



Agriculture in the News

Issues Affecting Caribbean Agriculture

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Corn

Toxic-producing fungal strains can now be detected in maize field soils with a new technique by Alexander Loladze, Carolyn Cowan. Centro Internacional de Mejoramiento de Maíz y Trigo CIMMYT, August 23, 2018

<http://www.cimmyt.org/toxin-producing-fungal-strains-can-now-be-detected-in-maize-field-soils-with-a-new-technique/>

A novel approach allows the detection of aflatoxin-producing fungi in maize fields. A new study explains the technique and how it was tested. "[Detection of Aflatoxigenic and Atoxigenic Mexican Aspergillus Strains by the Dichlorvos–Ammonia \(DV–AM\) Method](#)" was developed in collaboration between scientists from the International Maize and Wheat Improvement Center (CIMMYT), the Japanese National Agriculture and Food Organization (NARO) and Fukui University of Technology, funded in part by the [CGIAR Research Program on Maize](#) (MAIZE).

Improving Lives Through Agricultural Research

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Aflatoxins are harmful compounds produced by the fungi *Aspergillus flavus*, which can be found in the soil, plants and grain of a variety of cereals and commodities including maize, nuts, cottonseed, spices and dried fruit. The toxic carcinogenic qualities of aflatoxins pose serious health hazards to humans and animals when contaminated crops are ingested. These health risks include cancers of the liver and gallbladder, stunted development in children, premature births and abnormal fetal development.

Not all strains of *A. flavus* produce aflatoxins however, so it is important to be able to detect and distinguish between *A. flavus* strains that are benign (atoxigenic) and those that produce dangerous toxins (aflatoxigenic). Current methods of detection are often complicated by the fact that the fungal strains display very similar physiological and molecular traits, thus a new approach is required.

In the study, a novel approach to detect and distinguish *A. flavus* strains was tested. Using soil samples from a CIMMYT experimental maize field in Mexico, fungal isolates were chemically treated in-line with a method recently developed in Japan, resulting in a color change indicative of toxicity. The method was found to be effective and accurate in the detection of the aflatoxigenic strains of the fungus.

This study is foundational work in the development of a simple, cost-effective and efficient method of detecting aflatoxigenic strains of *A. flavus*, which will help inform growers about the potential aflatoxin contamination of their crops. This is of particular importance in the developing world, where the resources for effective control of the fungus are often lacking.

To read the original study, "Detection of Aflatoxigenic and Atoxigenic Mexican *Aspergillus* Strains by the Dichlorvos–Ammonia (DV–AM) Method", please click [here](#).

Original citation: Kushi, M.; Hatabayashi, H.; Yabe, K.; Loladze, A. Detection of Aflatoxigenic and Atoxigenic Mexican *Aspergillus* Strains by the Dichlorvos–Ammonia (DV–AM) Method. *Toxins* **2018**, *10*, 263.

This article was originally published on the website of the [CGIAR Research Program on Maize](#).

Coconuts

Coconuts More Than A Commodity. Guyana Ministry of Agriculture. August 21, 2018
<http://agriculture.gov.gy/2018/08/21/coconuts-more-than-a-commodity/>

While Guyanese know about coconut water, milk, oil and flakes, the National Agricultural Research and Extension Institute (NAREI) thinks much more can be done with the coconut.

Chief Executive Officer of NAREI, Dr. Oudho Homenauth told Region Two, Pomeroon-Supenaam councillors the budding coconut industry can be a major economic contributor through the development of more products.

He highlighted that every part of the coconut can be used for one purpose or the other. Even as NAREI continues to carry out research exercises it has been found that even the coconut coir dust can be used as a potting mixture for better germination of coconut seeds.

Coconut coir dust (also known as cocopeat, coir waste or fibre dust) consists of short spongy fibres and dust which are the by-product in the processing of husk to coir fibre.

"We have been talking to investors about utilising every part of the coconut. We have persons right now doing it on a small scale, utilising that part of the coconut as a soil enhancer. We have started to do work on it, the

dust as you call it, use it as a potting mixture. What we found is that germinating coconut seeds, using that potting mixture you could get 100% germination,” Dr. Homenauth explained....

Coconut farmers learn about value-added products. Guyana Ministry of Agriculture. August 17, 2018 <http://agriculture.gov.gy/2018/08/17/5190/>

Coconut farmers from across the country met this week at the Guyana School of Agriculture (GSA) for an agro-processing workshop focused on creating added value products.

The initiative was a collaborative effort between the Ministry of Agriculture, Caribbean Agricultural Research and Development Institute (CARDI), National Agricultural Research and Extension Institute (NAREI), Guyana School of Agriculture (GSA) and the Government Analyst Food and Drug Department (GAFDD).

Keiza DeSilva representing Henville Farm from the Pomeroon intends to use the knowledge gained to expand the business. “Henville is already on the export market which is Trinidad but in terms of what we learnt, some of the new products that we are not a part of, I see Henville taking some of the products that we learnt about and it going on the market.”

Also lauding the training was well-known rice producer Beni Sankar. Through his company Guyana Ideal Life Incorporated, he has turned his attention to coconut production with a line of coconut products including the globally popular virgin coconut

“Doing coconut alone and selling coconut water, is not the answer; what we have learnt here is a lot of value added. Things like coconut butter, vinegar, jelly, the water and what you can do with it and that is where the money is.”

Linden resident Williams Adams is venturing into the agro-processing business and said the knowledge he grasped is priceless. He is excited to see the direction that agro-processing is headed, especially in the coconut industry. However, for Adams the workshop was a complete package explaining that “just interacting with people that have the same aim of what you are doing is kind of awesome for me.”

Representing the Buxton/Friendship Coop society Leroy Hamer said the knowledge he gained will be used to develop his community. The experience at the workshop according to Hamer was new and exciting even though he has been in the coconut industry for a number of years.

“We have been around coconut for a number of years but we did not know that so much things can be done with coconut and I would say that we were wasting our wealth because we produced a lot of coconut over the years but we would use this opportunity to go back to our community expand the knowledge there” Hamer said.

The Caribbean Agricultural Research and Development Institute (CARDI) Country Representative, Cyril Roberts said the workshop is only the start of what is planned to tap into the coconut industry. “At a minimum, they would have taken away that they might want to consider getting involved in flour or vinegar or jelly or other products that can be made from coconut. So, it is a start of something where we have oriented them and many of them who may not have known of these things in the past have now learnt.”

Herbals /Spices

Local farmers boosting Guyana's Spice Industry. Guyana Ministry of Agriculture, Guyana website, August 26, 2018

<http://agriculture.gov.gy/2018/08/26/local-farmers-boosting-guyanas-spice-industry/>

Guyana imports almost US\$1M in spices annually, but the National Agricultural Research and Extension Institute (NAREI) is trying to change this by prioritizing the resuscitation of spices.

The aim is to reduce the country's food import bill while diversifying local crop production.

This is according to Dr. Oudho Homenauth, Chief Executive Officer of NAREI, who emphasized that through public awareness, continuous training and the provision of quality planting materials, more acres of various spices are under cultivation.

"Currently, ginger, turmeric, black pepper, and nutmeg are being grown locally in Region One and other areas across the country...Some of the spices that are being imported, particularly ginger and turmeric could be produced competitively locally," Dr. Homenauth stated.

The majority of the spices utilized by agro-processors are purchased from importers. However, some agro-processors have opted to support local farmers. One such agro-processor is Roy's Quality Spices.....

Agro-energy/Bio-energy

Minister Pintard Reviews Opportunity For Bio-mass Plant on Abaco by Bahamas. Ministry of Agriculture and Marine Resources, 22 August 2018. The Official Website of the Government of The Bahamas

<http://www.bahamas.gov.bs/>

A recent familiarization trip to Abaco found newly appointed Minister of Agriculture and Marine Resources, Hon. Michael Pintard, reviewing a proposal that may help to ease the power supply woes on that island.

Officials from Dunlap Petroleum, a Bahamian power supply start up, are hoping to generate up to 24 megawatts of power at a proposed plant in Spring City, Abaco, using bio-mass technology and locally grown elephant grass. If successful, the operations will add a new dimension to farming on that island while at the same time, providing a sustainable form of green energy to supplement the troubled power supply on Abaco.

The project has been on the table for some five years and has garnered significant interest from Bahamas Power & Light, BPL. For Minister Pintard, the potential to increase production of non-food agricultural products, particularly on Abaco, is an intriguing opportunity for the sector, while at the same time, assisting in the country's energy challenges. Abaco is home to the nation's only sod and turf farm, 5 Star Farms. A major part of the Ministry's short term goals is to spark activity in non-food agricultural production throughout the country.

Some 5,600 acres of land, owned by the Bahamas Agriculture & Industrial Corporation, BAIC, has already been secured for the project. The agreement allows Dunlap Petroleum to study the land, water table and to conduct soil tests to determine optimal growth rates for the proposed bio-mass material. Half of the land, or 2,600 acres, is currently under cultivation of elephant grass.

Dunlap representative Adrian Lismore confirmed that the minimum output of 8 megawatts of bio-mass energy is enough to power at least 5,000 homes on Marsh Harbour. Lismore pointed out that while bio-mass energy

production is new for The Bahamas, the technology has been a tried and tested option for fuel generation globally and presents a viable option for the Government of The Bahamas to reduce the cost of energy for Bahamians utilizing a renewable source.

Minister Pintard expressed concern about the turn-around time following an initial harvest for the regeneration of crops to sustain the operation. His concerns were addressed by the company's projection that with 5,000 acres available, at three harvests per year, they would be able to operate for a minimum of 15 years before expanding. The company hopes to replicate the operation on other family islands in the future.

The proposed plant, if approved, is expected to significantly impact employment on Abaco, creating jobs not only on the power generation side but also on the farm and could require up to 250 employees. The company expects to be ready within 24 months if given Cabinet approval.

Invasive Species

Video: How to identify and scout for fall armyworm by [Rodrigo Ordóñez](#) / Centro Internacional de Mejoramiento de Maíz y Trigo CIMMYT, August 16, 2018

<http://www.cimmyt.org/video-how-to-identify-and-scout-for-fall-armyworm/>

Climate Change

CCCCC Conducts Teacher Training Workshop for Climate Change Education. Caribbean Community Climate Change Centre. August 22, 2018

<http://www.caribbeanclimate.bz/ccccc-conducts-teacher-training-workshop-for-climate-change-education/>

EXCERPT

Belmopan, Belize; August 22, 2018 – The Caribbean Community Climate Change Centre (CCCCC) has relaunched its **1.5° to Stay Alive – An Educational Initiative** with a Teachers' Training workshop held at its offices in Belmopan, August 20 – 21, 2018.

This training workshop forms part of the Centre's education and outreach work to embed climate change in the region's education sector. The four-unit curriculum (The Warming Climate, Sea Level Rise, Pine Forest and Social Impacts of Global Warming), includes teaching and learning activities and a range of supporting materials such as worksheets, photographs, posters, suggestions for power point presentations, and videos.

Teachers conducted experiments that simulated some of the impacts of climate change using safe household items.

Through this means of engagement, they examined ways in which climate change can be incorporated in their syllabus, with the intent to:

- Increase sensitisation and awareness of climate change impacts and community vulnerability;
- Heighten ability to link personal actions to the broader climate change discussion;
- Increase capacity to conduct vulnerability assessments of communities; and
- Identify practical adaptation measures to reduce vulnerability....

Agricultural Development: Jamaica

Farmers to Benefit from MoU between RADA and JAS by Rochelle Williams. Jamaica Information Service, August 24, 2018

<https://jis.gov.jm/farmers-to-benefit-from-mou-between-rada-and-jas/>

Farmers are to benefit from a Memorandum of Understanding (MoU) to be signed between the Rural Agricultural Development Authority (RADA) and the Jamaica Agricultural Society (JAS), to create a more structured framework within the sector.

Addressing a RADA Farmers' and Community Development Forum on August 21 at Richmond Gap, St. Thomas, Minister without Portfolio in the Ministry of Industry, Commerce, Agriculture and Fisheries, Hon. J.C. Hutchinson, said the MoU should be signed by the end of September.

He explained that the MoU will seek to establish a framework of cooperation and collaboration, which will see both organisations working more closely to build the capacity of the sector.

The objective is to reduce duplication and economise the use of resources within the industry...

Bamboo and Castor Oil Industries to be Added to Agriculture Push-Start Programme by Rochelle Williams. Jamaica Information Service, August 23, 2018

<https://jis.gov.jm/bamboo-and-castor-oil-industries-to-be-added-to-agriculture-push-start-programme/>

The burgeoning local bamboo and castor oil industries are to be included in the Agriculture Push-Start (APS) programme, as part of plans to capitalise on the value chain of these crops.

Castor oil is to be added to the programme by the end of the year and bamboo is to be included at a later date.

This was announced by Minister without Portfolio in the Ministry of Industry, Commerce, Agriculture and Fisheries, Hon. J.C. Hutchinson, during his address at the Rural Agricultural Development Authority (RADA) Agricultural Development Stakeholders Forum on August 21 at the Richmond Gap Church of God of Prophecy, St. Thomas.

Mr. Hutchinson disclosed that the planting of the castor bean will begin in earnest by the end of the year, as Jamaica seeks to tap into the multibillion-dollar industry.

The product is used primarily in the pharmaceutical industry as an antioxidant and anti-inflammatory; in cosmetic applications; and in the manufacture of high-grade lubricants and biodiesel fuel.

The Minister further informed that interest has already been expressed by an international investor in establishing a bamboo-processing facility on the island.

Pointing to the variety of bamboo-derived products, Mr. Hutchinson said the Government is taking steps to develop the industry, noting that a committee has been formed with the purpose of examining the tenets of establishing the sector.

"We are looking to formalise the growing of bamboo. This committee is going to collaborate with all stakeholders to see how we can get the establishment of the bamboo industry going by next year," he informed.

Among the bamboo-derived products are: bridges, chairs, lamps, tissue, paper and cups.

Mr. Hutchinson noted that bamboo can be used as an alternative to plastic which he said will assist in solving the problem of the overproduction of plastic, which has a negative impact on the environment.

The APS Programme was launched in 2017, with the aim of increasing the production of Irish potato, onions and Scotch bonnet peppers.

It is also geared at giving a start to persons who want to pursue agriculture as a business.

Legislation

Agricultural Produce Act to be Amended by Rochelle Williams. Jamaica Information Service, August 22, 2018

<https://jis.gov.jm/agricultural-produce-act-to-be-amended/>

The Government plans to amend the Agricultural Produce Act to ensure farmers are able to recover the full cost of their produce, if stolen.

The proposed amendments include increasing fines from \$250,000 to \$3 million; expanding the definition of praedial larceny; and simplifying the procedures for registering and licensing all handlers of agricultural produce.....

Youth

Unleashing the great potential of Africa's youth to achieve sustainable development. FAO News, August 20, 2018

<http://www.fao.org/news/story/en/item/1149659/icode/>

Empowering the Youth through Agriculture: What is their role in Sweet potato Seed Systems. compiled by Kwame Ogero. Sweet potato Knowledge Portal, August 24, 2018

<https://www.sweetpotatoknowledge.org/part-3-4-topic-16-seed-systems-community-practice/>

UPCOMING EVENTS

September

International conference on agricultural emissions and food security: Connecting research to policy and practice

Date: 10-13 September 2018

Location: Berlin, Germany

Website: <https://www.agrighg-2018.org/>

<https://ccafs.cgiar.org/international-conference-agricultural-emissions-and-food-security-connecting-research-policy-and#.W2xeCbgpCM8>

October

Asia Water Forum 2018

Date: 2-4 October, 2018

Location: Manila, Philippines

Theme: "Information, Innovation, and Technology".

Website: <https://www.adb.org/news/events/asia-water-forum-2018-information-innovation-and-technology>

Caribbean Week of Agriculture

Date: 8-12 October 2018

Location: Barbados

Theme "Strengthening agriculture for a healthier future in the Region".

Website: <https://cwa2018.caricom.org/>

International Rice Congress (IRC 2018)

Date: 14-17 October, 2018

Location: Singapore

Website: <http://ricetoday.irri.org/the-international-rice-congress-2018/>

18th International Triennial Symposium of the ISTRC (International Society for Tropical Root Crops)

Date: 22 - 26th October 2018

Location: Cali, Colombia

Website: <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>

November

2018 International Annual Meeting, "Enhancing Productivity in a Changing Climate," of The American Society of Agronomy, the Crop Science Society of America, and the Canadian Society of Agronomy

Date: 4-7 November, 2018

Location: Baltimore, Maryland, USA

Website: <https://www.acsmeetings.org/>

FAO International Symposium on Agricultural Innovation for Family Farmers: Unlocking the potential of agricultural innovation to achieve the Sustainable Development Goals

Date: 21 to 23 November 2018

Location: Rome, Italy

Website: <http://www.fao.org/about/meetings/agricultural-innovation-family-farmers-symposium/en/>