Agriculture in the News

Issues Affecting Caribbean Agriculture

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The planning for CWA 2013, the twelfth edition of the Region’s premier agricultural event, will be hosted by the Government of Guyana, 4-12 October, 2013, under the theme ‘Linking the Caribbean for Regional Food and Nutrition Security and Rural Development’.

For more information see page 10

**AGRICULTURE IN THE NEWS** is a monthly 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.
Our Vision

To be the centre of excellence in the Caribbean for the provision and application of research and development in agriculture and rural enhancement.

Our Mission

To contribute to the sustainable economic well being of Caribbean people by the generation and transfer of appropriate technology through research and development within the agricultural value chain.

www.cardi.org
Roots and Tubers

Interactive tool maps out world of bananas, potatoes and cassava. Fresh Fruit Portal, 19 July 2013

Full Article

Through an interactive mapping system, scientists and agricultural professionals can now visualize the world of roots, tubers and bananas. Using 25 categories, RTBMaps paints a complex picture of global production zones.

With the click of a mouse, users may create a specialized map that compares plantain harvest zones to mean temperature, cassava to mealybug presence, or potatoes to food accessibility.

Visual combinations for the map are extensive and as associate researcher Henry Juarez explained, the possibilities for scientists reach far, as well.

“It’s a powerful tool to share information and make it not only available to ourselves but also to scientists,” explained Juarez of the International Potato Center Consultative Group in Lima, Peru.

“There are specialists that have GIS (Geographic Information Systems) background like myself but there are a lot of scientists that do not have GIS background. For them it simply depends on having a web address, a click to see the potato map, another click to see potato diseases.

“Through that simple exercise, they can visualize the vulnerability of the potato to that disease. That has a lot of impact. We’re already seeing scientists, decision makers and farmers participate because the information is available.”

The map brings together the brainpower of four diverse agricultural institutions: the International Center for Tropical Agriculture, Bioversity International, the International Institute of Tropical Agriculture and the International Potato Center, where Juarez is based.

The collaborative project utilizes GIS and cloud technology to organize a mass of global information and shed light on the greatest areas of need.

“It will make it easier to make decisions for scientists who don’t otherwise have this concept of spatiality,” Juarez explained.

“If you have 100,000 hectares in Peru at risk for a certain disease, you can think, ‘well, it’s 100,000 hectares.’ But if you see where they are, you can see where to place resources. You can decide, ‘in this more humid area of Peru, we can have greater impact.’”

Beyond disease, the map also reveals production inconsistency and crop opportunities.

“We want to find where the production voids are. We know what is produced and where in each zone and what the potential would be if there weren’t any limitations,” he said.

“In the Peruvian Andes, average production is around nine or 10 tons of potato per hectare. On the coast, we can reach up to 40 or 50. So there are a lot of production gaps in the Andes where we can
help with inconsistency in varieties, earlier varieties, etc. Having a map, it’s easier to understand where those gaps are.”

Although the map went live just over a week ago, researchers already have plans to build on its potential and expand its possibilities.

“We would like to have a lot more layers. Right now we’re at 25 and we hope to reach 100 or 200 more,” Juarez said.

“We’re also creating a priority setting platform to see a combination of various factors to determine the greatest impact. Users can go to the page, pick the factors he or she wants and create a unique map. That will serve researchers to determine where the most poverty, the most disease or the most potatoes are. That will be available over the coming months.”

Online mapping tool for analysis and planning receives international award by Veronique Durroux.

CGIAR Research Program on Roots, Tubers and Bananas, News, 10 July, 2013
http://www.rtb.cgiar.org/online-mapping-tool-for-analysis-and-planning-receives-international-award/

Full Article

RTBMaps – a web-based GIS (Geographic Information Systems) tool to help planners visualize data and analyze options for using roots, tubers and bananas to improve food security, nutrition and income – has been selected for a Special Achievement in GIS (SAG) Award, presented today at the 2013 Esri International User Conference.

A collaboration of the International Center for Tropical Agriculture (CIAT) and the GIS teams at Bioversity International, the International Potato Center (CIP) and the International Institute of Tropical Agriculture (IITA), RTBMaps is harnessing the latest advances in GIS and cloud technology for the purpose of helping people in the world’s poorest regions.

Some of the most important decisions to be made in the first years of Roots, Tubers and Bananas (RTB) concern where the research program’s resources and activities can achieve the greatest impact. RTB crops are grown in regions with some of the world’s highest rates of poverty and malnutrition; but where could work on specific crops or issues go the farthest in improving food security, nutrition or income? What are the distributions of the principal pests, diseases and other constraints to production? What areas present the greatest opportunities for RTB?

GIS specialists at the four research centers collaborating on RTB are helping the program’s decision makers to grapple with such issues by creating an online GIS tool to visualize production, constraints and social indicators associated with RTB crops. That online atlas is hosted by the CGIAR Consortium for Spatial Information (CSI). Together, these organizations have created a series of maps on ArcGIS Online, which uses cloud technology for GIS and allows users to build their own maps by combining layers.

“With this project, we want to move the power of maps out of the GIS lab and into the hands of the RTB science community – CGIAR scientists and our partners worldwide,” said Glenn Hyman, who is coordinating the project for CSI. He noted that the website is user friendly, accessible to all and free of charge. “Anybody can use these maps. You don’t need specific software. You don’t need any GIS training. All you need is a web browser.”
The four CGIAR participating centers – CIAT, CIP, Bioversity International and IITA – were selected to receive a Special Achievement in GIS (SAG) award at the 2013 Esri International User Conference. The award is given to user sites around the world to recognize outstanding work with GIS technology. RTBMaps was chosen from more than 100,000 others.

Hyman said that RTBMaps is the most comprehensive and collaborative GIS web-mapping project to be undertaken within the CGIAR system to date. He noted that the cloud technology that it is based on has only become available in recent years.

RTBMaps is being launched with approximately 25 map layers, which are based on data for RTB crop distribution, indicators for poverty and food-security and some production constraints. However, the number of layers will grow as the GIS specialists at the research centers upload maps for additional pests and diseases, social indicators and other pertinent data. The RTB GIS team will also add applications for simple functions such as printing, or downloading maps for use in presentations. The team has also developed a priority setting application that allows users to weight the importance of different criteria – based on their own research, or consultations – and run analyses that result in unique maps.

Bernardo Creamer, an agricultural economist with the CGIAR Decision and Policy Analysis Program (DAPA), came up with the idea and worked with Hyman on the priority-setting tool. He explains that it could be used by anyone from breeders to social scientists to donors who are trying to decide where to focus their efforts or resources.

“I’m an economist, I don’t have a GIS background, but I can see the power of these maps,” Creamer said. “If all you look at are numbers, you may miss some important things. This tool helps you take criteria into consideration that you might otherwise ignore.”

According to Henry Juarez, who heads the GIS laboratory at CIP and has been working on GIS for more than a decade, the cloud technology and collaborative nature of RTBMaps are groundbreaking. He noted that the initiative has also resulted in unprecedented knowledge sharing among the GIS experts at the research centers involved.

“This is the first time I’ve been connected with the GIS specialists at the other research centers. I didn’t realize that there was so much information available,” he said.

Juarez was one of more than a dozen GIS experts and social scientists from the four RTB research centers who attended a workshop in November, 2012, at CIAT to learn ArcGIS Online, resolve technical issues, and set priorities for the mapping initiative.

“One of the great things about this project is that it has gotten the research centers involved in RTB to share their data,” Juarez said. He observed that in addition to creating a tool with great potential, the initiative has catalyzed knowledge sharing and collaboration, which are central to the RTB mission.

RTB Maps, a web-based GIS (Geographic Information Systems) tool to help planners visualize data and analyze options for using roots, tubers and bananas
To view maps please click http://www.rtb.cgiar.org/RTBMaps/
Citrus

Management of Citrus Greening Disease continues by GIS Dominica, 23 July 2013.  

Full Article

A rapid response mechanism implemented by the Division of Agriculture to respond to the Citrus Greening Disease in Dominica continues to be in effect.

The Integrated Pest Management mechanism involves the elimination of infested trees and the release of natural enemies to manage the Asian citrus psyllid, the vector affecting the citrus plants.

The Citrus Greening Disease which is one of the world’s leading causes of death of citrus plants was first identified in Dominica in May 2012.

Ryan Anselm of the Plant Quarantine Unit of the Division of Agriculture in an interview with the Government Information Service (GIS) on Tuesday said it’s critical that the management system remains in place to control the spread of the vector.

“In Dominica, we have put programs in place to cushion the effect of this disease. A vector called the Asian citrus psyllid is responsible for transmitting this disease. The integrated pest management program is geared at managing that vector which has been found in most communities across Dominica. We are hopeful that our program which involves the release of parasitoids will be effective and will control the vector” noted Anselm.

He said the Division of Agriculture has also put into effect a strict quarantine program to curtail the movement of infested citrus material.

“The other program that we have is quarantine where we try to prevent the movement of infested material. The Government of Dominica moved quickly in passing a citrus order where we could limit the movement of citrus planting material. The Division of Agriculture has closed down all private nurseries and the order passed by the Attorney General Office has assisted us in our efforts to limit the movement of citrus material” added Anselm.

The Plant Quarantine official said the Division of Agriculture is reporting successful eradication of the Citrus Greening disease in communities of Pointe Mitchell and Wesley.

“We have done eradication programs in Pointe Mitchell where we have eliminated ninety-five percent of infested trees and the eradication program is ongoing in Wesley. At the moment we have a team in Wesley trying to eradicate the infested trees. The program is really to eliminate all infested trees and to control the vector that transmits the disease. We can say that the program is ongoing and sometime next year we will seek to evaluate its success” explained Anselm.

Affected Citrus farmers have been encouraged to work closely with the Division of Agriculture and to purchase citrus plants only from the Citrus Certification Program at the Botanical Gardens.

“The Citrus Certification Program is the only certified citrus nursery that can provide true to type clean planting material to the farmers. We urge farmers to refrain from purchasing planting material
from private nurseries and to purchase from the Botanical Gardens where we can certify that you have disease free planting material. We are also telling farmers, that they should not move planting materials from one area from another since this is one way in which the disease can be spread” cautioned Anselm.

Farmers have also been advised to inspect their citrus trees on a monthly basis for the Asian Citrus psyllid. The Division of Agriculture cautions that if farmers suspect the presence on the disease to immediately contact the Division of Agriculture.

Agro-energy

Spain: citrus rinds bring alternative fuel possibility. Fresh Fruit Portal, 22 July 2013

Full Article

High living costs, the economic crisis and rising fuel prices are just a few realities on the minds of Spanish scientists. Researchers at the Universidad Politécnica de Cartagena in Murcia, Spain hope to relieve some of these issues through the development of bioethanol derived from citrus rinds.

Head researcher Antonio López spoke with www.freshfruitportal.com about this innovative project that plans to put fruit byproduct to good use.

“There is production of 600,000 tons (MT) of citrus rinds a year in the Murcia region. It’s a byproduct that’s not being utilized and we use it for bioethanol, essential oils, etc. It can also be used for animal feed,” López said.

Based on these possibilities, researchers from the School of Agricultural Engineering have worked to improve conversion to ethanol from rinds leftover from mandarins, oranges, lemons and grapefruit.

López described a variety of benefits from utilizing citrus rinds, including environmental factors and the low cost, since the product would have otherwise been discarded. Of every 100 kilos of oranges, 55 are rinds that could be used for other purposes.

Through the project, the researchers hope to open a door to the world of fuel and environmental sustainability.

“Producing gasoline is expensive because you have to refine oil which has a high energy cost. In contrast, this project is low cost, which means it could be competitive. Also, it’s an alternative to using grains for biofuel, which has a relatively high cost. Grains also compete to supply food. We don’t have that factor,” López said.

“This could be a small contribution to supplying fuel. If I’m not mistaken, with this fuel we could move 14,000 cars for the entire year. It’s a small contribution but we can move closer to utilizing all of this raw material at our disposal.”
During this research period, the team achieved output of over 70 liters of bioethanol per 1,000 kilos of fresh orange rinds. The “steam explosion” technique allowed reduction of enzymes and improved the recovery of essential oils.

“This project is in the phase of developing a plant prototype. The problem is that it’s being done in the middle of an economic crisis. There’s money but there’s fear, which paralyzes money. If this changes, at least for this type of initiative, we can move forward,” López said.

Climate Change

Climate forecasts shown to warn of crop failures by Science Daily, 22 July, 2013
http://www.sciencedaily.com/releases/2013/07/130722151223.htm

Full Article

Climate data can help predict some crop failures several months before harvest, according to a new study from an international team, including a research scientist at NASA’s Goddard Space Flight Center in Greenbelt, Md.

Scientists found that in about one-third of global cropland, temperature and soil moisture have strong relationships to the yield of wheat and rice at harvest. For those two key crops, a computer model could predict crop failures three months in advance for about 20 percent of global cropland, according to the study, published July 21 in Nature Climate Change.

"You can estimate ultimate yields according to the climatic condition several months before," said Molly Brown, with Goddard's Biospheric Sciences Laboratory. "From the spring conditions, the preexisting conditions, the pattern is set."

The scientists wanted to examine the reliability and timeliness of crop failure forecasts in order for governments, insurers and others to plan accordingly. The research team, led by Toshichika Iizumi with the National Institute for Agro-Environmental Sciences in Tsukuba, Japan, created and tested a new crop model, incorporating temperature and precipitation forecasts and satellite observations from 1983 to 2006. They then examined how well those data predicted the crop yield or crop failure that actually occurred at the end of each season. For example, by looking at the temperature and soil moisture in June of a given year, they were hoping to predict the success of a corn harvest in August and September.

The team studied four crops -- corn, soybeans, wheat and rice -- but the model proved most useful for wheat and rice. Crop failures in regions of some major wheat and rice exporters, such as Australia and Uruguay, could be predicted several months in advance, according to the study. The model also forecasted some minor changes in crop yield, not just the devastating crop failures resulting from severe droughts or other weather extremes.

"The impact of climate extremes -- the kind of events that have a large impact on global production -- is more predictable than smaller variations in climate, but even variations of 5 percent in yield were correctly simulated in the study for many parts of the globe," said Andy Challinor, a co-author of the study and a professor with the University of Leeds in the United Kingdom.
Economic factors, including agricultural technology, fertilizer, seeds and irrigation infrastructure, are key to determining how much a farmer can grow, Brown said. A farmer with costly equipment and high-yielding varieties can efficiently plant seeds and grow more productive crops than a farmer planting low-yielding varieties, one seed at a time. Farmers in the United States, for example, can grow about 10 times more corn per acre than farmers in Zimbabwe.

But if economics set the bar for crop yield, other factors -- including climate -- can still cause variations that lead to good years and devastating years.

We're trying to bound how much the weather matters. For particular crops in particular places it makes a huge difference, especially with wheat," Brown said. "This paper gives us the tools we need to understand the sources of variability outside of the economic sphere."

While climate's role in crop yields and failures may seem intuitive, it's difficult to demonstrate in part because of the overwhelming influence of social and economic factors, Brown said. But integrating climate and economic predictions can lead to a better understanding of crop yields and failures -- especially in a changing climate.

This paper is an initial step in a much larger effort to allow farmers in poor countries to get better harvests in years with good growing conditions, and build resiliency for the other years, Brown said.

For example, if satellite data and climate models forecast a good season for rice before seeds are even planted, farmers or communities could get loans to invest in technologies to take advantage of the good weather, while insurers could keep insurance premiums low. If the forecast calls for a poor growing season, the loans would be smaller and insurance premiums larger. It could work as both a social safety net for agricultural communities, Brown said, as well as encourage communities and governments to invest in the infrastructure needed to take advantage of those good years.

"We can make a new framework that would allow much greater exploitation of satellite data and climate prediction models," she said. "If you knew you were going to have a good year, you could plan, you could give out loans, you could do other things to boost food production to be prepared for bad years."

**Soil and Water Management**

**GWP-C signs MOU with CARICOM to strengthen regional water cooperation** by the Global Water Partnership, 24 July, 2013


**Full Article**

The Global Water Partnership-Caribbean (GWP-C) has entered into a Memorandum of Understanding (MOU) with the Caribbean Community (CARICOM), formalising a collaborative relationship for addressing regional water priorities.
The MOU signifies a building block for change as there is undoubtedly a need for greater cooperation on water-related issues in the region. Both organisations foresee the potential positive impact this relationship will have as they share the overall objective of improving water governance in the region.

Though the GWP-C and the CARICOM have worked together in the past, the MOU between the entities will formalise their affiliation as strategic regional partners; a partnership that intends to facilitate the exchange of relevant information and the harmonisation of their work programmes.

A major benefit of this synergy is the mutual commitment both agencies have in mobilising greater political will for the development and implementation of regional approaches/policies for water sector management in the Caribbean. GWP-C has over the years taken a proactive approach to addressing the water resources management problems in the region by hosting an Annual High Level Session (HLS) for Caribbean Water Ministers. The HLS which is the only meeting of its kind in the Caribbean brings together Ministers and senior officials in water resources management to share experiences and ideas for addressing water sector needs in the region.

By way of the MOU, the GWP-C has agreed to include the CARICOM as a key consultative partner in the development and execution of its Annual HLS Ministerial Forum. This means that the Forum’s objectives will be more closely and clearly aligned with regional water development priorities.

Another connection between the GWP-C and the CARICOM that is important to note is their aim to deal with regional water issues in a coordinated manner. GWP-C and the CARICOM both see the value in bringing together stakeholders at the national and regional level to contribute to better water management. In this regard, the CARICOM has taken steps to establish a consortium of CARICOM institutions on water and are working towards creating a common water framework in the region.

This common water framework ties seamlessly into GWP-C’s efforts to support Caribbean countries in the management of their water resources by the promotion of an Integrated Water Resources Management (IWRM) approach. As a member of the consortium and now a key strategic partner of the CARICOM, GWP-C will help to support the work of the consortium and the programmatic linkages embodied in the common water framework for the region.

The MOU also aims to spur joint programmes between both agencies to strengthen the adaptation and adoption of IWRM plans and policies for the Caribbean and foster greater communication between the GWP-C and the CARICOM on IWRM progress in the region. Furthermore, both organisations through the MOU will also enter into joint fundraising activities of regional strategic significance on water.

The future outcomes of the MOU are promising and represent a bold step by the GWP-C and the CARICOM in addressing regional water security. It also highlights that partnerships play an important role in effective water governance and there is a need for more of them in the Caribbean.
Food Security

Guyana touted as the answer, as new report warns of rising food import bill. Ministry of Agriculture News, 27 July 2013

Full Article

Guyana is being touted as the answer to the Caribbean’s rising food import bill.

The Caribbean Community (CARICOM) released a report Saturday that warns the region’s food import bill is increasing at a rate of 7 percent a year.

CARICOM said its 15 members spent $2.8 billion to import food in 2011, a 55 percent increase from 2005.

Newer statistics were not available.

It attributed the rise both to increased quantities and higher prices.

Most of the food is imported from the U.S., Canada and the European Union, ranking behind heavy machinery, transportation equipment, lubricants and related materials.

The U.S. remains the main source for all regional imports, followed by the European Union.

The Caribbean also has recorded a jump in exports to Venezuela thanks to annual shipments of more than 50,000 tons (45,300 metric tons) of rice from Guyana under the Petrocaribe program, which allows countries to pay for oil imports with local commodities such as rice and bananas.

Caribbean leaders are urging the development of large farms in countries such as Guyana and Suriname so that local governments can buy food from each other instead of relying on imports from outside the region.

NY food stamp recipients sending food abroad, could be happening elsewhere by the Daily Caller 22 July 2013

Full Article

Not only can the Agriculture Department boast that food stamps feed more than 47 million people in America annually, it turns out taxpayers are also inadvertently feeding ineligible people abroad.

The New York Post reports that New Yorkers are using their Electronic Benefit Transfer (EBT) cards — a vehicle for government benefits like food stamps and cash assistance — to purchase groceries, package them in large barrels and ship them to relatives overseas in places like Jamaica, Haiti and the Dominican Republic.
The Post reports that in the more Caribbean-heavy areas of the city, supermarkets offer hundreds of 45- to 55-gallon barrels for shipping. Patrons pay roughly $40 in cash for the barrels and fill them with $500 to $2,000 worth of items like rice, beans, pasta, canned milk, and sausages, the Post reported, noting that the goods are less expensive and better quality than those available abroad.

For about $70 a shipping company will pick up the barrels and ship them to the Caribbean in about three weeks, according to the Post.

As an Agriculture Department spokeswoman told the paper, shipping food purchased with federally funded nutrition benefits is not an acceptable use of the benefits, which are meant to feed eligible people in America, and that state governments should be doing more to stop the practice.

The practice is relatively commonplace, according to the Post. But not everybody shipping food abroad is using welfare dollars to do so.

“Everybody does it,” a supermarket worker in Prospect Lefferts Gardens, Brooklyn told the Post. “They pay for it any way they can. A lot of people pay with EBT.”

New York might not be the only place this benefit abuse is happening. On Monday, Boston Herald reported that similar barrels are available for purchase in Boston, as are the pick-up shipping services that send the benefit-bought goods abroad.

Massachusetts Republican state Rep. Shaunna O’Connell told The Herald she believes state regulators should investigate.

“If it’s happening in one state, it’s happening in many other states,” O’Connell said. “It’s just one of countless scams happening through the food stamp program.”

The United States spent $522.7 million on foreign aid to the Caribbean in the last fiscal year, according to government data obtained by the Post.

**Agricultural Development**

**Agriculture Minister pleased with operations at Agro Parks.** Jamaica Information Service, 26 July 2013


**Full Article**

Minister of Agriculture and Fisheries, Hon. Roger Clarke, is expressing satisfaction at the progress of the Agro Parks that are currently up and running.

Three Agro Parks are currently in operation – Plantain Garden in St. Thomas; Amity Hall, St. Catherine; and Ebony Park in Clarendon.

“From what I have seen, I am encouraged. It is a work in progress. I am reasonably satisfied about the progress we have made, understanding that we virtually started from scratch last year, because there
was nothing significant in place. So, we have come a long way,” the Minister said, following a tour of the Ebony Park and Amity Hall Agro Parks on July 25.

He pointed out that the major challenges have been overcome. “We look forward now to reaping. We look forward to seeing how everything will pan out as far as markets are concerned,” Mr. Clarke said. The Minister noted that markets have been secured for the onions and peppers under production and “as far as the sorghum is concerned, there is market because it is substitution for imported animal feed.”

Mr. Clarke, accompanied by Local Government and Community Development Minister and Member of Parliament, Hon. Noel Arscott; and the Ministers of Education and Agriculture of the Bahamas, first toured the Ebony Park Agro Park, where the focus is on the production of miniset yam, onion, pepper and a mixture of vegetables.

Several workers were seen in the field spraying and tending to the crops. The park has two demonstration plots of the miniset yam, which the Minister said is the way of the future. He noted that the result of the yam production so far has been encouraging, “and this is the way we have to go, especially if you are going to be accessing the export market on a continuing basis.”

“People don’t want this big yam that you have to cut and treat with chemicals, they prefer the one small yam and that is what we are targeting there,” the Minister informed.

At the Amity Hall Park, Mr. Clarke pointed out that the Government has put the basic infrastructure in place. “The roads are quite good. The drainage system is as good as any highway. If you were here last year, you would have recognized just how much work has been done,” he said.

Approximately 800 acres of land have been cleared at Amity Hall, of which Caribbean Broilers has already planted some 130 acres of sorghum. The company intends to plant red peas in rotation with the sorghum, which the Minster said should be able to make a significant dent in the amount being imported.

In the other areas, smaller farmers are planting onions, okras, peppers and a number of other crops. The Minister noted that there are some challenges with the irrigation system at the site, but these should be resolved soon.

He also reported on a tour of the Plantain Garden Agro Park in St. Thomas, which he undertook the previous day (July 24). He informed that approximately 100 persons have been employed at the park since the project started and work is also progressing. “Their only concern is that they want more land,” he added.

Mr. Clarke informed that so far the farmers have some 300 acres. “They are still looking for some more (land), because what has happened is that an area that was earmarked for some cane farmers, they went in and actually began to plant pumpkin in the area,” he explained.

The Minister said that the Ministry is trying to meet with landowners to see “how much more of the land can be made available.”

The Ministry, through the Agro-Invest Corporation (AIC), is engaging some 3,237 hectares (8,000 acres) of land in the production of a number of critical crops across nine Agro Parks. Another two parks are expected to come on stream by the end of the year.
The parks are being developed through a partnership involving the Government, farmer/investor and the private sector. They are aimed at reducing the high food import bill. In all instances, what is being produced will be tied to a specific market.

Guyana is a potential new agricultural investment hotspot for Middle East investors. Guyana Information Service, 20 July, 2013

Full Article

Dr Ajeenkya D Y Patil, Chairman of Ajeenkya D Y Patil Group and Honorary Consul General to Guyana in Mumbai, India, is of the view that agriculture in Guyana “is a winning proposition with positive advantages for all stakeholders involved.”

In a recent press release from the Group it was announced that this opportunity will be presented to potential investors in Dubai this coming November.

Dr. Patil has stated that investing in Guyana “is a financially viable and potentially profitable proposal for investors in the region due to the global growth in demand for agriculture produce”.

“The region [Guyana] is unexploited and is economically robust and politically stable. It will improve the quality of life of the average Guyanese citizen and increase the economic vitality of the country. And all of this backed by the experienced management of the Ajeenkya DY Patil Group.”

The Group has noted that untapped Caribbean countries’ rich, fertile soil holds food security and investment opportunities. Well-established export trade and duty laws make it an attractive proposition.

Additionally, given the lack of annual rainfall in the Gulf region, high-scale commercial food production is not viable, hence Middle East countries continue to safeguard food security and supply issues by investing overseas.

Another key indicator is the population boom in the region, meaning local agriculture is unable to meet the consumption demand.

For many years Africa and the Philippines have been popular destinations for Middle East investment in agriculture. However, a new market has emerged to rival these traditionally strong investment partners. Hence the look at Guyana.

A McKinsey study in 2008 revealed the country’s agricultural potential; with aquaculture (the farming of aquatic organisms including fish and crustaceans) valued at US$350-$450 million; fruits and vegetables US$ 250-$350 million; forestry US$ 200-$300 million and bio- ethanol US$ 500-$600 million.

It was observed that Guyana already has a well-established export industry. It currently exports to Canada, USA, nearby Trinidad and Tobago and Jamaica, whilst also trading as far afield as the UK and the Netherlands. In fact 75% of Guyana’s exports enter destination markets duty free, making it an attractive trading partner.
Guyana’s other advantages were also observed by the group including its highly fertile soils particularly in coastal areas which offer large development initiatives, whilst an abundance of grass land can be used for producing beef, milk, mutton, fruits and other non-traditional crops. The country has also been certified as foot and mouth disease free – an added advantage in exporting meat products.

In addition, its large expanses of land have never been used for modern agriculture and are therefore totally free of agricultural chemicals, meaning it can be certified for organic production in one year – rather than the standard requirement of three years. This has definite economic benefits for the country given organic produce has a premium price in most developed countries. It also emphasises that Guyana offers GCC a serious alternative to consider in addressing potential future food security issues.

This alternative has been identified by the Ajeenkya D Y Patil Group, which has exemplary experience in agriculture, as well as education, healthcare and sports. They have signed an MoU with the Government of Guyana for 65,000 hectares of land in Canje Basin to be used for agricultural-related projects, which could include dairy processing; rice milling and processing; fisheries and poultry; fruit and vegetables; and sugar cane production with ethanol and power.


Full Article

The planning for CWA 2013, the twelfth edition of the Region’s premier agricultural event, will be hosted by the Government of Guyana, 4-12 October, 2013, under the theme ‘Linking the Caribbean for Regional Food and Nutrition Security and Rural Development’.

Preparations are moving apace for the Caribbean Week of Agriculture (CWA) which will be held in October at the Guyana International Conference Centre. The local steering committee (comprising members of the Ministry of Agriculture, other ministries of the government, CARICOM, FAO & IICA) met yesterday and decided on a number of planning issues.

It is envisaged by Minister Ramsammy that this Caribbean Week of Agriculture will see the transformation of the CWA into the Caribbean’s premiere technical meeting for agriculture. Must be an event for Ministers, senior agriculture professionals, farmers and entrepreneurs to see, experience and learn about new trajectories for agriculture.

Meetings

- Council for Trade and Economic Development (COTED) meeting on Agriculture
- CARDI BOG
- OECS Ministerial
- CRFM Ministerial
  Workshop sessions and other forums on agriculture in all its dimensions, including
Workshops

- Workshop on monitoring and managing pest populations under a changing climate
- Workshop on the Development of the Coconut Industry in the Caribbean
- Workshop on Implementation and Mainstreaming of regional fisheries policies
- Canadian International Food Security Research Fund (CIFSRF) workshop
- ICT and Agriculture Value Chains Validation Workshop
- Cost of Production
- Livestock Workshop

Forums

- Policy Forum on Connecting and Balancing Food and Nutrition Security
- FAO Food Prices & FAO Food Security Policy
- Caribbean & Pacific Island Forum Focusing on Women Entrepreneurs
- CaFan FARMERS Forums
- Agro-tourism
- Policy Forum on Engagement of Youth along Agriculture Value Chain

Meeting

- Caribbean Extension Network
- Canadian International Food Security Research Fund (CIFSRF); PSC Review Meeting

Presentation

- IICA Intra – ACP Policy Programme
- IICA SPS Regional Project
- FAO Hunger Free
- Guyana Forestry Presentation
- Healthy Living with Fresh Fruits and Vegetables

Other Activities

- Healthy Living Cook Off and Caribbean Cuisine
- Launch of Caribbean Science and Agriculture Film and Video Competition. Part II
- GSA -Launch of 50th Anniversary Magazine

As we progress, the Secretariat will be provided additional details on each. An inter-faith service is planned for Sunday 6 October at the Guyana International Conference Centre (GICC) where the CWA activities will be anchored.

Field Visits

As part of the activities the Ministry of Agriculture will be taking participants on field visits to agricultural sites of interested, which will showcase a little of Guyana’s agriculture. These trips include:

GUYSUCO’s Enmore Estate and Packaging Facility, NDIA’s Hope Canal, GRDB’s Burma Research Centre, An open day at Agriculture road to visit the Guyana School of Agriculture, Satyadeow Sawh
Aquaculture Center, Guyana Livestock Development Authority, National Agriculture Research and Extension Institute and Mangrove Tour, Hydromet’s Doppler Radar Tower and to the Sante Fe Farm.

We will be involving the local tour operators to give visitors a glimpse of the tourist attraction and local Guyanese hospitality.

Exhibition & Trade Show

The Exhibition and Trade Show dates have been revised; it will now be from Wednesday October 9 to Friday October 11, 2013. The Exhibition and Trade Show will be all day on Wednesday and from 3pm-8pm on Thursday and Friday. The Guyana Marketing Corporation will pilot this operation on behalf of the Ministry of Agriculture.

Agricultural Technology

**World changing technology enables crops to take nitrogen from the air.** The University of Nottingham News, 25 Jul 2013, PA 249/13
http://www.nottingham.ac.uk/news/pressreleases/2013/july/world-changing-technology-enables-crops-to-

**Full Article**

A major new technology has been developed by The University of Nottingham, which enables all of the world’s crops to take nitrogen from the air rather than expensive and environmentally damaging fertilisers.

Nitrogen fixation, the process by which nitrogen is converted to ammonia, is vital for plants to survive and grow. However, only a very small number of plants, most notably legumes (such as peas, beans and lentils) have the ability to fix nitrogen from the atmosphere with the help of nitrogen fixing bacteria. The vast majority of plants have to obtain nitrogen from the soil, and for most crops currently being grown across the world, this also means a reliance on synthetic nitrogen fertiliser.

Professor Edward Cocking, Director of The University of Nottingham’s Centre for Crop Nitrogen Fixation, has developed a unique method of putting nitrogen-fixing bacteria into the cells of plant roots. His major breakthrough came when he found a specific strain of nitrogen-fixing bacteria in sugar-cane which he discovered could intracellularly colonise all major crop plants. This ground-breaking development potentially provides every cell in the plant with the ability to fix atmospheric nitrogen. The implications for agriculture are enormous as this new technology can provide much of the plant’s nitrogen needs.

*Nitrogen pollution is a major global health hazard*

A leading world expert in nitrogen and plant science, Professor Cocking has long recognised that there is a critical need to reduce nitrogen pollution caused by nitrogen based fertilisers. Nitrate pollution is a major problem as is also the pollution of the atmosphere by ammonia and oxides of nitrogen.
In addition, nitrate pollution is a health hazard and also causes oxygen-depleted ‘dead zones’ in our waterways and oceans. A recent study estimates that that the annual cost of damage caused by nitrogen pollution across Europe is £60 billion — £280 billion a year.¹

Speaking about the technology, which is known as ‘N-Fix’, Professor Cocking said: “Helping plants to naturally obtain the nitrogen they need is a key aspect of World Food Security. The world needs to unhook itself from its ever increasing reliance on synthetic nitrogen fertilisers produced from fossil fuels with its high economic costs, its pollution of the environment and its high energy costs.”

A natural and environmentally friendly solution

N-Fix is neither genetic modification nor bio-engineering. It is a naturally occurring nitrogen fixing bacteria which takes up and uses nitrogen from the air. Applied to the cells of plants (intra-cellular) via the seed, it provides every cell in the plant with the ability to fix nitrogen. Plant seeds are coated with these bacteria in order to create a symbiotic, mutually beneficial relationship and naturally produce nitrogen.

N-Fix is a natural nitrogen seed coating that provides a sustainable solution to fertiliser overuse and Nitrogen pollution. It is environmentally friendly and can be applied to all crops. Over the last 10 years, The University of Nottingham has conducted a series of extensive research programmes which have established proof of principal of the technology in the laboratory, growth rooms and glasshouses.

The University of Nottingham’s Plant and Crop Sciences Division is internationally acclaimed as a centre for fundamental and applied research, underpinning its understanding of agriculture, food production and quality, and the natural environment. It also has one of the largest communities of plant scientists in the UK.

Significant implications for agriculture

Dr Susan Huxtable, Director of Intellectual Property Commercialisation at The University of Nottingham, believes that the technology has potentially major implications for the agricultural industry, she said: “There is a substantial global market for the N-Fix technology, as it can be applied to all crops. It has the power to transform agriculture, while at the same time offering a significant cost benefit to the grower through the savings that they will make in the reduced costs of fertilisers. It is a great example of how University research can have a world-changing impact.”

The N-Fix technology has been licensed by The University of Nottingham to Azotic Technologies Ltd to develop and commercialise N-Fix globally on its behalf for all crop species.

The potential to help feed the developing world

Peter Blezard, CEO of Azotic Technologies added: “Agriculture has to change and N-Fix can make a real and positive contribution to that change. It has enormous potential to help feed more people in
many of the poorer parts of the world, while at the same time, dramatically reducing the amount of synthetic nitrogen produced in the world.”

The proof of concept has already been demonstrated. The uptake and fixation of nitrogen in a range of crop species has been proven to work in the laboratory and Azotic is now working on field trials in order to produce robust efficacy data. This will be followed by seeking regulatory approval for N-Fix initially in the UK, Europe, USA, Canada and Brazil, with more countries to follow.

It is anticipated that the N-Fix technology will be commercially available within the next two to three years. For details about the commercial opportunities for N-Fix, visit www.azotictechnologies.com

Creating new life - and other ways to feed the world by Melissa Hogenboom Science reporter, BBC News, 22 July 2013

Full Article

How best to feed a growing population in a changing climate is fiercely debated with many new and emerging research fields hoping to provide a solution.

Estimates suggest that food production will have to increase by at least 60% by 2050 to feed a rapidly increasing population, which is expected to top nine billion.

The UK government has announced it will put £160m into agricultural industries "to deliver sustainable, healthy and affordable food for future generations".

Associate professor of crop genetics Sean Mayes says there are many reasons why producing enough food will be a "significant challenge".

"It's not a case of just doubling up what we're doing, because there isn't the land to do it. There isn't one solution and there never could be. We have to pursue as many strands as we can," he told BBC News.

Here are six ideas that scientists believe could help.

Crop yields

As global temperatures rise, scientists predict that flooding and drought will continue to affect food production. Combined with limited land on which to grow food, this means finding ways to be more efficient is becoming increasingly urgent.

A team has recently discovered a drought protecting chemical that could protect crops from high temperatures.

The chemical, "quinabactin", mimics a naturally occurring hormone in plants that helps them to respond to stresses such as heat.
"When you spray it on plants it delays wilting, reduces water loss and improves stress tolerance," says Sean Cutler from the University of California Riverside, US, who led the research.

The chemical should be easy to produce cheaply in large quantities, he adds. And although it reduces growth, this could be a necessary cost.

"Drought is a major source of crop loss every year so the need for innovations like this is only going to get stronger," he says.

"Spraying a chemical is one strategy but there are a lot of different approaches being pursued in parallel. It's likely there will be better crop yields under adverse conditions in the future, as these approaches converge."

**Printing food**

Technology companies are developing increasingly efficient ways of printing everyday objects.

Now printing food is becoming a reality. [Nasa is experimenting with printed food](https://www.nasa.gov/), which could feed crews on deep-space missions. Another company, [Modern Meadow](https://modernmeadow.com/), announced it can print artificial meat, and a team from Exeter University has also already [printed chocolate](https://www.exeter.ac.uk/)

Carlos Olguin, from technology company Autodesk, which helps design 3D software, says such technologies will soon come together "into a 3D printing ecosystem that will involve food, but will also involve drug printing and organ and tissue printing".

"In order to be able to solve the bigger problems it's still far away, but on the other hand we have an automated assembly production line that's producing goods layer by layer, and we've been doing that for decades."

**Producing life from scratch**

The field of synthetic biology involves assembling artificial genes to create new life. It's still in its infancy but already some pioneering new findings could have far reaching applications.

It's essentially where nature is treated like engineering, where single artificial genes assembled on a computer form the building blocks of synthetic DNA. The UK government has recently announced it will pump £60m into the field.

A new strain of yeast has also been made by a team at John Hopkins University, US, where it added vitamins into the organism. When the yeast is baked into bread, it is enriched with Vitamin C.

Now scientists are on an even more ambitious project. They are [building the world's first synthetic yeast](https://www.jeb.io/), which could massively increase the organisms productive potential.

Carlos Olguin says synthetic biology and 3D printing could work together in the future to provide the tools needed to add new functions in biology, whether for energy or food.
"We are working in the 3D bio-printing community to eventually create an underlying platform from which cross-pollination occurs more seamlessly. At that point we'll start to see much bolder initiatives."

**Long forgotten grain**

Humans rely on very few plants to feed more and more people, with wheat, rice and maize providing over 60% of our diets.

Scientists in Malaysia are currently looking at some "forgotten" food grains, some from hundreds of years ago, which "show a remarkable drought tolerance and ability to grow in very poor soil", says Sean Mayes from Nottingham University, UK, who is currently working in Malaysia.

Taking these traits and applying them in commercial strains could help produce crops that cope better in a changing climate.

"We are looking to try and diversify what we grow food from. Essentially, we're extremely dependent on a very limited number of species worldwide.

"There are a lot of millets that are similar to grain crops which have evolved under low-input agriculture. Some of these are actually among of the most drought-tolerant crops," he explains.

The Bambara groundnut, for example, was a major crop grown in Africa before colonial powers introduced the peanut.

But the lack of resources and infrastructure in developing countries means there are many challenges ahead.

"Just producing enough food has to be the starting point. Looking at what we're producing, and looking for better alternatives, has the potential to help the stability of food production."

**Genetically Modified food**

Instead of cross-breeding crops, which can take years, genetic modification (GM) seeks to artificially tweak the genetic make-up of food in a laboratory. Scientists essentially take a desirable gene from one organism and insert it into another.

The UK government recently announced that GM crops could be safer than conventional plants. Most supermarkets have banned GM food but meat from animals fed on GM crops is now widely sold.

The majority of people are supportive of GM, says Dr Mayes, "but there's a vociferous minority of people who are against it in principle".

"We don't have the luxury of saying we won't use GM as an option because there may be circumstances where we come across an agricultural problem that we cannot solve conventionally, because there isn't the variation in the germplasm that allows us to bring in traits like disease-resistance."
"The perception people have is that GM is an all-or-nothing approach, but really GM is a part of conventional breeding in a sense. It can solve certain problems but it has to be in a background that's adapted to the environment through conventional breeding."

...and the incredible shrinking man

"A plant in a greenhouse grows very tall, but once it goes outside it will collapse as it cannot support itself."

That's the analogy Arne Hendriks, the conceptual artist behind the Incredible Shrinking Man, used when proposing that in the right environmental conditions, humans could shrink, or rather, they could evolve a smaller form.

"We are on a constant life support system in a culture of over-consumption that we have created. We are consuming much more sugar, protein and fat than we were at the beginning of the 19th Century," says Mr Hendriks. "This is not evolution. The growth we are seeing now is much more cultural."

Prompted by his own height of nearly 2m and observing how much more food he needs than someone smaller than him, he now encourages debate with experts in various fields to highlight the impact of people gradually becoming taller.

If you look at science within nature, I'm convinced we can shrink. The tallest people in the world are much taller than the shortest. It's culturally and biologically programmed into us to want to grow taller."

Evolving to be small is not a new notion in science. In fact, a species of a human-like creature on the Indonesian island of Flores is believed to have shrunk as an adaptation to its environment. One theory is that the metre-high small-brained hominin, nicknamed "the hobbit", evolved from the larger-bodied Homo erectus.


Full Article

The Ministry of Agriculture, Food, Fisheries and Water Resource Management in collaboration with the National Council For Science and Technology (NCST) is hosting an innovation competition entitled "The Agricultural Science and Technology Innovation Competition."

This is a three phased competition that seeks to assist persons with novel innovative ideas to transform them into businesses. The innovation must be unique and never before implemented. For further details, please see rules for applicants.
Agricultural Education

GSA to introduce agro-processing from new school year - 125 students graduate from institution by the Guyana Information Agency, 27 July, 2013

Full Article

GSA to introduce agro-processing from new school year- 125 students graduate from institution
Georgetown, GINA, July 27, 2013

The 2014 graduating class of the Guyana School of Agriculture (GSA) would leave the institution with the ability to drive a motor vehicle and operate a tractor as this would become a requirement for graduating, even as the school will introduce agro processing from the new school term, Agriculture Minister Dr Leslie Ramsammy announced.

While the number of registrants for the new course is small, it will be carried, the Minister said.

He was at the time speaking at the institution’s 49th graduation ceremony which saw 125 young men and women, the largest batch of students, officially completing the first stage of their studies in the field of agriculture.

To date, about 3160 people have received training at GSA located at Mon Repos, East CoastDemerara in the Diploma and Certificate programmes which include animal health and veterinary public health, forestry and fisheries studies.

The Chairman’s Prize was presented to Alwyn Seegolam from the Essequibo campus while the Chief Executive Officer’s prize was copped by Vishan Persaud from the Mon Repos campus. Both of the awardees achieved distinctions in the Diploma in Agriculture. Seegolam also achieved the Gold Medal; an award that has not been given out for a number of years. The Gold Medal is awarded to a person who performs academic and practical work, in addition to campus community service.

Some of the other outstanding performers include Ceciley Lonke and Shivram Ramdeen for their efforts on the farm; Tyrone Austin, Denesha Henry and Elroy Thomas (forestry), and Safraz Persaud, Padmini Luckram, Rondencia Cozier and Larenzo Richards (animal health and veterinary public health).

Recognised as Guyana’s primary school of agriculture, GSA over the years has provided many Guyanese; and even people from other countries, the opportunity to be schooled in agriculture. Two of this year’s graduates hail from Barbados and St. Kitts and Nevis.
Minister Ramsammy noted that many of them are now teachers at the GSA and even hold high positions in institutions around the world. In this regard, he is of the view that the institution has lived up to its expectations.

“As a Guyanese and as a Member of Parliament I stand in front of you proud, yes there is a level of boasting, but I stand here with genuine pride…but there were many naysayers 50 years ago who said it couldn’t be done that we were making a mistake…50 years later as we graduate 125 students from this school I think we can look back and say our then visionaries were right and we are grateful that they had the will and courage to follow their dreams,” he said.

In light of the possibilities, the Minister highlighted that the students (past/present), and the new batch belong to an institution with national and international reputation and significance, and it must be treated with the respect it deserves.

“We have been working with the new Vice Chancellor of the University of Guyana to ensure greater collaboration…I want to see more graduates from the Guyana School of Agriculture completing their Degree in Agriculture at the University of Guyana,” Minister Ramsammy pointed out.

He further acknowledged that there are many observable skills among the citizens of Guyana, and in this regard, he stressed that in 2013/2014 one specific skill the school will ensure its students have is the ability to carry out hybridisation so as to improve the genetics of plants and in the long-run, yield.

New agriculture

Over the next year, the Ministry of Agriculture will be developing land within the GSA compound and other land owned by sister Ministries, such as the Culture Ministry’s New Opportunity Corps (NOC), which will be put to good use.

The Minister was referring to the introduction of incubator plots where students can be formed into entrepreneurial groups and develop commercial projects.

“Some of these integrator plots will continue to be available to the graduates for between one and two years after they graduate…by the time our students leave here they must not only know agriculture science by the book, they must not only have some farm experience, but they must be able to translate this knowledge into a commercial venture…this is the new agriculture for Guyana,” he emphasised.

Minister Ramsammy also called for the harmonising of agriculture science training opportunities and the teaching of sanitary standards. He explained that assistance has been solicited of the Food and Agriculture Organisation, (FAO) and the Inter American Institute for Cooperation on Agriculture (IICA) to work with the GSA to develop a curriculum for new and current students on sanitary standards.

In his report, GSA’s Chief Executive Officer, Brian Greenidge spoke on the school’s mission, vision, personnel, staff development, public relations, financing and maintenance.

With regards to the academic aspect, Greenidge noted that the school currently has over 250 students in training and remedial classes in Maths and English were offered for those who needed an extra push.
He noted that the school garners about 60 percent of its revenue from the livestock farm, and the students were also able to develop two new products – a porridge mix and chicken ham both of which are available for sale at the Guyana Shop.

The CEO indicated that this year 50 students from the Mon Repos campus were graduating with the Diploma in Agriculture, 14 from the Certificate in Agriculture, 12 from the Diploma in Animal Health and Veterinary Public Health, 24 from the Certificate in Forestry and 1 from Fisheries Studies.

Meanwhile, 19 students from the Essequibo campus graduated with the Diploma in Agriculture and 5 with the Certificate in Forestry.

Upcoming Events

July 2013
International Association of Agricultural Information Specialists (IAALD) World Congress 2013  
Date: 21-24 July 2013  
Location: Cornell University, New York, USA  
Website: http://iaald.library.cornell.edu/

September 2013
Science Forum 2013  
Date: 23-25 September 2013  
Location: Bonn, Germany.  
Description: Will focus on “Nutrition and health outcomes: targets for agricultural research”  
Website: http://www.scienceforum13.org/  
First International Conference on Global Food Security  
Date: 29 September - 2 October 2013  
Location: Noordwijkerhout, The Netherlands  
Website: http://globalfoodsecurityconference.com/index.html

October 2013
First Global Yam Conference “Yams 2013”  
Date: 3-6 October, 2013  
Location: Accra, Ghana  
Description: First Global Yam Conference “Yams 2013” will be held in conjunction with the 12th Symposium of the International Society for Tropical Root Crops (ISTRC)-African Branch, from 3 to 6 October 2013 in Accra, Ghana  
Website: http://www.iita.org/web/yams2013
12th Caribbean Week of Agriculture (CWA)
Date: 4-12 October, 2013
Location: Guyana International Conference Centre, Guyana
Theme: Linking the Caribbean for Regional Food and Nutrition Security and Rural Development
Email: cwaguyana2013@gmail.com

November 2013
Entomology 2013: Entomological Society of America (ESA) 61st Annual Meeting
Date: 10-13 November 2013
Location: Austin, Texas, USA
Theme: Science Impacting a Connected World
Website: http://www.entsoc.org/entomology2013