



IMPROVING LIVES THROUGH  
AGRICULTURAL RESEARCH

HQ/002/17

# Agriculture *in the* News



## Issues Affecting Caribbean Agriculture

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**Conservation Agriculture Sprouts in Cuban Fields.** By Ivet González, Inter Press Service (IPS). August 10 2017.

<http://www.ipsnews.net/2017/08/conservation-agriculture-sprouts-cuban-fields/>

At the entrance, the Tierra Brava farm looks like any other family farm in the rural municipality of Los Palacios, in the westernmost province of Cuba. But as you drive in, you see that the traditional furrows are not there, and that freshly cut grass covers the soil.

“For more than five years we’ve been practicing conservation agriculture (CA),” Onay Martínez, who works 22 hectares of state-owned land, told IPS.

He was referring to a specific kind of agroecology which, besides not using chemicals, diversifies species on farms and preserves the soil using plant coverage and no plowing.

“In Cuba, this system is hardly practiced,” lamented the farmer, who is cited as an example by the United Nations [Food and Agriculture Organization](#) (FAO) of integral and spontaneous application of CA, which Cuban authorities began to include in their policies in 2016

**For more information see page 14**

**Agriculture in the News** is a weekly newsletter which provides a compilation of selected news articles on issues affecting agriculture in the Caribbean region. Articles from Newspapers, Online News Service Agencies, Newsletters and Press Releases are featured.

For copies of documents cited, visit the web address or source of the information provided.



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## ROOTS AND TUBERS

**Irish Potatoes, Cassava due for large scale production in Region Nine.** By Delicia Haynes, Guyana Department of Public Information (dpi). August 9 2017. <http://gina.gov.gy/irish-potatoes-cassava-due-for-large-scale-production-in-region-nine/>

### Full article

Region Nine has been earmarked to produce Irish Potatoes and Cassava on a large scale. The region is also expected to be prepped for the production of value added items from these crops.

Chief Executive Officer of the National Agricultural Research and Extension Institute (NAREI), Dr. Oudho Homenauth in a recent interview with Department of Public Information (DPI) said that this is a part of the hinterland diversification process that is being undertaken by the Ministry of Agriculture.

After a number of trials had been conducted on several varieties of Irish potatoes and cassava in the Rupununi, the research institute is working with farmers and other support agencies to ensure production in the savannahs, in the region, Dr. Homenauth disclosed.

“We did some initial work in looking at the cultivation of Irish potatoes in several areas in Region Nine. In some areas, it was not successful because of some of the climatic conditions... we have started with some communities using the savannah lands for cassava cultivation, it has to involve what we call mechanization involving land preparation, proper land preparation and access to water.” The CEO explained.

Five different varieties of Irish potatoes had been cultivated on trial at Santa Fe Mega Farm, Region Nine through a partnership between NAREI and the World University Service of Canada (WUSC, Caribbean (Guyana) Incorporated), funded by the Government of Canada PROPEL (Promotion of Regional Opportunities for Produce through Enterprises and Linkages) PROJECT.

Meanwhile, field trials with three different improved varieties of cassava from the International Centre for Tropical Agriculture (CIAT) Columbia, were conducted at NAREI’s Research Station, Mon Repos to determine the best planting period, growing cycle, root yield potential and pest and disease resistance.

Dr. Homenauth added that work is being done at the Ebini Research station before moving into large scale production of these two crops. The move for farming of these and other crops in the hinterland comes at a time when experts are recognizing the impact of climate change and how it affects coastland farming.

Even as a more diversified and climate-resilient agricultural sector is expected in 2017, NAREI will continue research aimed at promoting agricultural expansion further inland by introducing mega farms in the hinterland regions.

## TOMATO

**UF scientists work on the ‘essence’ of better-tasting tomato juice.** By Brad Buck, Institute of Food and Agricultural Sciences (IFAS) and University of Florida. August 10 2017. <http://blogs.ifas.ufl.edu/news/2017/08/10/uf-scientists-work-essence-better-tasting-tomato-juice/>

### Full article

If you’re yearning for a better-tasting tomato juice, University of Florida scientists are in their labs, working on satisfying your palette.

Essence, usually extracted from a plant to add flavor or provide a scent, according to a new UF/IFAS study, can be used to improve juice flavor. Using volatile capture, UF/IFAS scientists obtained the essence from the tomatoes, said Paul Sarnoski, an assistant professor in the UF/IFAS food science and human nutrition department.

Juices often need to be pasteurized before they are consumed, Sarnoski said. During that process, the volatiles that give a juice flavor are lost because of the thermal processing required for pasteurization. That is part of the reason tomato juice does not quite taste like a fresh tomato.

“Many individuals complain that tomato juice doesn’t resemble typical, fresh, tomato flavor,” Sarnoski said. “Perhaps, by adding an essence, we could make the juice more closely resemble fresh tomato flavor.”

The citrus industry already uses this technique, but the tomato industry does not use “tomato essence” to produce tomato juice, said Sarnoski, lead author of the new study.

In the study, researchers used Garden Gem tomatoes – a UF/IFAS-bred variety – as the premium flavor tomato. They used Roma tomato as the control flavor. They wanted to test whether Garden Gem retained more of its flavor after pasteurization. The Garden Gem did, and was found as a suitable variety for essence production because of a high content of flavor volatiles, thus leading scientists to believe this system will provide better flavor when they test it on consumers.

Fruit juices, including tomato juice, are big business in the U.S. In fact, juices may be the driving force behind rising beverage sales in the United States, Sarnoski said. Beverage sales are expected to continue to increase from \$131 billion in 2013 to an estimated \$164 billion by 2018, according to 2015 statistics from the Beverage Marketing Corporation. Tomato-related processed products saw a 14 percent increase in sales in 2015 alone.

The study is published in the journal Food Chemistry.

## VEGETABLES

**Grow what you eat, eat what you grow.** Barbados Advocate. August 9 2017.  
<https://www.barbadosadvocate.com/news/grow-what-you-eat-eat-what-you-grow>

### Full article

Barbadians are being reminded of the benefits of “growing what they eat and eating what they grow”.

Chief Agricultural Officer Lennox Chandler therefore wants to see more people getting involved in kitchen gardening.

He made the call while addressing the opening of the **Non-traditional Vegetable Field Day**, held at the Ministry of Agriculture, Graeme Hall, Christ Church, yesterday.

Farmers and extension personnel had the opportunity to learn about research being carried out by the Ministry on non-traditional vegetables that can be grown in Barbados. The first phase being four non-traditional vegetables: Kohlrabi, Turnips, Kale, and Radish; and the second, non-traditional herbs.

“It is good when people get involved in kitchen gardening. You know what you are eating, you know what you are spraying it with – you know exactly what is happening to it and it is fresh,” he stressed.

“But, I think that we have moved to a point where we believe that if you grow your own things and then you cook what you grow, it is sign that you are in “trouble” – that it is what poor people do; that people who have “arrived and have money” buy their stuff in the supermarket. We have to move away from that notion because when you plant your own home garden, you are in control of what you consume and save some money as well.”

To assist home gardeners, Chandler said that he has requested that the extension department produce a guidebook. Acknowledging that such information to home gardening can be found on the internet, he pointed out “things that you see on the internet may not necessarily be amenable to our conditions; we might not have the things that they have. So, we are going to produce the booklet to guide our people, which is coming very shortly.”

Further emphasizing the push towards “growing what you eat”, the Chief Agricultural Officer disclosed plans of the “Plant Barbados” initiative.

He said that Barbadians will be encouraged to plant up the island with food, under the themes “Grow food not lawns” and “Go your own food and save some money”.

“When I drive around the island I see a lot of waste land, a lot of bush. A lot of unused spots where people have bought them and they are not ready to build houses... Only recently I spoke to the Lions Club, and they are interested in having a community garden project, where unused plots can be utilized and planted up until the owners are ready for them.”

“There are a lot of exciting programs coming up especially for small farmers and home gardeners. We want to focus on them and get them in that frame of mind and give them the tools and knowledge to grow their own stuff at home,” Chandler added.

During the sessions, participants saw how the crops grew in the open fields and greenhouse; looked at possible pests that affect the crops; and identified possible benefits in growing the crops.

## **LIVESTOCK: RABBITS, DAIRY INDUSTRY**

**Agriculture Minister Highlights Potential of Dairy Industry.** By Chad Bryan, Jamaica Information Service (JIS). August 9 2017.

<http://jis.gov.jm/agriculture-minister-highlights-potential-dairy-industry/>

### **Full article**

Industry, Commerce, Agriculture and Fisheries Minister, Hon. Karl Samuda, says the dairy industry represents a potential area for economic growth.

Addressing the official opening of the Denbigh Agricultural, Industrial and Food Show on August 5, Mr. Samuda noted that the industry should be tapped in order to restore the “40 million litres of liquid milk that we produced as far back as the mid-1980s and early 1990s”.

He informed that, currently, Jamaica produces “but a fraction of that”, satisfying only 12 per cent of the country’s total demand for milk.

Mr. Samuda said the country must use “whatever means possible to introduce quality animals to restore outputs, for the country to be more self-sufficient in the dairy industry”.

“The dairy industry not only satisfies our need for milk, but it also satisfies our need for agro-industrial products,” he added.

The Minister hailed some private-sector companies for their investment in the dairy industry as well as the cattle industry in general.

Notable companies include the Caribbean Broilers Group (through Nutramix), Seprod Limited (through Serge Island), Newport Fersan Jamaica Limited and the Jamaica Dairy Development Board, which have come together to increase the production and consumption of Jamaican milk over the next 10 years.

These players also aim to overhaul the industry by introducing fundamentally different approaches to farming, processing and retailing.

This is to be done through the introduction of new and improved technology, farm-management practices and new pasture-management programmes.

Earlier this year, Mr. Samuda said the Government is targeting a revival of Jamaica's dairy industry, and urged greater utilisation of technology by farmers to improve production.

**Heavy rainfall affected livestock growth for first half 2017 – Midyear report.** By Delicia Haynes, Guyana Department of Public Information (dpi). August 9 2017.

<http://gina.gov.gy/heavy-rainfall-affected-livestock-growth-for-first-half-2017-midyear-report/>

### **Full article**

The livestock industry contracted by 10.9 percent, in the first half of 2017, due to heavy rainfall severely affecting production, especially in the second quarter. This is according to the Ministry of Finance's mid-year report for 2017.

The Ministry of Agriculture is hopeful for an improved livestock sub sector by the end of 2017, despite contractions during the first half of the year.

At the beginning of the year the Ministry of Agriculture announced that there were plans in place to ensure that output and productivity of this subsector is increased through a number of measures that were set to be implemented by the Ministry.

The early rainy season began sooner this year affecting the extension of the entire agriculture sector and its production outputs. However, in some other areas growth and improvement were evident.

According to the mid-year report, during the second half of the year measures will be robustly adopted to ensure contraction in this subsector ceases. Cattle breeding will continue through the artificial insemination programme in order to improve production traits.

The Genetic Improvement Unit of the Guyana Livestock Development Authority (GLDA) will maintain its support to farmers in all five coastal regions. Further, emphasis will be placed on increasing the production of ducks through the improvement of laying, incubation, and fertility rates.

The government's intention is to build a more robust and competitive livestock sub-sector, focusing on animal health through greater disease surveillance and control, genetic improvements for enhanced productivity and profitability of cattle and animal production.

**Rabbit Rearing Project Concludes.** Government of Saint Vincent and the Grenadines. August 7 2017.  
<http://www.gov.vc/index.php/news/616-rabbit-rearing-project>

### **Full article**

A closing ceremony will be held on Tuesday 8th August, for a Rabbit Rearing Project in North Leeward.

The project was carried out at the Troumaca Secondary School as part of the “Enhanced Capacity for Improved Food Security and Livelihoods Project”.

It was spearheaded jointly by the Rural Transformation Unit within the Ministry of Agriculture, Forestry, Fisheries and Rural Transformation, in collaboration with the Basic Needs Trust Fund (BNTF).

Along with a certificate of completion, the Rural Transformation Unit will be distributing rabbits and rabbit rearing kits, which will consist of medicine, feeds, waterers, feeders and a manual, to thirty persons consisting of males and females residing in the Troumaca and Rose Hall communities.

The project funded under the BNTF to the tune of twenty-eight thousand United States dollars (USD28, 000.00), allowed the Rural Transformation Unit to provide project participants with three component hutches and nesting boxes.

Training was also carried out on how to slaughter a rabbit, prepare the rabbit meat, marketing strategies, business skills and proficient rabbit rearing practices.

The Unit stated that it will continue to monitor the project and encourage the participants to produce rabbits commercially as a co-operative.

The closing ceremony takes place at the Troumaca Secondary School from 10:00 a.m.

Hon. Saboto Caesar, Minister of the Agriculture, will deliver remarks at the ceremony.

## SEEDS

**Minister tours Seed Unit and commits to provide additional funding for upgrades.** Trinidad and Tobago Government Information Service Limited (GISL). August 7 2017.

<http://www.news.gov.tt/content/agriculture-minister-tours-seed-unit-and-commits-provide-additional-funding-upgrades#.WYiMAbpFyUk>

### Full article

National food security and economic development demand a very focused and determined approach to raise productivity and production in agriculture. High quality, high yielding, pest and disease resistant seeds in sufficient quantity is the critical determinant of agricultural production. It was in this context that Senator the Honorable Clarence Rambharat, Minister of Agriculture, Land and Fisheries toured the Seed Unit in Chaguaramas of the Ministry of Agriculture, Land and Fisheries on Sunday August 6, 2017, along with members of staff of the Unit, led by Mr. Allan Balfour, Deputy Director – Agricultural Services.

Speaking to the staff and media in attendance at the tour, Minister Rambharat said *'this [facility] is a very vital part of agriculture in Trinidad and Tobago'*. Our farmers use imported seed and planting material but there *'are some farmers who want some of the more traditional varieties ... because of resistance to pest and diseases, the yield; and around the Corpus Christi planting season, there is a high demand for seeds and planting material'*. *'There is still some more work to be done for upgrading the infrastructure and making the place more secure and access to water'*. The Minister further noted that *'this is one of the priority areas for Government funding that we have identified'*; with an allocation *'this fiscal of TT\$1.3Mn towards getting it going and I can see that we will allocate some more for next year, particularly for equipment'*. On the relevance of work at the Unit, the Minister said that *'if we produce the seeds, the farmers will plant, then the consumers can show a greater interest ... people are willing and interested in buying local'*.

Senator Rambharat and his team toured the expansive fields of cultivated ochroes, pigeon peas and corn; and had a first-hand view of the Nursery, and other installations on the site, including the Administration Building, Workshop and Stores. The major activities of the Seed Unit include production of high quality seed material – corn, pigeon pea, bodi, sorrel, pumpkin, ochro, melongene, hot pepper; production of root crop planting material – cassava and sweet potato; preservation of key vegetable seeds under cold storage; and conservation of root crop germplasm.

## VERMICULTURE

**Creating wealth from waste: Worms are worth the investment.** CCAFS, Consultative Group for International Agricultural Research (CIGAR). August 7 2017.

<https://ccafs.cgiar.org/news/creating-wealth-waste-worms-are-worth-investment#.WYhqyLpFyUk>

### Full article

My Loi, Vietnam - In a vermiculture system, worms decompose organic wastes to create a nutrient-rich compost fertilizer. These small but powerful recyclers accelerate the decomposition of organic matter into humus and can be used as poultry feed or sold.

A new brief has been published which assesses the diverse benefits associated with vermiculture, and showcases potential economic returns for farmers in the initial year of vermiculture establishment. The integration of on-farm resource cycling is directly linked to cost savings, diversified income streams, and qualitative soil and crop improvements. Nutrient-rich vermicompost can be generated from waste and used as a soil amendment to improve soil structure, water filtration, and overall farm productivity. Inedible crop residues and livestock waste are recycled back into the system to reduce agricultural waste. The worms function as a supplemental protein and food source for poultry or a valuable product for farmers to sell. Integration of worms into the diets of the birds leads to faster growth, higher hatching rates, and improved overall health. This interconnected network of farm resources is directly linked with soil health, productivity, and system resiliency.

Vermiculture also has the potential to address each of the climate-smart agriculture (CSA) pillars:

- Food security - increased agricultural productivity results from vermicompost soil enrichment, and worm sales can improve farmers' livelihoods;
- Adaptation – vermicompost can improve soil moisture-holding capacity and reduce reliance on external inputs; and
- Mitigation – vermicompost can serve as a replacement for fossil fuel-based fertilizers and reduce greenhouse gas emissions associated with raw manure application to fields.

With minimal initial investment and maintenance, vermiculture can improve the productivity and resiliency of small-scale farmers. Vermiculture has strong potential for wider adoption and scaling out as a climate-smart practice.

Read the info note:

**Tam TL, Smith A. 2017. Creating Wealth from Waste: Resource Use Efficiency in Climate-Smart Agriculture.** CCAFS Info Note. Wageningen, The Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). <https://cgspace.cgiar.org/handle/10568/83007>

# BIOCHAR

**Biochar shows benefits as manure lagoon cover.** By Martha Pings, American Society of Agronomy. August 9 2017.

<https://www.agronomy.org/science-news/biochar-shows-benefits-manure-lagoon-cover>

## Full article

Manure is a reality in raising farm animals. Manure can be a useful fertilizer, returning valued nitrogen, phosphorus, and potassium to the soil for plant growth. But manure has problems. Odor offensiveness, gas emissions, nutrient runoff, and possible water pollution are just a few.

Timing is also a problem. Livestock produce manure 24/7 – even when it is impractical or unwise to move it to the field. Delivering manure to the field needs to be timed to nutrient needs, soil moisture levels, and temperature. How can farmers handle this timing issue, as well as other manure problems?

In cities, sewers and water treatment facilities deal with human waste. On farms, manure storage lagoons can hold the manure until the time is ripe. This solves the timing and delivery problem – but what about odor and gas emissions?

In addition to the inconvenience of odor, manure can release gases connected to air pollution and climate change. Methane, nitrous oxide, ammonia, and hydrogen sulfide are examples. Scientist Brian Dougherty and colleagues researched methods to reduce these negatives while potentially adding some positives: biochar covers.

Biochar is plant matter, such as straw, woody debris, or corn stalks, that has been heated to high temperatures in a low- to no-oxygen environment. The result is a black, carbon-rich material similar to charcoal.

Dougherty says biochar is like a sponge. “Biochar provides a structure with lots of empty pore space” he says. “The outer surface may appear small but the interior surface area is absolutely massive. A few ounces of biochar can have an internal surface area the size of a football field. There is a lot of potential there for holding on to water and nutrients.”

In addition to its hidden storage capacity, the surface of the biochar tends to have a chemical charge. This gives biochar the ability to attract and hold nitrogen, phosphorus, and potassium ions, metals, and other compounds. Biochar can also float (some types more than others). That attribute means it can trap gases at the water’s surface.

Growing up on a dairy farm, Dougherty is no stranger to the challenges of manure storage. “Once I realized the properties of biochar, I thought it had good potential for a lagoon cover,” he says.

Dougherty’s research studied two liquid dairy manures with differing nutrient levels. It also studied two types of biochars, made at different temperatures. Biochar is somewhat fickle, showcasing different properties when created at different temperatures. He also included pails of manure with a straw cover for comparison, and au natural with no cover as his control.

The research found that the biochars picked up the most nutrients from the more concentrated manure with a higher nutrient content. “The biochar will take up whatever it can, so if there are more nutrients available the potential for nutrient uptake is greater,” Dougherty says. Nitrogen, phosphorus, and potassium are nutrients with the greatest economic value on a farm, but applying them in excess of what the crop can take up can lead to nutrient loss to the watershed.

Dougherty also measured the ammonia at the top of each pail. Ammonia and sulfates are the main source of manure’s odor. The cooler-crafted biochar did best here, reducing ammonia by 72-80%. It also floated better. But because it floated better and tended to repel water, it was less effective at attracting and attaching to the nutrients than the warmer-crafted biochar.

Biochar is currently more expensive to buy than straw, but Dougherty is undaunted. Biochar could have a good economic return: excess farm and forestry residue could be used to create the biochar on site. This process generates energy that could be used to heat water and warm buildings during colder months. There is also potential for generating electricity, fuels, and other by-products using more sophisticated equipment. After its use in the lagoon, the biochar could be spread on fields as needed. Any excess could be sold as a high-value fertilizer product.

And biochar has great environmental benefits. “Anything you can do to prevent gases from escaping the lagoon is a good thing,” Dougherty says. “Biochar applied to soils—particularly poorer quality soils—is very helpful. Making biochar can also help reduce atmospheric carbon dioxide levels. A portion of the carbon dioxide that was taken in during plant growth ends up as a very stable form of carbon in the soil. The overall picture has multiple benefits.”

Dougherty’s research did not avoid the obvious. Would biochar or straw best improve the dairy air? Since the human nose knows, Dougherty recruited a panel of judges. The weather intervened, however, with freezing temperatures and rain affecting the odor intensity over the 12 week trial. Despite these challenges, three different biochars were shown to reduce odor from liquid dairy manure, whereas a straw cover was not effective.

“Determining the best trade-off of biochar properties will be an important next step,” Dougherty says. “More research could find the right biochar production temperature, particle size, pH, and float properties. The potential is there.” This portion of the research still needs to be sniffed out.

Read more about Dougherty’s biochar research in *Journal of Environmental Quality*.

Dougherty, B., M. Gray, M. G. Johnson, and M. Kleber. 2017. Can Biochar Covers Reduce Emissions from Manure Lagoons While Capturing Nutrients?. *J. Environ. Qual.* 46:659-666. doi:10.2134/jeq2016.12.0478 <https://dl.sciencesocieties.org/publications/jeq/abstracts/46/3/659>

## AGRO-ENERGY

### **PCJ Biodiesel Blend to Cut Oil Imports and Boost Agricultural Sector.** By [Rochelle Williams](#)

Jamaica Information Service, August 3, 2017

<http://jis.gov.jm/pcj-biodiesel-blend-cut-oil-imports-boost-agricultural-sector/>

#### **Full article**

Jamaica could save hundreds of millions in energy costs per year, while reducing the country's reliance on imported fossil fuels and creating a boost for the agricultural sector through the introduction of a B5 biodiesel blend.

The Petroleum Corporation of Jamaica (PCJ), the agency of Government dedicated to pursuing the development of Jamaica's energy resources, has developed the blend for use in the transport sector.

The oil, derived from castor seed, is processed to produce a high-quality fuel for use in diesel-engine vehicles.

PCJ's Group General Manager, Winston Watson, tells JIS News that the unique blend has the potential to replace 97,000 barrels of imported oil, significantly cutting the country's annual energy bill.

The PCJ anticipates that replacement of the diesel currently being used with its B5 blend could save the country about \$540 million per year in imports alone.

"We are fairly optimistic that...our B5 blend of biofuel will be an affordable option for driving energy efficiency in the transportation sector," Mr. Watson says.

The biodiesel formula is the latest innovation by the Corporation in its efforts to develop the local alternative energy sector.

Biodiesel is a cleaner-burning diesel replacement fuel made from natural, renewable, agricultural resources. Like petroleum, diesel can operate in combustion-ignition engines, including cars, trucks, heavy equipment and boats. It can also be used in oil-based home heating systems.

Mr. Watson points out that due to the natural components of the B5 blend, it will have a nominal impact on the environment.

"This is very good for the clean energy sector. Because the castor oil comes from plants, essentially what will happen is that we will be growing more trees and that will reduce greenhouse gases as well in terms of the trees absorbing CO<sub>2</sub> (carbon dioxide)," he tells JIS News.

"But what is more important is that when you use the castor oil, it reduces the sulphur. Because it has less sulphur, when you mix it with regular diesel, it reduces the amount of sulphur, which reduces the greenhouse gas (GHG) emissions," he explains further.

The PCJ Manager anticipates that the project will also create a boost within the local agricultural sector as farmers will be called upon to mass-cultivate the castor plant for commercial production of the fuel.

“The intention is to have satellite farms. If you have an acre of land, you can grow an acre of castor seeds. This will then be brought to a processing plant to produce the oil,” Mr. Watson points out.

The PCJ has been conducting small-scale vehicular trials of the B5 formula since January this year. Some 7,000 kilometres of road miles have been logged so far.

Further research and refinement of the blend is being carried out by PCJ in collaboration with the University of Technology (UTech). A Memorandum of Understanding (MoU) is to be signed shortly between the two entities to concretise the arrangement.

Results from the research will be used to create a document to implement a biodiesel energy policy for the country.

Minister of Science, Energy and Technology, Dr. the Hon. Andrew Wheatley, has hailed the collaboration between the entities.

“It’s really an excellent partnership. Castor oil is known for its energy generating potential and so it is that level of collaboration that we want to encourage among our local scientists and for them to continue to innovate,” he said.

Project Engineer for Biofuels at PCJ, Niconor Reece, explains that the castor oil was selected to produce the blend due to the pervasiveness of the castor plant in Jamaica and its adaptability to a variety of soil types.

The castor plant is a perennial crop, which grows wild in several parishes across the island.

“It is the premier seed to pursue biofuels ... it is one of the crops that we know can grow in Jamaica on marginal lands, and if you add inputs such as fertiliser and irrigation, then the yield will be even more significant,” he points out.

Mr. Reece notes that castor has additional benefits in terms of the versatility of the plant.

“The meal (residue remaining after the oil has been extracted) can be used as a fertiliser; we are doing some work with that as well. The meal can also be used as animal feed if it is processed correctly and the shell can be utilised for fuel if you run an extraction process.

“Similar to the sugar sector where you use all of the cane in the process, the same thing can be done with the castor. It is a complete plant. Based on those factors, we decided it is a good crop to pursue from a biofuels perspective,” Mr. Reece points out.

Other partner agencies on the project are the Ministry of Industry, Commerce, Agriculture and Fisheries’ Planning Division, which conducted soil tests and assessments of land availability and climatic conditions across the country to determine the best environment for cultivation of the crop.

The Ministry's Bodles Agricultural Research Station and the Caribbean Agricultural Research and Development Institute (CARDI) conducted agronomic tests of several local and foreign varieties of the castor plant to facilitate wide-scale production and to determine optimal growing conditions and how to treat with diseases that affect the crop.

## BIOTECHNOLOGY

**'Gene drives' could wipe out whole populations of pests in one fell swoop** by [Kate Luders](#) .  
Environment Institute, The University of Adelaide, AUSTRALIA, 10 August 2017  
<https://blogs.adelaide.edu.au/environment/2017/08/10/gene-drives-paper/>

### Full article

Pest species are not news to continental Australia: animals either deliberately introduced or brought here accidentally by boat have wreaked havoc for decades. Gene driving is a technique that aims to humanely spread a “faulty” gene through a population and triggers population collapse.

Environment Institute Researchers [Thomas Prowse](#), [Phillip Cassey](#), [Talia Wittmann](#) and [Paul Thomas](#) suggests this gene editing technique could work.

“Typically, faulty alleles would not spread through populations, because the evolutionary fitness of individuals carrying them is reduced, meaning they will be less likely than non-faulty alleles to be passed on to the next generation. But the newly developed [CRISPR gene-editing technology](#) can [cheat natural selection](#) by creating gene-drive sequences that are much more likely to be passed on to the next generation.”

Their paper published in the [Proceedings of the Royal Society B](#), suggests that under certain circumstances, genome editing could work.

There are biosecurity, regulatory and ethical questions that need to be considered around altering ecosystems, but this paper proves it may be possible.

Read the whole article on [The Conversation](#) to investigate the realities and challenges behind gene driving.

This research was also featured in [Australian Geographic](#).

**Dodging silver bullets: good CRISPR gene-drive design is critical for eradicating exotic vertebrates**, *Proceedings of the Royal Society B* (2017). DOI: [10.1098/rspb.2017.0799](https://doi.org/10.1098/rspb.2017.0799)  
<http://rspb.royalsocietypublishing.org/content/284/1860/20170799>

## CONSERVATION AGRICULTURE

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“For more than five years we’ve been practicing conservation agriculture (CA),” Onay Martínez, who works 22 hectares of state-owned land, told IPS.

He was referring to a specific kind of agroecology which, besides not using chemicals, diversifies species on farms and preserves the soil using plant coverage and no plowing.

“In Cuba, this system is hardly practiced,” lamented the farmer, who is cited as an example by the United Nations Food and Agriculture Organization (FAO) of integral and spontaneous application of CA, which Cuban authorities began to include in their policies in 2016.

This fruit tree orchard in the province of Pinar del Río, worked by four farmhands, is the only example of CA reported at the moment, and symbolizes the step that Cuba’s well-developed agro ecological movement is ready to take towards this sustainable system of farming. The Agriculture Ministry already has a programmer to extend it on a large scale.

FAO defines CA as “an approach to managing agro-ecosystems for improved and sustained productivity, increased profits and food security while preserving and enhancing the resource base and the environment. CA is characterized by three linked principles, namely: Continuous minimum mechanical soil disturbance; Permanent organic soil cover; Diversification of crop species grown in sequences and/or associations.”

Because of the small number of farms using the technique, there are no estimates yet of the amount of land in Cuba that use the basic technique of no-till farming, which is currently expanding in the Americas and other parts of the world.

CA, which uses small machinery such as no-till planters, has spread over 180 million hectares worldwide. Latin America accounts for 45 per cent of the total, the United States and Canada 42 per cent, Australia 10 per cent, and countries in Europe, Africa and Asia 3.6 per cent.

The world leaders in the adoption of this conservationist system are South America: Brazil, where it is used on 50 per cent of farmland, and Argentina and Paraguay, with 60 per cent each.

And Argentina and Brazil, the two agro-exporter powers in the region, are aiming to extend it to 85 per cent of cultivated lands in less than a decade.

“In conservation agriculture we found the basis for development because it allowed us to achieve goals in adverse conditions,” said Martínez, a computer specialist who discovered CA when in 2009 he and his brother started to study how to reactivate lands that had been idle for 25 years and were covered by weeds.

A worker operates a kind of mower characteristic of this type of agriculture to clear the paths in Tierra Brava, which has no electricity or irrigation system. The cut grass is thrown in the same direction to facilitate the creation of organic compost.

“There are places on the farm, such as the plantation of soursop (*Annona muricata*), where you walk and you feel a soft step in the ground,” Martínez said, citing an example of the recovery of the land achieved thanks to the fact that “no tilling is used and the soil coverage is not removed.”

Focused on the production of expensive and scarce fruit in Cuba, the farm in 2016 produced 87 tons, mainly of mangos, avocados and guavas, in addition to 2.7 tons of sheep meat and 600 kilos of rabbit.

Now they are building a dam to practice aquaculture and are starting to sell soursop, a fruit nearly missing in local markets.

Mandarin orange, canistel (*Pouteria campechiana*), coconut, tamarind, cashew, West Indian cherry (*Malpighia emarginata*), mamey apple (*Mammea americana*), plum, cherry, sugar apple (*Annona squamosa*), cherimoya (*Annona cherimola*) and papaya are some of the other fruit trees growing on the family farm, until now for self-consumption, diversification or small-scale, experimental production.

“Rotating crops is hard and requires a lot of training and precision, but CA is also special because it allows you time to be with your family,” said Martínez, referring to another of the benefits also mentioned by specialists.

FAO’s representative in Cuba, German agronomist Theodor Friedrich, is one of the staunch advocates of CA around the world, based on years of research.

“Agroecology, as it was understood in Cuba in the past, has excluded the aspect of healthy soil and its biodiversity,” he told IPS in an interview. “Now the government recognizes that the move towards Conservation Agriculture fills in the gaps of the past, in order to achieve true agroecology.”

Friedrich said that in this Caribbean island nation of 11.2 million people, CA is new, but “several pilot projects have been carried out, and there is evidence that it works.”

In October 2016, Cuba laid out a roadmap to implement CA around the country, after an international consultation supported by FAO. And in July a special group was set up within the Agriculture Ministry to promote CA.

“CA has not been immediately adopted on a large-scale around the country,” said Friedrich. “But as of 2018, the growth of the area under CA is expected to be much faster than in countries where this system only spreads among farmers, without the coordinated support of related policies.”

Good practices that improve the soil, which form the basis of this system, have been promoted in Cuba for some time now by bodies such as the Soil Institute (IS). It is even among the few environmental services supported by the state in Cuba’s stagnant economy, to combat the low fertility of the land.

According to data from the IS, only 28 per cent of Cuban soils are highly productive for agriculture. Of the rest, 50 per cent is ranked in category four of productivity, one of the lowest, due to the characteristics of the formation of the Cuban archipelago and the poor management of soil during centuries of monoculture of sugarcane.

“In this municipality, the number of farms that use organic compost to improve the soils has increased. The payment for improving the soil has been an incentive,” said Lázara Pita, coordinator of the agro ecological movement in the National Association of Small Farmers of Los Palacios.

“We have rice fields, where agroecology is not used, but where they do apply good practices for soil conservation such as using rice husks as nutrients,” Pita, whose association has 2,147 small farms joined together in 15 cooperatives, an agro industrial state company and rice processing plant, told IPS.

Standing in a wide-roofed place without walls in Tierra Brava, Pita estimated that 40 farms qualify as ecological, and another 60 could shift to clean production techniques.

With the certification of a soil expert, a farmer like Martínez can earn between 120 and 240 dollars a year for offering environmental services, such as soil improvers, the use of live barriers and organic materials. This is an attractive sum, given the average state salary of 29 dollars a month.

Cuba, which depends on millions of dollars in food imports, has 6,226,700 hectares of arable land, of which 2,733,500 are cultivated and 883,900 remain idle.

## AGRICULTURAL DEVELOPMENT

**Potential for agricultural boost: BAS CEO.** Barbados Advocate. August 5 2017.

<https://www.barbadosadvocate.com/news/potential-agricultural-boost-bas-ceo>

### Full article

The increase in the National Social Responsibility Levy (NSRL) imposed on imports presents opportunities to expand the local agricultural sector.

That's according to Chief Executive Officer of the Barbados Agricultural Society (BAS), James Paul. He made the suggestion as he reflected on the NSRL which as of July 1 moved from two to 10 per cent, noting that to some extent the onus is now on the stakeholders in the sector to recognize the opportunities and capitalize on them.

“There is an opportunity for local agriculture to step up and play a serious role in terms of providing local produce, but achieving this depends on a few things including whether or not the community recognizes the opportunities being provided and whether or not they would put some investment behind it in order to make it happen,” he said in an interview with The Barbados Advocate.

He added, “We in the agricultural community have always said that we can do more and an environment is seemingly being created where we can do more, the question that has to be answered now is whether people will take advantage of it.”

With that in mind, Paul said he is hoping over the coming months to encourage farmers to put more acreage under production. His comments came as he indicated that the BAS is at present working on a program to increase the marketing of local agricultural produce and to persuade retailers to purchase more of that produce including fruits, vegetables and meat from local farmers, rather than importing those items from overseas.

“Of course that must be backed by increasing acreage and acreage would come from increased investment. Hopefully if we can utilize the incentives from the Ministry of Agriculture in this regard that would help, and we must do something because the environment is right for local goods to be made more attractive than imported goods. So if we can increase the acreages and the yields coming out from the acreages that would help to provide the market with an alternative, save foreign exchange, and provide a much boost to the economy,” he said.

Paul contended that rather than complain about the negative impact that the new rate of the levy can have on the country, it is imperative that a more positive approach is taken to the situation and persons see it not as an obstacle, but an avenue for local enterprise in general to blossom.

**Special Funds for Entities Making Value-Added Products.** By Alecia Smith, Jamaica Information Service (JIS). August 9 2017.

<http://jis.gov.jm/special-funds-entities-making-value-added-products/>

### Full article

Prime Minister, the Most Hon. Andrew Holness, says the Government is seeking to make special funds available for agricultural entities that manufacture value-added products.

“We must support agriculture that is seeking to add value, not just to take in from the soil and sell it. We want to support those businesses in agriculture that are seeking to process and add greater value,” he said.

The Prime Minister was addressing the closing ceremony for the 65th Denbigh Agricultural, Industrial and Food Show in Clarendon on Monday (August 7).

Mr. Holness noted that a decision was made to pump funds into the agricultural sector, as this strategy is considered one of the easiest and quickest ways to achieve growth in Jamaica.

Outlining other conditions to qualify for these funds, Mr. Holness said agricultural businesses generating foreign exchange from exports would also be considered.

“If I am going to move resources from one area to the next, then it is only fair that (the agricultural sector uses) the resources in ways that are going to make it better for the country – save us foreign exchange and earn us foreign exchange,” he stressed.

Those businesses engaged in import substitution, especially for crops such as Irish potatoes, red peas and onions, will also be favoured.

The Prime Minister urged businesses that will benefit to use the funds to get the maximum value from their products, given that the Government is operating under tight fiscal constraints and will be shifting resources from another area to agriculture.

“When we give favour to one area, then another area will be deprived. So, if we move resources (into agriculture) we must have an undertaking that the farmers are going to use those resources to the fullest and give us a return equal to or greater than what we could get elsewhere,” he said.

Mr. Holness further informed that discussions have been taking place with the Development Bank of Jamaica (DBJ) to provide more funds for the agricultural sector, noting that he will be giving a directive to the entity’s Managing Director, Milverton Reynolds, to identify resources.

He also encouraged agricultural enterprises that qualify for loans to seek to access them from the various financial entities that support the agricultural sector.

“You should go to the EXIM bank, and to all the other resource windows that are there and access those funds,” he said.

In the meantime, Mr. Holness urged all Jamaicans to “keep supporting our farmers, buy local, consume local and, as much as possible, support brand Jamaica”.

**More initiatives undertaken to expand the agriculture sector.** By Neola Damon, Guyana Department of Public Information (dpi). August 9 2017.

<http://gina.gov.gy/more-initiatives-undertaken-to-expand-the-agriculture-sector/>

### **Full article**

\$11.5b of the budgeted \$20.6B for agricultural expansion, diversification, and improved Drainage and Irrigation was expended in the first half of 2017, to promote government’s “Green Economy” agenda and to enhance agricultural development in the Intermediate and Rupununi Savannahs.

\$1.2B of this sum relates to capital investments, according to the Ministry of Finance mid-year report, requests for proposals were issued for the construction of agricultural stations in Regions Nine and Ten, while the construction and rehabilitation of agriculture centers in those regions are scheduled for the latter half of the year.

The expansion of farms has also commenced at Hosororo and Ebini where the cultivation of spices and orchard crops increased, while demonstration farms were operationalized in St. Ignatius, Kato, and Hosororo.

Flood risk management continues to be a priority for Government with over \$2.1B expended in the first half of the year on the construction, rehabilitation, and maintenance of the Drainage and Irrigation (D&I) systems and structures. This is in keeping with the commitment to the Sustainable Development Goals (SDG), in particular, Goal 13: which states, “Take urgent action to combat climate change and its impacts”.

The mapping of 10 percent of the D&I systems maintained by the National Drainage and Irrigation Authority (NDIA), to improve the management of D&I systems, has been completed.

Additionally, US\$4M was committed for the procurement of nine fixed pumps, to be installed in the coastal regions, and five mobile pumps to be deployed as needed within Georgetown. This will commence in the second half of 2017.

Meanwhile, ongoing diversification efforts in the wider agriculture sector saw, the fisheries subsector showing signs of growth. The aquaculture production increased by 12.2 percent in the first half of 2017 compared to the similar period in 2016.

The overall increase in marine production between these periods stands at 9.7 percent. However, it is noted that the private sector interest in tuna resulted in a catch of over 390,000 pounds for the first half of this year.

**32nd West Indies Agricultural Economic Conference kicks off with focus on Food Security, Climate Change.** Guyana Ministry of Agriculture. August 7 2017.

<http://agriculture.gov.gy/2017/08/07/32nd-west-indies-agricultural-economic-conference-kicks-off-with-focus-on-food-security-climate-change/>

**Full article**

For sustainable agricultural development to be realized, a holistic approach by key players is necessary for the strengthening of the industry. These sentiments were echoed by Agriculture Minister, Hon. Noel Holder today as he delivered the Opening Address at the 32<sup>nd</sup> West Indian Agricultural Economics Conference.

Today's event which forms part of a five-day conference is organized by the Caribbean Agro-Economic society through a collaborative effort of the Ministry of Agriculture-Guyana and the University of the West Indies (UWI).

Among the area of focus, the dignitaries will be placing heavy emphasis on food security, climate change, and Agricultural Insurance through a series of presentations and participative discussions. The aim of the conference is to provide innovative findings which can be incorporated to reduce hunger and achieve a food secured status.

“It is important we take into account, at the same time, diverse perspectives and approaches. To consider very technical issues such as animal health, plant pests; and also economic perspectives, households, and policies given that all of these make up the food system. Also, we must be cognizant that all of these, and their interactions, are going to be modified by climate change.” Minister Holder stressed.

Guyana has made significant strides in achieving a food secured status and is among the six countries in the region to have achieved the Millennium Development Goal (MDG) on hunger.

But while this has been a positive indicator, the Agriculture Minister called for more to be done at the level of CARICOM with an important first step being an improved knowledge on the agriculture-nutrition-health nexus.

“We need to promote “smarter” growth by learning more about the health and nutrition impacts of agricultural development. Important steps to build up this knowledge base include investments in research, evaluation and education systems capable of integrating information from all three sectors,” the Minister said.

With the acquisition of such knowledge, enhanced agricultural strategies can be developed with the aim of minimizing risks while maximizing the benefits across the entire value chain, from production to consumption.

The Agriculture Minister called for a more diversified agricultural production and consumption, through the inclusion of more nutritious food products such as beans, vegetables, fruits and dairy products.

“Equally important is the adoption of improved processing practices and policies, including safer transportation and storage infrastructure which reduces food loss and waste hence the importance of conferences such as these to address these shortfalls,” Minister Holder stated.

After the opening address by Guyana’s Agriculture Minister, presentations were conducted by officials from across the region with a targeted focus on attaining Food and Nutrition Security in the Caribbean. According to the dignitaries, if this is to be achieved direct focus on environmental challenges; propelling Caribbean Agricultural Development through School Feeding Programs; innovations in domestic food marketing in the Caribbean; culture, marketing, and climate change impacts on food security should take center stage.

During the first session, Mr. Colin M. Ramsay from the University of Nebraska-Lincoln delivered a detailed presentation on Agricultural Insurance, Farmer Security, and Food Security. He indicated that even though agriculture is one of the most important sectors in developing countries, it is, perhaps, the most vulnerable.

“Farmers everywhere are exposed to extreme events such as droughts, excessive rains and floods, early rains, late rains, hurricanes, and pests and diseases to name a few. Even when such events are absent, farmers have to face uncertain commodity prices at the time of harvest,” he said.

He pointed to some of the services farmers in developed countries should have access to including government subsidized agricultural insurance that makes their income somewhat predictable.

The conference which will conclude on Friday will see Guyana’s Representative to the Caribbean Agro-Economic Society, Mrs. Ida Sealey Adams and IICA’s Sustainable Rural Development Specialist, Mr. Arnold Mendonca, on Thursday, delivering presentations on the Relative profitability of Coconut Farming in Guyana and a case study on the sustainability of Central Mahaicony Perth Village Farmers’ Association respectively.

The 32<sup>nd</sup> West Indian Agricultural Economics Conference, is being held at the Ramada Georgetown Princess Hotel, Providence under the theme ‘Food & Nutrition Security: The Pathway to Sustainable Agricultural Development in the Caribbean’.

## CARDI STRATEGIC PLAN 2018-2022 Consultations

**Ambitious Agenda.** Barbados Advocate, 3 August 2017

<https://www.barbadosadvocate.com/news/ambitious-agenda>

### Full article

IT is being proposed that the Caribbean Agricultural Research and Development Institute (CARDI) include in its five-year strategic plan, programmes with a view to the establishment of a regional seed bank.

Stakeholders of the agricultural sector are also suggesting that CARDI focuses on disaster and risk mitigation strategies; improving regional trade of agricultural produce; ensuring quality of regional produce; and development of agricultural equipment using local skills and expertise.

These recommendations were made yesterday during a meeting of key stakeholders who represented the agricultural community in Barbados.

The objective of the meeting which was held at the Animal Nutrition Unit, Pine East West Boulevard, was to obtain comments and receive feedback on the CARDI's five-year Strategic Plan 2018-2022 draft document.

The stakeholder also reiterated their support for CARDI and their willingness to partner with the Institute to implement the programmes proposed particularly in the areas of capacity building through internships for youths interested in agriculture, policy development and advocacy, strengthening and exploiting linkages between tourism and agricultural sectors.

At the meeting, CARDI Representative for Barbados, Ansari Hosein emphasised that it is important for stakeholders to be afforded the opportunity to contribute to the development of the plan, since persons in the Member of States are essentially owners, clients and partners.

“Through this consultative process, the final version of the document should also be in synergy with the programmes of its member countries and relevant to the respective national vision for Agriculture. This is in keeping with our fundamental principle of working together.

“We all have the same aim which is to increase farmer’s income, productivity and profits, improve livelihoods and industry development which will also lead to a reduction in the food import bill and provide some measure of food and nutrition security to the people of the Region,” Hosein said.

CARDI was established in 1974 to serve the agricultural research and development needs of the Member States of the Caribbean Community (CARICOM) and is well positioned to enhance the socio-economic well-being of the Caribbean people through research for development that improves the competitiveness and sustainability of regional agriculture.

The feedback received yesterday will be considered as the Institute prepares the final document for submission to its Board of Directors in September 2017 and subsequently, its Board of Governors. (AH)

## **INFORMATION & COMMUNICATION TECHNOLOGIES**

**Drone Demonstration.** Government of Saint Vincent and the Grenadines. August 8 2017.  
<http://www.gov.vc/index.php/news/618-drone-demonstration>

### **Full article**

The Ministry of Agriculture, Forestry and Fisheries and Rural Transformation, has been collaborating with the Taiwanese Technical Mission from Monday 7th August, to conduct demonstrations on the use of an Un-manned Aerial Vehicle (UAV), or Drone, for field crop survey.

The activity forms part of the Ministry's efforts to assess technologies which will strengthen its Geographical Information System (GIS), capabilities, to more precisely forecast agricultural production, manage forestry resources, as well as conduct more precise storm damage assessments, following the passage of tropical systems.

The demonstrations are being done in the Marriaqua Valley, Greiggs, South Rivers, Orange Hill, Rabacca and Langley Park, until Thursday 10th August. The UAV demonstrations will be followed by a workshop on Field Crop Survey and Methodology, to take place at Computec in Kingstown, from Friday 11th – Monday 14th August.

A presentation of the results of the Survey will be made to participants on Tuesday 15th August at the e-Government Training Room, Kingstown.

The demonstration and workshop will target GIS Officers from the Forestry Department and the GIS Unit; Ministry of Housing; Agricultural Extension Officers from the Extension and Advisory Services; and Officers and Data Collectors from the Agricultural Planning Unit; Lands and Surveys Department; and the Ministry of Economic Planning.

**MoPT launches CODE SPRINT 2017, Agriculture Sector set to benefit.** By Gabreila Patram, Guyana Department of Public Information (dpi). August 9 2017.

<http://gina.gov.gy/mopt-launches-code-sprint-2017-agriculture-sector-set-to-benefit/>

## Full article

The Ministry of Public Telecommunications has launched CODE SPRINT 2017 to enable the development of software to enhance the Agriculture Sector. Fourteen teams over the next 20 days will be building an application that will link farmers locally and regionally to meet supply and demand of the markets.

CODE SPRINT is similar to a Hackathon; however, CODE SPRINT participants will be allowed to take home their project. This will grant them adequate time to conduct research to build the application.

Ministerial Advisor to the Minister of Telecommunications, Lance Hinds said that CODE SPRINT is a continuation of the Ministry's programs to enhance young peoples' abilities. He noted that CODE SPRINT will be identifying, to develop products that are produced and identify the gaps in the applications as part of the Ministry's capacity building exercise.

"You may remember there was a Hackathon last year where there were eight teams and this is a continuation of that work", Hinds said.

Requirements for the CODE SPRINT include: a practicable and applicable solution to be used in Guyana; demand statistics must be generated and be accessible to farmers, the payment system process should be fast and easy and the solution should offer order tracking functionalities.

The application must match buyers and sellers of agricultural products based on offers on both sides; match and conclude transactions and generation of statistics based on volume per products; average price and total dollar value. Additionally, there must be an easy way to aggregate order quantity (e.g. a consumer wants 10 tons of organs then several small farmers ; coming in at 1-2 tons each should be able to combine their quantities in order to meet the order).

Hinds noted the complaints of small and medium scale farmers in Guyana, regarding the difficulty in finding buyers for CODE SPRINT is similar to a Hackathon; however, CODE SPRINT participants will be allowed to take home their project. This will grant them adequate time to conduct research to build the application.

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Hinds noted the complaints of small and medium scale farmers in Guyana, regarding the difficulty in finding buyers for their produce, resulting in losses suffered due to spoilage. They are often forced to sell off produce below market value to avoid waste. There is no structured system under which international buyers can conduct Buyer to Buyer (B2B) transactions with local producers.

However, large and medium scale consumers both regionally and locally are complaining that the producers in Guyana are incapable of supplying large orders of fruits and vegetables. It is believed if farmers are able to see demand trends (statistics) they will know what to produce and the amount to produce thereby matching production capacity to market demand.

Production specialization might be a spin off, and as direct consequence farmers can benefit from economies of scale, hence, the CODE SPRINT, Hinds pointed out.

Several participants said they are excited to take on this new challenge. Stephanie Simon, Team Mega Girls, said that her team will be happy to develop a software for one of the leading sectors in the country. She expressed delight that the team has enough time to conduct research and possibly carry home this project. Deenauth Mahabeer from Team Innosys noted the task is a bit challenging but not difficult. He said the challenge comes when there are a number of teams producing the same applications.

The victor will receive \$300,000, while second and third place winners will receive \$200,000 and \$150,000 respectively.

CODE SPRINT is a collaboration between the Ministry of Public Telecommunications, dev X and Virtue 75.

The Ministry of Public Telecommunications will also host another Hackathon in November of this year.

## YOUTH

**4-H boss says youth are critical players in agriculture development.** By Kimberley Hibbert, Jamaica Observer. August 9 2017.

[http://www.jamaicaobserver.com/news/4-h-boss-says-youth-are-critical-players-in-agriculture-development\\_107205?profile=1373](http://www.jamaicaobserver.com/news/4-h-boss-says-youth-are-critical-players-in-agriculture-development_107205?profile=1373)

### Full article

DR Ronald Blake, executive director of Jamaica 4-H Clubs, is confident that in a few years' time the agricultural sector will experience a boom, due to the increase in youth farmers.

Speaking at the opening ceremony of the 65th staging of the Denbigh Agricultural, Industrial and Food Show on Saturday, Dr Blake said the average age of farmers have decreased and it is no longer the career for the uneducated or those with no other career option.

“The average age of farmers have moved from 60 to 48.7 years and it is now the vocation of choice, signaled by the vast amount of students enrolled in agricultural programs across various institutions,” he said. He added that key players are happy for such a renaissance as it will allow for improvements in technology and higher levels of production, which will form the basis for sustainable development.

Blake pointed out that each year, in excess of 500 people join the local 4-H Clubs and that this year 360 young people participated in youth entrepreneurial programs. Of that number, he said 183 were agricultural development scholarships.

Additionally, the 4-H boss said the Government has invested \$250 million for agricultural development in the club, and more than \$100 million in grant funding was raised for youth in agricultural development projects and programs.

Dr Blake said: “Now is the best time for youth to come on board as there are more resources for young people to enter agriculture.”

Agriculture Minister Karl Samuda, during his tour of the youth in agriculture village, announced that 30 per cent of the product incentive fund will go to youth in agriculture programs.

Samuda further underscored Dr Blake's points, saying agriculture is one of the main planks that will drive economic growth, and so, the attention must now be turned to youth in agriculture as they are more modern thinkers.

“They represent a renewed vigor, a renewed commitment, a determination to move away from the old-time days, the old thinking as to what agriculture represents, the old time imagery and the notion of a farmer as a poor thing that can't do any better. Their thinking today is so modern and most of them supported the notion that the most essential ingredient to move agriculture forward is training of our young people, training of our tourism sector — because every farmer is a small business man,” he said.

There was a Youth in Agriculture Awards ceremony, which served as a tool to further spark interest in the sector among youth and nurture entrepreneurial minds.

Awarded sections included social media agriculture; agriculture mobile app; agriculture jingle; a business model; budding and grafting; agro processing; cattle judging; agro animation; agricultural quiz, and a poster competition.

## UPCOMING EVENTS

August

### **Denbigh Show, Jamaica**

**Date:** August 5-7

**Location:** Denbigh Showground, May Pen, Clarendon,

**Theme:** 'Grow What You Eat... Eat What You Grow: A Salute to Our Farmers, Nation Builders'.

**Website:** <http://www.jas.gov.jm/Denbigh.html>

### **32<sup>nd</sup> West Indies Agricultural Economics Conference 2017**

**Date:** 6-11 August 2017

**Location:** Georgetown, Guyana

**Description:** Theme: Food & Nutrition Security: the pathway to sustainable agricultural development in the Caribbean. Organised by Caribbean Agro-Economic Society

**Website:** <http://www.caestt.com/home/32nd%20W.I.A.EConference.php>

September

### **Caribbean Wellness Day**

**Date:** 9 September 2017

**Description:** Theme: "A Brighter Future for our Youth". Focus is on youth ages 15-29

**Website:** <http://carpha.org/>

### **Agribusiness Expo 2017**

**Date:** 28 September- 1 October 2017

**Location:** Grenada

**Description:** Hosted by Ministry of Agriculture, Grenada. Theme: "Agribusiness generating wealth, wellness and employment"

**Website:** <http://www.gov.gd/>

October

### **World Food Day**

**Date:** 16 October 2017

**Description:** Theme is "Change the future of migration. Invest in food security and rural development".

**Website:** <http://www.fao.org/world-food-day/2017/home/en/>

November

**TropAg2017**

**Date:** 20-22 November, 2017

**Location:** Brisbane, Australia

**Description:** Theme is “high impact science to nourish the world”, reflecting the critical role of science, technology and innovation to the many challenges facing tropical and sub-tropical agriculture and food production globally.

**Website:** <http://tropagconference.org/>

December

**CARDI Day**

**Date:** 5 December 2017

**2018**

October 2018

**18th International Triennial Symposium of the ISTRC (International Society for Tropical Root Crops)** will be in Cali, Colombia from 22nd to 26th October 2018.

<http://www.istrc.org/194-18th-international-triennial-symposium-of-the-international-society-for-tropical-root-crops-istrc-cali-colombia-from-22nd-to-26th-october-2018>