

## 31<sup>st</sup> West Indies Agricultural Economics Conference—A Tremendous Success

By Clarice C. Clarke  
Public Information Specialist II  
Communications



The 31<sup>st</sup> West Indies Agricultural Economics Conference was one of the best the Caribbean Agro-Economic Society has ever held, and this success was due in large measure to the wonderful efforts of the University of the Virgin Islands and its Cooperative Extension Service, which hosted the conference on behalf of the Society, said Dr. Carlisle Pemberton, President of the Caribbean Agro-Economic Society. “The participants enjoyed the intimate setting of the Buccaneer Hotel, and the sessions were well attended. Additionally, there was excellent participation, especially at the special session on agriculture in the Virgin Islands, which featured youths from both St. Croix and St. Thomas. From the lovely reception with the Governor, to the banquet and the field trip, all the activities were well planned and executed,” he said. He also stated that special congratulations must be extended to Kwame Garcia Sr. who received a special award for his distinguished service to the Society at the banquet. “On behalf of the Caribbean Agro Economic Society, I would like to extend my thanks to all who contributed to make this Conference such a huge success,” Pemberton said.

Agricultural scientists, agricultural economists, and policymakers from around the Caribbean and throughout the world met on St. Croix to participate in the 31<sup>st</sup> West Indies Agricultural Economics Conference. The first for St. Croix and the Virgin Islands, it lived up to its billing as scientists presented their papers and recommendations on what is needed to address the theme: “Mitigating Climate Change Effects to Ensure Food Security.”

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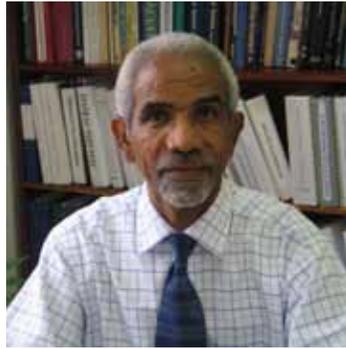
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## UPCOMING ACTIVITIES

<b>World Food Day "Hunger Banquet"</b>	<b>October 16 (STX)</b>
<b>World Food Day</b>	<b>October 18 (STX)</b>
<b>Usefulness of Internet Workshop</b>	<b>November 9-12 (STX)</b>
<b>Smart Phones &amp; Tablet Workshop</b>	<b>November 17 -18 (STX)</b>
<b>STT/STJ Agriculture Fair</b>	<b>November 21-22 (STT)</b>
<b>Beginning PowerPoint Workshop</b>	<b>November 23-24 (STX)</b>
<b>Intermediate PowerPoint Workshop</b>	<b>December 1-3 (STX)</b>
<b>VI Woodworkers Expo</b>	<b>December 4-6 (STT)</b>
<b>Beginning Excel Workshop</b>	<b>December 8-10 (STX)</b>
<b>Intermediate Excel Workshop</b>	<b>December 14-16 (STX)</b>
<b>VI Woodworkers Expo</b>	<b>December 18-20 (STJ)</b>



## The State Director's Message

This edition of *From the Ground Up*, as previous editions, showcases the multifaceted program of the Cooperative Extension Service. It also introduces the productive partnerships that generate life-changing programs to residents and visitors, thus enabling us to fulfil our commitment to the Virgin Islands community.

It was our pleasure to host the 31<sup>st</sup> West Indies Agricultural Economic Conference and showcase our programs, our products, and our literature to our guests.

A close look at the articles and the accompanying pictures enables me to examine our programs and offerings through our guests' eyes, and I must admit that I like what I see. This display of our offerings is a tribute to the diligence of all our employees. Our student workers and FFA students represent us well as we observe Kenya Emmanuel in the Biotechnology Lab.

Those who work with our youth are continuing the legacy by teaching them essential skills. Finally, we must focus on our small but very productive Communications Unit. We are a productive entity at UVI, promoting health and wellbeing through our educational programs to our community.

From my vantage point as State Director of the Cooperative Extension Service, I extend sincere gratitude to our staff and to our partners. At the Cooperative Service, our objective is to serve our community, and if these articles and pictures are representative, then we are doing a very good job.

Sincerely,

A handwritten signature in black ink that reads "Kwame Garcia, Sr.".

State Director-CES  
Assistant Professor

Reports from conference attendees—print, radio, and television news media—confirmed that the 31<sup>st</sup> West Indies Agricultural Economics Conference, which was held at the Buccaneer Hotel, was a tremendous success. Topics such as “Developing Food Value Chains to Meet Tourism Demand in the Caribbean,” “Local Food Systems,” “Meeting the Challenges of an Invasive Alien Species: The Case of Citrus Greening,” “Climate Change and Adaption Measures: The Road to Increase Food Security in the Bahamas,” “Socioeconomics Assessment of Natural Disasters in the Caribbean Region,” and “Are the Caribbean Ocean Areas Within Their Exclusive Economic Zones?” are just a few of the heated topics that were discussed.

The conference had several highlights. Participants who attended the opening program listened attentively as the Governor of the U.S. Virgin Islands, the Honorable Kenneth E. Mapp, addressed the audience with his vision to move the agricultural industry in the U.S. Virgin Islands. His main emphasis was the “Farm to School Lunch Program Initiative.” This, he said, will not only give farmers a sure outlet for their produce, but will provide our students with fresh, healthy and nutritious food. Through the Virgin Islands Department of Agriculture, the University of the Virgin Islands Cooperative Extension Service, and other public and private resources, the Governor said that his administration will continue to develop the agricultural industry in the interest of regional and global food security. The Governor also addressed the severe drought that the Territory, especially St. Croix has been experiencing. He promised funding for drought mitigation in the sum of \$500,000 towards the effort.

As reported in the *St. Croix Avis*, Dr. Govind Seepersad who hails from the University of the West Indies in Trinidad, stated that practicing precision agriculture in the Virgin Islands would help to deal with the drought situation. “It means,” he said, “that a higher level of technical capability is needed. In the case of drought, you give the plant what they need when they need it. That requires that your drip irrigation system will have to change.”

The conference continued with several tours to the University of the Virgin Islands Cooperative Extension Service and the Agricultural Experiment Station. In the Research and Extension Center, the group toured the Home Economics Lab and was delighted to see the numerous pieces of literature published by the Cooperative Extension, to include factsheets on livestock, posters on tropical fruits, the hardcover book entitled *Tropical*



*FFA students Clemon Lewis from the Ivanna Eudora Kean High School, Ahjai Pickering from the CAHS Music Technology 4-H Club, and CJ Fahie from the Virgin Islands Montessori School & Peter Gruber International Academy deliver a joint presentation on food production and health during the 31<sup>st</sup> Caribbean Agro Economic Conference on St. Croix.*



*Governor Kenneth E. Mapp spoke of his vision to move the agricultural industry in the U.S. Virgin Islands during the opening ceremony of the conference.*



*UVI student Kenya Emanuel explains the plant tissue culture process to conference participants on tour at the UVI Biotechnology Lab.*



*Conference participant Erecia Hepburn of the Bahamas admiring the bountiful crop of hydroponically grown lettuce at the University of the Virgin Islands Agricultural Experiment Station.*

*Fruits of the U.S. Virgin Islands and Their Nutritional Values* and the “Home Grown” poster series.

The next stop for the group included tours of the biotechnology lab and the aquaponics research facility. The group saw the varieties of sweet potatoes that are grown for research and then recommended to local farmers. According to Dr. Thomas Zimmerman, Assistant Director of the Agricultural Experiment Station, they are looking for consistent varieties, planting times, water and the use of drip irrigation. The Experiment Station, he said, is producing sweet potatoes from a plant tissue culture, which often eliminates the risk of passing on disease. Other crops being grown at the Agricultural Experiment Station include ginger, dragon fruit, and papaya.



*Dr. Rhuanito “Johnny” Ferraezi, (fifth from right) explaining the hydroponic system to conference participants.*

The group also toured the aquaponics research facilities, where they saw tilapia been raised in tanks and the fish byproducts been used as fertilizer in the hydroponic systems. In addition, they saw melons, lettuce, and other leafy greens grown in the hydroponics systems.

Dr. Rhuanito “Johnny” S. Ferraezi, Research Assistant Professor, Horticulture and Aquaculture of the UVI Agricultural Experiment Station, told the group that his research includes comparing and contrasting hydroponic systems using and not using fish byproduct as plant food. “We are looking at the economic numbers to see which is better,” he said.



*For the group, a blend of Virgin Islands culture was a welcome break on the tour. They totally enjoyed Whim Plantation which included a tour of the Great House, museum, and the grounds.*

The highlight of the tour was the on-farm visit to Tropics Hydroponic Farm in Estate Glynn. There the group met the owner, Brian McCullough, who explained that his farm specializes in growing Bibb lettuce and tomatoes using a hydroponics system. His design uses water and liquid nutrient and micronutrient fertilizers twice, sending what passes through the hydroponic system out into his cucumber, zucchini, and cantaloupe fields. McCullough told the group that his produce is sold throughout the Territory and that his business provides three to five jobs; consequently, he is satisfied that he is producing good quality foods for the residents.

All enjoyed the agricultural tour, and of course, the last stop was indeed the best—Diageo Rum Distillery!!

# Garcia Presented With CAES Award

By Clarice C. Clarke  
Public Information Specialist II  
Communications

**A**t its banquet held at the Buccaneer Hotel on St. Croix, the Caribbean Agro-Economics Society (CAES) presented a special award to Mr. Kwame Garcia, Sr., State Director of the University of the Virgin Islands Cooperative Extension Service, for his distinguished service to the organization.

The organization, which celebrated its 31<sup>st</sup> anniversary in the U.S. Virgin Islands, attracted a wide range of participants from around the world, including policy makers, economists, researchers, teachers, extension educators, farmers, and agricultural economists. Members who attended the conference came from many areas, including the following countries: Antigua, Bahamas, Barbados, Canada, Grenada, Guadeloupe, Guyana, Haiti, Jamaica, Montserrat, St. Vincent, Suriname, and Trinidad and Tobago.

CAES is an organization that influences agricultural policy throughout the region and attracts the support of international and Caribbean institutions. With the theme “Mitigating Climate Change Effects to Ensure Food Security,” the group discussed risk mitigation measures for climate change, novel extension methods for addressing climate change challenges, the economics of new varieties of crops, improved animal breeds, protected agriculture, aquaculture, effects of climate change on farm profitability, price volatility, and threats to Caribbean food and nutrition security.

According to Kwame Garcia, Sr., State Director of the University of the Virgin Islands Cooperative Extension Service, it was a pleasure to host this anniversary conference on St. Croix. It provided an opportunity for scientists, farmers, and policy makers to share ideas and put forth solutions for addressing climate change and its impact on the tropical and subtropical agro-economic landscape.



*Dr. Hazel Patterson-Andrews presenting CAES Distinguished Service Award to Mr. Kwame Garcia, Sr. during the Society's Banquet.*



*(Left to right) Kwame Garcia, Sr., CES State Director; The Honorable Stacey Plaskett, VI Delegate; Mrs. Greta Garcia, and Dr. Carlisle Pemberton pause to take a photo at the CAES Awards Banquet.*

# “Gone Bush”



By Clarice C. Clarke  
Public Information Specialist II  
Communications

**O**lasee Davis is on a mission—to teach our youth about our environment and to appreciate the rich culture and natural resources in the U.S. Virgin Islands. A passionate environmentalist, he strives to take both the young and the old to every corner of St. Croix, St. Thomas, and St. John on this wonderful journey to learn and embrace “our home.” “If we teach and let the youth experience our rich natural resources, they will have a passion to keep the Virgin Islands clean and beautiful for them and visitors alike,” he said.

“Gone Bush” is his favorite slang. Olasee preaches environmental safety, environmental protection measures, and historical preservation of the Virgin Islands culture. His passion for “home” is well documented in numerous newspaper articles, fair articles, and television documentaries such as “Discover St. Croix.”

Whether it’s a tour of the St. George Village Botanical Gardens, a hike through Caledonia, or with a group of youngsters from one of the local elementary schools, Olasee has made it his mission to educate our residents about U.S. Virgin Islands—our home.



# Agricultural Enrichment Summer Camp

By Louis Petersen, Ph.D  
Assistant Professor/Assistant Director  
Agriculture & Natural Resources-STT/STJ

**A** six-week Agricultural Enrichment Summer Camp was held on the St. Thomas campus where 18 students were recognized for completing training in the field of agricultural science. The students made presentations that reflected their summer experiences while working directly with a diversity of agriculture professionals, including crop and livestock producers, landscapers, instructors, inspectors, and enforcement officers. Partnering with the Department of Human Services, the Department of Labor, and the Virgin Islands University Center for Excellence in Developmental Disabilities (VIUCEDD), the UVI Cooperative Extension Service (UVI-CES) hosted the camp. Students ages 14-21 from various schools were involved. In addition to working in the UVI-CES Demonstration

Garden with Mr. Albion “Chico” George, the students enjoyed numerous field trips and engaged in a wide variety of learning and fun-filled activities to further stimulate their interests in agricultural areas.

The six-week program was designed to increase knowledge and create awareness of career and work opportunities in the field of agricultural science. The second objective of this initiative was to equip the participants with job preparation skills through classroom presentations, practical exercises, and field activities.

Exploration of career topics in agriculture included the following: Horticulture, veterinary medicine, livestock and poultry science, landscaping, irrigation and water usage activities. These were made more practical when



*The 2015 Agricultural Enrichment Summer Camp participants pose with UVI President Dr. David Hall following an exciting game of basketball at the UVI Sports and Fitness Center on the St. Thomas campus.*

students were engaged in plant propagation exercises, plant identification exercises; seedling production, and irrigation system assembly.

Field trips were made to Ivanna Eudora Kean High School’s aquaponic farm, and two local landscaping & plant nurseries, as well as other local farms. Additionally, the students experienced tool safety & usage demonstrations; they had an introduction to 4-H & FFA Organizations, as well as engaging in UVI Marine Science Center boat trips and canine inspection demonstration.



*Students from Agriculture Enrichment Summer Camp learn about Aquaponics at Ivanna Eudora Kean High School.*

# 4-H/Family & Consumer Science

## Batiking with Henderson Reece

By Caryl Johnson, Ed.D.

Extension Program Supervisor-STT/STJ  
4-H/Family & Consumer Science Program

**M**r. Henderson Reece, a well known batik artist from Barbados, conducted a one-week workshop on St. Thomas. Nine participants from the batik classes signed up for the workshop.

Mr. Reece evaluated the batik that the ladies had been working on for the past year and made suggestions as to how they could make improvements. He expressed his amazement at how well the participants had progressed following a similar workshop he conducted approximately one year ago. It was evident that the class had been diligently practicing the batik techniques shared by Mr. Reece last year.

The purpose of the batik classes was to help women develop high quality batik items to sell to supplement their incomes.



*Artist Henderson Reece is shown helping batik student Marsha Henry with her batik design.*



*Last day of the workshop given by Henderson Reece from Barbados with Dr. Caryl Johnson and the ladies from the batik class. Students are showing batik items that they worked on during the workshop.*

Two small grants were funded for this special workshop by the Virgin Islands Council on the Arts and the VI Lottery.

According to Lois Sanders, Assistant Director, 4-H/Family & Consumer Sciences Program and the staff, they are most grateful for the funding sources and to Mr. Henderson Reece for his continued support.



# 4-H/Family & Consumer Science

## A Smorgasbord of Youth Educational Activities

**T**he Summer Youth Program—Healthy Cooking and Nutrition Class—met from June 22 – July 17 five days per week, each morning. Nine youth, ages 11- 14, learned about nutrition and preparation of healthy foods from Extension Assistant, Bianca Alexander, who was the Cooperative Extension Service’s Expanded Food and Nutrition Education Program (EFNEP) paraprofessional on St. Thomas. During the sessions, youth learned how to prepare Bread in a Bag, veggie stir fry, zucchini nut bread, pumpkin cookies, veggie and fruit smoothie, breakfast burritos, cauliflower rice, eggplant lasagne, grilled chicken tacos, chicken alfredo with spaghetti squash and pasta, bean balls, and salmon balls.



*Youth who participated in both nutrition and healthy cooking and sewing summer youth program are shown with Ms. Bianca Alexander, Extension Assistant-EFNEP (left-back row)*



*Okaron Nieves participated in both the summer youth healthy cooking and sewing classes. Nieves can be seen in the photo below sewing a zipper into his shorts.*

Every day the youth walked to get exercise, which reinforced the importance of walking as a part of a healthy lifestyle.

Also, 11 youth, ages 11 – 14, participated in the Summer Youth Sewing Class, which met five days per week, from June 22 – July 1 each afternoon. Caryl Johnson, Ed.D., Program Supervisor for 4-H/Family and Consumer Sciences Program, taught the sewing class. Youth learned how to operate a sewing machine and made one or more of the following items: boxer shorts, skirts and dresses with zippers, shorts with zippers, and small purses.

The youth summer program had its closing ceremony on July 17. The sewing participants had a fashion show and the Healthy Cooking Nutrition class made food for a reception. The participants from both classes received certificates of participation.



# Virgin Islands First Farm to School Conference

By Clarice C. Clarke  
Public Information Specialists II  
Communications



**T**he Farm to School initiative is the new buzz phrase in the local agricultural community. Unlike most new “quick-fix fads” this initiative—at least on the surface—seems as if it stands a winning chance of success. After all, in the last five years, we have seen a resurgence of buying and eating locally grown fresh fruits, vegetables, and meat. Recently, the University of the Virgin Islands Cooperative Extension Service 4-H/Family and Consumer Science Program collaborated with the V. I. Good Food Coalition and the V. I. Department of Education to launch the first Farm to School Conference for the Territory. Mrs. Sommer Sibilly-Brown, Director, V. I. Good Food Coalition, spearheaded the launching of the conference, which was held in the Great Hall on the Albert A. Sheen Campus of the University of the Virgin Islands. Guest speakers included representatives from USDA, the Department of Education, the School Lunch Program, and the Commissioner of Agriculture. The participants in the conference were educators, policy makers, farmers, school kitchen personnel, producers, and community members. According to Sibilly-Brown, the goal of the conference was to create and sustain the Farm to School program to aid in the development of a healthy food system in the Virgin Islands.



*Students preparing healthy meals with chef Kevin Fonzo.*

The Virgin Islands Legislature’s Labor and Agriculture Committee unanimously approved a “Farm to School” bill to promote buying locally grown produce to be used in the public schools. The bill created a Farm to School program, which tasked the Department of Agriculture with four goals: Solicit local farmers to sell their products to the schools; develop a database of farmers, crops and harvest periods for the schools; facilitate school purchases from local farmers; and provide outreach and guidance to farmers to help them sell their produce to the schools. Additionally, through this bill, the V. I. Education Department was also tasked or encouraged to buy local produce and establish a week-long “Virgin Islands-Grown for Virgin Islands Kids Week,” in September or October, to promote Virgin Islands’ agriculture and foods to school children.



*Chef Frank Pugliese showing students how to cut-up and de bone chicken.*

The USDA’s Farm to School grants help schools respond to the growing demand for locally sourced foods and increase market opportunities for producers and food businesses, including food processors, manufacturers, and distributors. Grants will be used to support agriculture and nutrition education efforts such as school gardens, field trips to local farms, and cooking classes. USDA Farm to School Conference and Event Grants support regional, state, and national conferences, events and/or trainings. Emphasis is on developing supply chain relationships by connecting local producers to school food buyers, along with events and trainings that provide technical assistance or other programming in the area of local procurement, food safety, culinary education, and integration of agriculture-based curriculum. For more information on the Farm to School initiative, contact Mrs. Sommer Sibilly- at 340-277-0087, vi.farm2school@gmail.com



## NUTRITION CORNER

The soursop *Annona muricata* L. is a large ovoid shaped fruit covered with short, soft green spines. When ripe, the fruit changes to a pale green. The pulp of the fruit is white, fibrous, and acidic. It can be used to make a delicious drink, ice cream or cake.



## Health Benefits

- Strengthens immune system
- Promotes healthy gums and teeth
- Prevents constipation
- Helps lower blood pressure

## Comparison to Imported Foods

Soursop is an excellent source of Vitamin C, but it is also a fairly good source of magnesium. One soursop provides as much magnesium as six (6) grapefruits.

\*Information taken from: *Tropical Fruits of the US Virgin Islands and Their Nutritional Values.*

## Soursop Cheese Cake

### Crust:

- 2 cups digestive biscuit crumbs
- 2 tbsp. sugar
- 1/4 cup butter, melted
- 1 tsp. cinnamon
- 1 tsp. nutmeg

### Filling:

- 1 tbsp. unflavored gelatin
- 1/3 cup water
- 2 boxes softened cream cheese
- 1 cup soursop
- 1 cup sweetened condensed milk
- 1 1/2 tsp. vanilla
- 3/4 cup whipped cream



**Crust:** Blend the biscuit until fine in a food processor. Mix in the sugar, cinnamon and nutmeg. Melt the butter and pour 1/4 cup into the biscuit. Combine the ingredients.

Then press into the bottom of a 9 inch baking pan or spring form pan. Set aside. Chill until ready to use.

Peel the soursop, remove the pulp and strain to capture 1 cup of pure pulp. **Do not add water.**

Pour the gelatin in the water, then heat until gelatin has dissolved. Remove from the heat and leave to cool.

Cream the cheese until smooth. Stir in together the soursop, the whipped cream and the condensed milk. Mix well until smooth.

Pour in the gelatin. Mix well. Pour into shell and refrigerate for 4 hours.



Recipe: Taken from [www.simplytrinicooking.com](http://www.simplytrinicooking.com)

# IN THE SPOTLIGHT

## COMMUNICATIONS UNIT

**T**he CES Communications Unit is the smallest program within the Cooperative Extension Service—with a staff of three full-time employees and one student worker. The accomplishments of this unit are very visible not only in the Virgin Islands community, but within the university community as well. Take a moment to reflect on the fact that this unit has issued 278 certificates of completion to residents who have taken computer training classes and it has produced numerous publications, factsheets, and newsletters on agriculture and natural resources, and health and nutrition that are in constant demand from Virgin Islanders and visitors.



As this unit continues to respond to the needs of our community, we recently developed a Smart Phones and Tablets Workshop. This course is designed to teach participants how to get the most out of their electronic devices. The pilot workshop is scheduled for November 17 & 19, 2015.



Being creative and innovative is definitely the hallmark of this unit. Creativity is seen in its publications. The most sought-after book is the newly published *Tropical Fruits of the U.S. Virgin Islands and Their Nutritional Values*, and the series of “Tropical Fruit” posters and “Mango Varieties Grown in the U.S. Virgin,” and “Healthy Homes.” Other publications produced by this unit that are in high demand are *Native Recipes*, *Traditional Medicinal Plants*, *The Heart of the Pumpkin*, and *Holiday Cooking*. *Safer Trees* is currently being printed.



The staff, like others within the Cooperative Extension Service, keeps a very active schedule whether it's hosting weekly radio shows, doing television interviews, taking photographs, or serving on numerous boards and committees to include the annual Agriculture and Food Fairs, Mango Mele, Woodworkers' Expo, and World Food Day.

The Communications Unit is a small unit that shines a bright light!!



# Memorial Day Weekend Treat for Crucian Hikers & Explorerz Group

By Olasee Davis & Clarice C. Clarke  
Assistant Professor/ Extension Specialist Natural Resources  
Public Information Specialist II, Communications

**W**hen Christopher Columbus encountered the archipelago in the northern West Indies on his second voyage in 1493, it is said the islands reminded him of the legend of St. Ursula and her 11,000 virgins. On Memorial Day weekend, the Crucian Hikers and Explorerz Group, with the assistance of the University of the Virgin Islands Cooperative Extension Service staff, explored “Nature’s Little Secrets,” the British Virgin Islands, primarily Jost Van Dyke, Virgin Gorda, and to some extent Tortola.

The group visited Jost Van Dyke, located west of Tortola with its own laid-back charm and its spectacular beaches of the northern Caribbean Sea. There they hiked, met friendly people, and visited some of the old charms of the island, which has just a few hundred inhabitants, but is popular to boaters and day trippers. Jost Van Dyke is also known for its New Year parties, which draw thousands of people from all over the world every year. Another popular attraction is the half dozen beach bars that line the beachfront of Main Street playing live music that attracts locals and visitors who join in the fun by fellowshiping and socializing.

From Jost Van Dyke, the Crucian Hikers and Explorerz Group went on to visit Virgin Gorda, east of the big island of Tortola. They hiked the three-quarter-mile rocky trail through a dry forest ecosystem of 1,370 feet above sea level to the summit. At the summit, they continued to the lookout tower where they got a



*Crucian Hikers & Explorez Group posing for a group photo before boarding the BVI Patriot.*

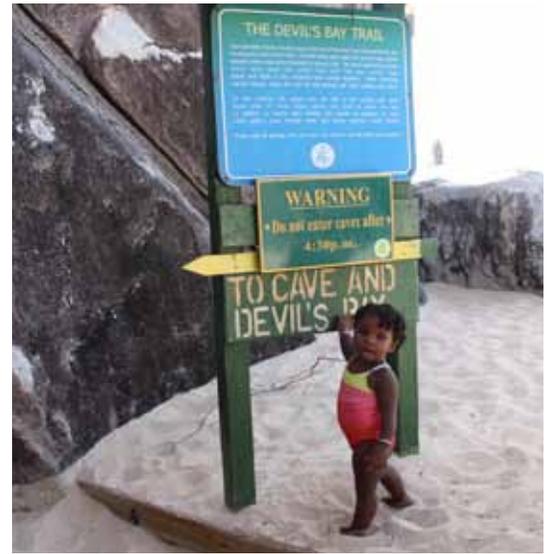


*Crucian Hikers on the way to Jost Van Dyke.*

panoramic view of Spanish Town and many surrounding islands such as Mosquito Island, Prickly Pear Island, Sea Dogs, George Dog, West Dog, Great Dog, and Necker Island.

However, the highlight of the group's adventure to the British Virgin Islands was visiting what is known as the baths of Virgin Gorda. They were amazed at the huge boulders along the eastern side of the island. At this National Park site, the group hiked to Devil's Bay where they entered a large pool surrounded by large boulders. Many hikers thought the sea water was unbelievably clear. They swam and then hiked through the caves over to the famous baths of Virgin Gorda. The Crucian Hikers and Explorers Group had such a great time that they kept on talking about it until they returned to St. Croix. It was an experience they will never forget. This hike definitely was the best of all of the groups' hiking trips.

On the big island of Tortola, they shopped, ate at some of the finest restaurants, and enjoyed friends and families. Everyone agrees that it was a great Memorial Day get-away weekend for the Crucian Hikers and Explorers Group.



*Arianna Sage, junior hiker in training.*



*Kirk Figaro and Lawrence Petersen enjoying the baths in Virgin Gorda.*

# CES Holds Arborists Workshop

By Clarice C. Clarke  
Public Information Specialists II  
Communications



*Dr. Edward Gilman, professor of Urban Trees and Landscape Plants from the University of Florida's Department of Environmental Horticulture conducting hands-on demonstration of tree pruning techniques.*

**F**or one moment, just pause and visualize what Queen Mary Highway would look like if all of the mahogany trees were well pruned—old limbs and branches removed and no branches hanging over the road—a wonderful sight, don't you think?

Learning the proper techniques in pruning trees is aesthetically vital to any community. If the mahogany trees like those that line the Queen Mary Highway on St. Croix were well-pruned and properly-maintained, it would not only let the natural light through, it would visually allow us to appreciate the beauty of our island.

Pruning and maintaining our trees are so important in the Virgin Islands, particularly here on St. Croix. Many trees such as the flamboyant, Tibet, Ginger Thomas, and even the fruit trees that line many of our roads would look aesthetically better if they were properly pruned and maintained.

The University of the Virgin Islands Cooperative Extension Service's mission is to provide not only research-based information that has a direct impact on the lives of Virgin Islanders, but also on our environment. This is why the agency, through its Agriculture and Natural Resources Program, offered the Arborists workshop.



Dr. Edward Gilman from the University of Florida's Department of Environmental Horticulture and Professor of Urban Trees and Landscape Plants, recently visited St. Croix and held an Arborists Workshop. Twenty-three persons from both private and public organizations to include staff from the Buccaneer Hotel, Duggan's Reef, V.I. Department of Planning and Natural Resources, and the V.I. Department of Agriculture took advantage of the opportunity to learn proper pruning techniques. The workshop focused mainly on tree pruning and tree risk management.

According to Dr. Gilman, trees grown in public areas must be maintained to have longevity and be aesthetically pleasing, so that they will maintain their natural growth pattern as they do in the wild. Gilman stated that "pruning is a double-edged sword, either helping or hurting according to certain variables: if, where, when, how, and why it is applied. When properly executed, a variety of benefits can occur. Benefits include the following: reducing risk of branch and stem breakage, better clearance for vehicles and pedestrians, improved health and appearance,



enhanced view, and increased flowering.” When improperly performed, he said, pruning can harm the tree’s health, stability, and appearance and make matters worse.

There are several consequences of not conducting a regular pruning program. These include the following:

1. Increased risk of branch and stem failure,
2. Development of low aggressive limbs,
3. Formation of co-dominant stems,
4. Defects such as included bark and dead branches,
5. Obstructed views.



The first three occur primarily, but not exclusively, in planted trees. These three are less likely to occur on trees growing in a forested area. Formation of codominant stems and defects such as included bark can lead to increased risk of breakage. One of the most common, unrecognized defects in planted trees is formation of large low limbs. They could overextend and break, or they may droop under their own weight and have to be removed later leaving a large pruning

wound. Removal of large branches and those more than about half the trunk’s diameter is more likely to initiate decay than removal of smaller branches. Appropriate pruning can help treat and avoid some of these problems. From all accounts, those who attended the workshop were tremendously appreciative of the opportunity to learn these much needed skills.

If you missed this workshop and need information on the proper techniques in pruning your trees, contact Stafford Crossman, Assistant Director, Agriculture and Natural Resources at 340-692-4071 or email [scrossm@uvi.edu](mailto:scrossm@uvi.edu).



*Tools of the trade.*

# Future Project For Insect Pest Management On Mango Seed Weevil In The U.S. Virgin Islands

By Joey R. Williamson, Ph.D., Former Pest Management Specialist  
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**M**ango cultivation in the U.S. Virgin Islands is a relatively organic process—pesticide inputs are rare. However, it is getting harder each year to purchase local mangos without worms and frass in the pulp. In order to reduce or eliminate these unpalatable mangos, growers will need to start managing them, except that effective monitoring and control measures are not known or tested. Hopefully, a new project on the mango weevil will start the process for finding an effective management program for this invasive insect pest.

Dr. Matt Ciomperlik, a scientist with USDA-APHIS in south Texas, plans to submit a proposal to study monitoring techniques for mango weevil. If accepted and funded, he will evaluate various traps in an attempt to find the best monitoring method for adult mango weevils, which will help determine if and when to apply controls. This is the first step to developing a sustainable integrated pest management program for mango weevil. The next step will likely involve testing of various controls.

Adult mango weevils are poor fliers. Their only means of travel, beyond flying or crawling to a neighboring mango tree, is with the help of humans. Adult weevils mate in winter and females lay eggs directly upon mango fruits. A small grub hatches and quickly enters fruit, where it feeds on pulp as it moves towards the seed pit. Ideally, the grub will penetrate the seed pit and continue feeding, pupate, then emerge as an adult and repeat the life cycle. When grubs are unsuccessful at penetrating the seed pit, they complete their development within the mango pulp. This creates the unpalatable fruits that are now becoming a persistent problem. Although the grubs that enter the seed pit are less obvious, they should be considered as more damaging, as humans often unknowingly transport them and start new infestations.

It is rumored that mango weevil was introduced to St. Croix 15 years ago, in a shipment of infested fruits from another Caribbean island. Since then, we have slowly been spreading this pest throughout the Territory through our disposal of infested seed pits. It is a shame that efforts were not conducted earlier to prevent the spread of mango weevil throughout St. Croix, St. Thomas, and St. John. But we must start now to manage this invasive insect pest.



*Norberto Gabriel from USDA-APHIS shows how to find adult mango weevils within tree bark, while Rosamar Morales (USDA-APHIS), William Cherubin (VI DoA), and Dr. Matt Ciomperlik (USDA-APHIS) observe.*



*Best existing monitoring method is to slice open and observe developing fruits for infestations. This proposed study seeks a less labor-intensive monitoring method that finds weevils before infestations.*

For starters, try to prevent spread of mango weevil by making sure seed pits from local mangos go quickly to the landfill. Or place them in sealed plastic bags before disposing of them, so that emerging adults cannot migrate to neighboring mango trees near your trash can, compost pile, or transfer station. Next, emphasize sanitation. Prompt removal of all fruit and seed materials from the orchard floor will aid in minimizing the infestation in following seasons. Best results will be obtained from removing fallen fruits once or twice weekly throughout the fruiting stage, and properly disposing of them. The last step is chemical control. Among the existing known chemical controls, ground applications of a systemic insecticide (Actara), precisely timed between the flowering and harvesting stages, has been shown to be effective in South African orchards, although preliminary trials on St. Croix were not promising. Two to four organic sprays of kaolin clay over all developing fruits and most foliage should repel most weevils. Bagging of individual fruits with materials originally developed for apples would be an alternative to chemical control, although labor intensive. Removal of heavily infested trees is the least desirable control method.

Testing of treatment methods for mango weevil is drastically needed. But this study will be about monitoring, which is the first and primary step of integrated pest management. Hopefully, the monitoring project can be followed by treatment trials. In the meantime, if you have mango trees and are suffering from mango weevil, focus on the preventive and sanitation methods; use existing treatment methods if warranted, and expect results (or at least efforts) from our agriculturists on finding ways to manage this invasive insect pest.



*Mango fruit with weevil larvae infestations in both the seed pit and pulp.*



*Adult mango weevil, which easily hides within bark of mango trees.*

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