote, "I understand more about the challenges the farmers have."

Better understanding of market considerations

The participants were asked to indicate if they had a better understanding of marketing considerations for the operations they saw and thirteen out of sixteen participants indicated that they did have a better understanding. The following open-ended responses were given regarding the participants increased understanding of market considerations:

- A participant reflected on the bidding process used by their school district and wrote, “I realize the bidding system is not realistic for fresh produce.”
- Another participant recognized gaps between farmers and school districts and wrote, “There remain gaps in communication.”
- Similarly, a participant felt that farmers were not fully aware of nutrition services options when considering marketing. This participant wrote, “How little farmers know about nutrition services operations.”
- One participant felt that they had gained an understanding and wrote, “[I] understand resources and tools available.”
- Conversely, another participant felt that marketing was not covered in depth and wrote, “We didn’t really dwell on the marketing side, except in the citrus facility.”

Comparison of the knowledge level before and after the bus tour

Participants were asked to rate their level of agreement with four statements on a five-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). A knowledge increase was observed for each question. The largest gain in knowledge as a result of the bus tour was observed for the statement “I understand how growers work with distributors” ($\Delta M = 1.13$), followed by “I understand how food products get from the field to the distributor” ($\Delta M = .94$) (Table 1).

Table 1. Comparison of the knowledge level before and after the bus tour

Statement	Before the tour	After the tour	Mean Difference
	<i>M</i>	<i>M</i>	
I am knowledgeable about food production	3.75	4.38	.63
I understand the food safety measures taken during food production	4.13	4.63	.50
I understand how growers work with distributors	3.00	4.13	1.13
I understand how food products get from the field to the distributor	3.19	4.13	.94

Favorite part of the bus tour

When asked to indicate their favorite part of the tour, most of the foodservice directors chose the Wm. G. Roe & Sons packing plant and farm visit. One participant chose the strawberry farm and another participant chose the grower panel discussion at the end as his or her favorite part of the bus tour.

Appreciation of the trip

- Participants expressed their appreciation of the bus tour. One participant wrote about their experience, “First time in a processing plant. Really enjoyed the tour. Liked seeing the trees and learning about greening.”
- Another participant wrote, “The processing plant was an excellent eye opener.” Similarly, one participant said “The citrus visit was amazing.”
- Valuing the differences that were discovered between producers and food service directors, a participant wrote, “I think this experience was great, because the farmers and nutrition services professionals explained the differences in their business.”

Bus tour improvements

Participants also gave suggestions for the next bus tour according to their experiences on this trip. They commonly asked for more and provided recommendations regarding the logistics.

More details, more discussion, more time

- More details: Some participants mentioned that they would like to have more details. One participant mentioned specifically, “More info on tomatoes, lettuce”, another participant wrote, “Next year follow up on software to connect farmers' products to schools-- Success stories, best practices.”
- More discussion: Many participants mentioned they would like to have more time for discussion throughout the bus tour. For example, one participant wrote “More time for discussion at end,” another participant wrote “More time for discussion with growers.” A participant also recommended utilizing the drive time for discussion and information delivery.
- More time: One participant requested more time at a specific stop and wrote “More time at 2nd farm [strawberry farm],” while another participant said it would be good to have a full day bus tour.

Logistics

- The bus tour encountered logistical issues on the way to the strawberry farm. Some participants gave suggestions pertaining to this issue, such as “not getting lost :),” “Do not take us to a farm where there is nothing to see and take 30 minutes to get there,” and “leave out the strawberry fields.”
- A Participant also offered other suggestions regarding logistics including “Meet with farmers at the beginning of the day,” and “Farmers/grower closer to hotel and closer together if visiting multiple locations.”

Oral Reflection Results

For the oral reflection, participants were asked to discuss what they had learned about food production and food safety during the bus tour. They were also asked to discuss what opportunities and challenges they identified regarding the farm to school program as a result of the bus tour.

Food Production

During the discussion, participants indicated that they learned about citrus packing, citrus greening, and how strawberries grow.

- A participant discussed learning about the resources needed to run the citrus packing plant. This participant said, “Well, the citrus [packing] plant ... was interesting to see how many people it took to do the job, to get the job done. I find that interesting.”

- Another participant discussed learning about citrus greening and said, “Challenges related to food production, one was ... greening effects on citrus I think...how they use the genetics and how they use that to improve [the citrus].”
- One participant learned about how strawberries grew and was excited to share this knowledge with children. This participant said “What I learned on the bus, is that the [strawberry] plants are grown from runners and I have a spider plant that I could [use to] illustrate that for kids.”

Food Safety

When asked what they learned about food safety during the bus tour, the participants discussed what they learned about strawberry cross contamination, as well as how the citrus was washed.

- The participant’s valued learning that strawberries were not washed on the farm and considered this knowledge important to ensure food safety. One participant said, “I enjoyed the discussion about cross contamination in regards [to] strawberries” and another participant said, “[The] strawberry farmer mentioned that the strawberry was not washed, which is helpful.”
- Some participants mentioned it was surprising to see the citrus packing plant using city water to wash their products and one participant said, “I was surprised the oranges and tangerines were washed in city water.”

Challenges

One of the main challenges discussed by participants was a lack of communication between farmers and school nutrition programs. Additional challenges discussed included a lack of resources among farmers, competitive prices, and challenges in the school districts.

Communication

- One participant discussed the lack of knowledge on both sides that has resulted from a lack of communication. This participant said, “I think we need to work on having conversations because they [farmers] don’t know anything about our business. If we can ask the good questions, we need to get them [farmers] into our school where they can see we can bring [in] money. But they don’t understand the portions, they don’t understand what 15 cents a portion is when they don’t know how many portions we serve a day.”
- Another participant recognized the need to build relationships with farmers through communication and said, “They don’t know our business. They need to have some time [so] that we can make a relationship and teach that. And physically see it because just hearing it, is not going to make a difference.”
- Miscommunication about school lunch menus and portions was another challenge that participants discussed. One participant said, “They [Farmers] need to come in and see what we are operating – like the portion size. But also have the ability to offer a wide variety of fruit and vegetables and not just what’s on the menu. They think once it’s already on the menu that’s all we can offer but it doesn’t work that way at all.” A participant elaborated on the miscommunication about portion size and the complications of translating between bushels and serving sizes and said, “They [farmers] don’t even know what a portion is. So they are operating in the blind. They don’t [know] what a portion is – they don’t know if they can make money you know.”

Lack of resources among farmers

- One participant expressed concerns about being able to communicate with farmers because they may not have [an] Internet connection or feel comfortable using the Internet. This participant said, “I do worry about the small

farmers. Number one, you know connection to the Internet and any other ways like email and those sorts of things. I always think, but I don't always know that [the Internet is] something all farmers feel comfortable about."

- Other participants expressed concerns about the food safety steps taken by farmers and worried that some farmers may not have the proper food safety oversight. One participant said, "I am not sure [if there is an] agency to make sure they have good agricultural practices, they have a plan. They like their small farmers, small organic farmers. They have [a] different credit agency, maybe. We need to know if these are good agricultural practices, if their food is traceable, if there is food recall, [and] do they have a plan?"

Competitive prices

- The participants discussed that if they were unable to offer competitive prices, farmers would seek out of state markets. One participant said, "They [farmers] are probably most likely ... to travel out of the state to get a better price for it [product]. If we could be able to buy here ... I mean, isn't that really why they would be going out of the state... to get a better price for their products...so really related to the school food service, it is gonna have to come down to [the farmer] giving the best opportunity ...or all of us coming together."
- The participants also felt like they did not always know what prices were competitive or what the distributors were paying farmers. One participant said, "They [farmers] are getting paid by the produce distributor. Yeah. That's the problem." Another participant responded and said, "We could pay them [farmers] directly. Another thing is – we need to know what the price is so we can pay the farmer the same prices." A third participant joined the conversation and said, "How do we get the price? For the farmer, they are left out in the cold. We have to make sure that we are paying what they [distributors] are paying."

Challenges within school districts

- The participants discussed several challenges within school districts that made it difficult to implement a farm to school program successfully. One participant discussed the labor challenges they face when bringing in fresh fruits and vegetables. This participant said, "The challenge is physical labor, if we could get it in and the processing is minimal, but then if we are going to use it there's still so much to do. If every child is going to get it, how many cases do we need?"
- Additionally, participants discussed the challenges associated with getting children to eat new fruits and vegetables. A participant said, "Initially they didn't like them [satsuma] we had to actually show them how to open them up because they had a wrinkly skin and they don't look as nice. We had to open them up so the kids could see what was inside. So yes. Now they will eat them. When I served the last of them in January, they wanted to know where they were. They still were liking them. This year is going to be totally different, they are going to know what they are when they see them. So we won't have that problem."
- Some participants discussed the cost to parents associated with students eating more fresh fruits and vegetables. One participant said, "I am more worried about this fresh fruit and vegetable program and what we do with our farm to school snack program because they are getting used to all of these fruits and vegetables....but their parents can't afford it."

Opportunities

During the reflection many participants identified opportunities, many of which were related to communication, collaboration, the need for a farm to school liaison, and the opportunity to utilize Extension.

Communication

- The participants discussed that while communication was a challenge, it was also an opportunity. One participant said, “Definitely, the challenges and the opportunities. The communication. Because if they don’t know about our system, even though we are communicating it is not going to work.” Another participant said, “I identify one [opportunity], just having the opportunities to [have] the round table to talk with the growers and any time we opened up...to communication [to] create the opportunities.”
- Participants discussed an email alert system that would increase communication and help farmers find schools they can sell their food to and [help] school districts to find farmers with the products they need. A participant discussed favorability toward this idea and said, “The email system was [a] good [idea]. Letting them know our needs.”

Farm to School Liaison

- The participants discuss that a middleman is needed to translate and pass information between school districts and farmers. A participant discussed the benefit a liaison could provide and said, “We need a contact or a go to person or something like that. Because she is in charge of procurement for ... so if she shoots something out [via email] and it is an opportunity [to] buy and I see something with your name on it I am going to read it immediately.. and if I like what it is I am going to act on it.”
- During the bus tour participants were introduced to a new online website (Florida Food Connect) designed to connect farmers with different markets, including school districts. However, not all of the participants on the bus tour agreed that this would be a beneficial tool. One participant discussed a preference for having a point person to talk to. This participant said, “The thing is to...with what honestly was discussed with what the state is doing – nobody is going in there (Florida Food Connect) and really using it. Honestly. The state should [not] bother trying to set up that. But I know I am not going to go in there [Florida Food Connect] and check to see if there’s something going on. That’s why we need to know who to talk to – if there are opportunities to jump on it.”
- The participants discussed that a liaison would also be beneficial in helping them understand the food safety and nutrition requirements on both sides of a farm to school contract. A participant said, “We need to get someone that has the state...requirements for the nutrition, the requirements [that are] best for safety that can communicate [to] the farmers so they see somebody that can purchase and [they are] saying ‘Okay, there you are. Can you buy this?’ Okay, I got these so I am going to shoot it [an email] out to all of the directors and [say] here it is, ‘this vendor and this vendor they have strawberries today.’”
- Participants discussed that a liaison would be able to help translate between the farmers and school districts. One participant said, “It has to be one funnel person or persons [to] get that information from farmers and send it out to school. We also need the person to translate the information. Farmers don’t need to know what a portion cost is, they need to be able to tell us that I’ve got strawberries of this amount per pound, whatever. Then there needs to be the person to say, okay, calculate this [and send information] to the food service. That doesn’t have to fall upon farmers. So, again, the importance of that is who is going to be that person, who is going to connect that information from the farmers?”

Collaboration

- The participants discussed collaboration opportunities that could be beneficial. One participant discussed forming a group of local farmers to discuss the farm to school program with regularly. This participant said, “I actually have created a little group in my district of bringing farmers together. And I have already had meetings with them. But still there may be some [farmers] there that we aren’t getting to.”

- The participants also discussed collaborations between school districts to get farm fresh product delivered to all schools in area counties, whether it be through coming together on total volume of product or delivery of the product. A participant discussed the opportunity to increase volume by collaborating with other schools. This participant said, “Honestly you know what? The farmers do comprehend that not only are we going to be dealing with the multi-counties, we got the challenge of size down. We can always come up with creative ways to have them go [sell] to other counties around there.”
- Making the farm to school program more beneficial to farmers was a perceived benefit to collaboration by the participants. A participant described making it worth it for farmers through collaboration and said, “Probably the most likely reason to travel out of the state is to get a better price for it [food products]. If we could be able to buy here, gotta be most likely to get on board and give them [farmers] the volume, to make sure they make benefits. I mean, isn’t that really why they [farmers] would be going out of the state is to get a better price to pay for their products, so really what [is] related to the school food service is gonna have to come down to giving the best opportunity...or all of us [farmers and food service directors] coming together.”

Utilize Extension

- The participants discussed that Extension may be able to provide them with useful food safety information. A participant said, “Extension should put together safety courses on what [food safety] regulations are, maybe some cheat sheet, or little short note thing for foodservice directors like this is what you should look for in farms, like this is what this certification means, which agency oversees what. I think that’s [a] great piece of information IFAS can provide to help foodservice directors be sure [of] what to look for and ask for. ”
- Connecting with local farmers was also a benefit discussed by the participants that Extension could provide. One participant said, “I am gonna use...specifically I need to be able to use my county extension office. I have some really good value there. And having my county extension agent connect me with farmers, maybe even smaller farmers that could help find opportunities for my school district. It’s just one of many things on my plate.”

Participants’ thoughts about the bus tour

To conclude the oral reflection participants were asked to reflect on the bus tour as a whole and discuss what they liked and any suggestions they had. The participants provided positive feedback and also provided suggestions for next year’s bus tour.

Positive feedback

- Several participants loved the tour at Wm. G. Roe & Sons and provided positive feedback in regards to this stop. A participant said, “The packing guy, citrus. Some people heard bits and pieces and some other people heard other pieces. He was very helpful and knowledgeable, but I would love to learn even more. That would be more time there.” Another participant added, “He just [knew] so much about the whole industry. I really, really appreciated his knowledge.” A third participant appreciated learning about the citrus industry and said, “I like the conversation and understanding what is going on in their field. I had no idea that [citrus greening] was happening.”
- Participants also provided positive feedback about the tour in general. One participant said, “[The tour was] very informative, very interesting. I enjoyed it. I would do it again obviously not the same farm or the same processor, I’d like to see other bigger, smaller, you know, things.” Another expressed gratitude and said, “I just want to say that I had a wonderful time today. And I am really glad you invited us all to come. We appreciate the opportunity to do this and

this is the best part of the conference. Best part so far. I just want to say thank you. It's like a free conference activity. I really enjoyed it.”

Suggestions

- The participants offered several suggestions including, length, commodities, food safety, and size. “I would like to go for the whole day,” said one participant.
- Another participant had a particular interest in other commodities and said, “[I] would like to see more about lettuce and vegetables.”
- Food safety was a topic that participants wanted more information on and a participant said, “[I want to] learn more about farmer’s [food safety] certificate.”
- Keeping the tour group small was important to a participant who said, “If we filled this bus, I can’t imagine what it would be like to have all those people.”

Participant Observation Results

Wm. G. Roe & Sons

At Wm. G. Roe & Sons the tour began with participants observing the packing of pomelos, they then moved on to the main packing plant where they saw a variety of citrus being washed, sorted, packaged, and cooled. The tour then moved to a citrus grove, where participants were able to see the trees, discuss problems facing the industry, sample some juice, and see an experimental blueberry plot. Throughout the course of the tour at Wm. G. Roe & Sons, four researchers took observational notes of the participants’ actions, questions, and conversations. The common themes that emerged from these observations were packaging, process, food safety, marketing, novelty, citrus greening, and the gap between farmers and the school food service.

Packaging

- From the very beginning of the tour, the participants took an interest in the packaging and labeling of the citrus. When observing the packaging of the pomelos the participants noticed two different labels being used and inquired about the difference. In the packing house participants continued to ask about the packaging including how many pieces of fruit go in a box, why red netting was used on top of some of the boxes, and why labels had certain words. One participant commented on the label seen on a pomelo and said “It says like a grapefruit.”

Process

- Throughout the tour at Wm. G. Roe & Sons, the participants asked many questions about the process as a whole. From how the fruit got to the packing house, to how the daily operations were carried out, what happened to the unusable fruit, where the fruit went when it left the packing house, and what the packing house was used for when citrus was not in season. At one moment during the tour a packing line stopped and the participants wanted to know why the line had stopped. The tour guide discussed that sometimes the sorters and packers get ahead or behind one another and they have to wait for each other to catch up. The participants expressed a keen interest in where the fruit went when it left the packing house. They asked several questions about distribution and if the rail system was used to transport the fruit. In addition, the participants asked many questions about the washing and waxing of the fruit and were astonished that city water was being used to wash the fruit.
- At the citrus grove and experimental blueberry plot, the participants continued to express interest in the process. The tour guide briefly discussed experimenting with different varieties, cross breeding, and finding better ways to

produce both blueberries and citrus. The participants became concerned when cross breeding was discussed and asked if that meant the plants were genetically modified. The use of GMOs was discussed back and forth between the participants and the tour guide. In addition, the participants were interested in the irrigation, different varieties of citrus, when the citrus was in season, and the overall production process.

Food Safety

- In the packing house the participants observed a food inspector and the inspectors' office. The participants were interested in the inspection process and asked several questions about the inspector's role as well as how the quality grades of the fruit were determined. The safety of the washing and waxing process were also of interest among the participants. They asked if any chemicals were added to the water or the wax and if the components in the wax were safe for human consumption. The other food safety concern that participants expressed was in regard to fruit that had fallen on the packing house floor. They asked if it was consumed. The tour guide explained that if the fruit was damaged or a poor quality grade it would be made into cattle feed, but if an orange had fallen on the ground and was not damaged it would be sent to be made into juice, but would not be used for whole consumption.

Marketing

- The participants expressed interest during the tour about where Wm. G. Roe & Sons marketed the products that they packaged. Some participants even asked if they could or why they could not get those products in their school district. The tour guide did indicate that they sell some of their products to the distributor Fresh Point, which some of the school districts had contracts with.

Novelty

- From the instant the participants stepped into the packing plant they were in awe and expressed excitement and amazement in what they were seeing. Participants were observed watching as boxes flew overhead on a line and several were seen pointing, smiling, and talking to one another. Additionally, some participants were observed chatting with some of the workers in Spanish.

Citrus Greening

- As the tour moved to the citrus grove, the topic of citrus greening was discussed. Many of the participants had not heard about citrus greening and were interested in learning more about it. They asked about what was being done to fight the disease and how it compared to other citrus diseases, like citrus canker. They also asked about the signs and symptoms of greening and inquired about what the government was doing to help combat the disease.

Gap between Food Service and Producers

- Toward the end of the tour at the packing house, the participants were beginning to realize that there was a gap that existed between themselves and producers. However, this became very apparent as they moved to the citrus grove and began to ask many questions about how the fruit can get into their schools. The participants asked what growers thought about the farm to school program, how to avoid the price mark-up from the middle man, and if a school u-pick field trip was possible. The tour guide was very receptive to their questions and both parties realized that what was lacking was an efficient form of communication as the producers often did not know when the schools needed product and the schools did not know when product was available. The tour guide also indicated

that the concept of food service is new to a lot of producers and they are still figuring out how to work most effectively with food service systems. Additionally, the confusion between translating bushels to serving sizes was also discussed.

Strawberry Farm

The stop at the strawberry farm was short, but allowed participants to observe a freshly planted strawberry field and have a discussion with a strawberry farmer. Four researchers took observational notes of the participants' actions, questions, and conversations. The common themes that emerged from these observations were process, food safety, and the gap between farmers and the school food service.

Process

- The participants asked questions about the production process such as how the field is prepped, when the strawberries are planted, and how the strawberries are harvested. The farmer discussed this process as well as the different varieties of strawberries that are grown.

Food Safety

- During the discussion of the production process, the farmer indicated that the strawberries were picked and packed right in the field. The participants then questioned why the strawberries were not washed and how in field packing impacted food safety. The farmer discussed that taking the strawberries to be washed and then packed creates many opportunities for cross contamination. Therefore, they are minimizing the chance for cross contamination, by packing them straight in the field. The participants were under the assumption that strawberries were washed before packing and noted that now they would always make sure that they wash strawberries before eating.

Gap between Food Service and Producers

- Learning that a gap exists between school food service and producers on the first tour stop, the participants asked very specific questions about how the two parties could work together. They specifically asked when strawberries would be at the optimum price for school districts. The farmer indicated that winter strawberries are in high demand around Valentine's Day, but following Valentine's Day school districts should be able to have access to fresh, local strawberries at a reasonable price.

Grower Discussion Panel

The last stop on the tour included a grower panel discussion. The panel included a representative from The Florida Tomato Committee, a representative from the Florida Strawberry Growers Association, a commercial berry grower, and a commercial strawberry and vegetable grower. The participants conversed with the panel about farm to school. Four researchers took observational notes of the participants' actions, questions, and conversations. The common themes that emerged from these observations were the gap between farmers and the school food service and the need for collaboration.

Gap between Food Service and Producers

- The participants asked how to get local food from the field to the school. The grower panel responded and indicated that working directly with farmers or with distributors who value the farm to school program as a solution would be the way to accomplish that. The growers also discussed that producers must be able to make a

comparable profit on selling products to schools as they would elsewhere. Throughout the course of the discussion confusion arose when the growers referred to bushels and pounds while the participants referred to the number of servings. It was recognized that a conversion sheet or liaison is needed to help create a common language between these two groups. They also discussed that the traditional bidding process does not always work with farm to school. In addition, the participants discussed that they would take the products when retailers won't. However, communicating when these opportunities were available was a problem. Communicating about price, availability, quantity, and interested parties were identified as communication problems that needed to be addressed. Despite the difficulties discussed, both the participants and growers expressed a willingness to participate in the farm to school process.

Need for collaboration

- During the panel discussion, the participants recognized how collaborations amongst themselves may aid in the farm to school process. For example, they identified the opportunity of buying large quantities of product when available and preserving them. In order for this to work, they discussed the possibility of a central kitchen equipped for preserving and storing that several schools could have access to. They also discussed coming together to create a hub that farmers could sell to and only school districts could buy from. Lastly, they also discussed that collaborating together would give them the opportunity to buy larger quantities which would provide more benefit to the growers to participate in the farm to school program.

Findings

Throughout the survey evaluation, the oral reflection, and participant observations the following key findings emerged.

- Participants gained a greater understanding of the processes associated with production and packaging. They asked many questions about the process and expressed interest and excitement in learning.
- Participants asked many questions about how products are marketed. They gained a better understanding of how producers make marketing decisions and identified how they could make schools a more viable market for local producers.
- Participants reported learning and knowledge gain. Participants expressed learning not only about the production and packaging processes, but also learning where the gaps are in the farm to school process and the producer's perspective on farm to school.
- Participants repeatedly identified communication as a barrier to the farm to school process throughout the bus tour. Participants identified gaps in communication between producers, distributors, and school food service systems that were hindering the success of farm to school. Some of the communication barriers included just knowing when product was available or when schools needed products as well as the need for a common language when discussing the volume of product.
- Throughout the bus tour, the participants identified opportunities for collaboration including things as simple as sharing ideas to things as complex as coordinating large quantity buys or a central kitchen among several school districts.
- Participants referenced the need for a farm to school liaison to help connect producers, distributors, and school districts. The participants discussed that a person familiar with how all parties operate would be beneficial in addressing some of the communication barriers associated with the farm to school program.

Recommendations

Recommendations for farm to school

- Extension and farm to school district coordinators should work closely with producers and food service directors to help them identify opportunities through Florida Food Connect.
- Extension should develop programming for food service directors that helps them understand the different food safety regulations and permits that farmers should have. In addition, programming should be developed to aid school districts in contracting directly with producers.
- Farm to school coordinators should help to facilitate relationships and collaborations between school districts as well as between school districts and producers.
- Farm to school liaisons exist in the form of farm to school coordinators as well as extension agents. Efforts should be made to educate all parties and help them to identify the resources available.
- Opportunities should continue to be created that allow producers and school food service personnel to connect and have conversations. It was evident throughout the tour that both parties learned a lot about how the other operated and how they can work together.

Recommendations for a 2014 bus tour

- Include more commodities
- Increase the length of the tour
- Minimize drive time if possible
- Keep tour groups small
- Allow for facilitated discussion between producers and food service personnel
- Consider incorporating a visit to a school district succeeding in the farm to school process or bring producers to tour a school food service system increasing the opportunity for collaboration.

Recommendations for further research

- Assess the effectiveness and usefulness of Florida Food Connect (or other alert based communication tool) among farm to school participants
- Understand how large school districts and small school districts differ in their participation in the farm to school program
- Assess the role of the distributor in the farm to school process and the relationships they have with producers and food service systems
- Assess the type (size, commodity, location) of producer typically participating in the farm to school process and explore ways to encourage other producers to consider school markets
- Assess the role Extension is currently playing in the farm to school process
- Understand the role school gardens play in the farm to school process
- Understand the barriers preventing non-participating school districts from implementing the farm to school program