### In This Issue August 18 - 24, 2013

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### Agricultural Development

**Food imports down as more food grown locally.** Trinidad Express Newspapers, 24 August, 2013, pp.21

Less food has been imported for this year because of an increase in local food production, a release from the Ministry of Food Production has stated. "Minister of Food Production Devant Maharaj noted that the July 2013 Central Bank report for the agriculture sector showed that there was increased availability of selected local commodities in 2013.

**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
**Fruits and Vegetables**

**Peru explores Asian papaya variety for disease resistance.** Fresh Fruit Portal, 22 August 2013  

**Full Article**

Peru’s papaya sector is trying out a Taiwanese fruit variety to better understand the ringspot virus, Agraria.pe reported. The Known-you N°1 variety will undergo test planting in the Ucayali region, where an estimated 300 out of 1,000 total hectares are infected with the virus.

The Ucayali Agriculture Directorate’s Paolo Roberto Gálvez Castillo said a plot has already been established to test ringspot resistance. He said this is the only current variety under analysis.

“The idea behind the imported genetic material is for it to adapt to our region,” he told Agraria.pe.

Currently about half of plantations in the region are of the Ucayalina variety, a hybrid developed from Gold Maradol. Smaller Known-you N°1 plantations do exist as well along the Iparia river.

With the onset of the virus, Gálvez Castillo said there has been a negative impact on the Amazon’s ecosystem.

Producers have been forced to relocate crops, a minor cause of deforestation, he told the Peruvian news source.

“They are taking advantage of the land to expand the cultivation area and an effect is deforestation,” he said.

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**International researchers honor IITA scientist for discovery and description of a new species of fruit fly by IITA, 20 August, 2013**  

**Full Article**

Eminent international fruit fly taxonomists of the Royal Museum for Central Africa, Tervuren, Belgium (MRAC) and the Natural History Museum, London, England, have honored Dr Georg Goergen, Head of the Biodiversity Center of IITA in Bénin for his continuing assessment activities on the West African insect fauna. These have recently led to the discovery and description of a new species of fruit fly (Dacus) in Bénin and Togo.

Consequently, these international bodies of taxonomists have named the new species of fruit fly Dacus goergeni after Dr Goergen.

Dacus goergeni was discovered when roughly 10,000 fly specimens had been collected in about 2000 sampling events in Côte d’Ivoire, Ghana, Togo, Bénin, and Nigeria and were thoroughly examined.
Dr Manuele Tamò, Insect Ecologist and Country Representative of IITA- Bénin, said the discovery was unexpected as the genus Dacus already consisted of 194 named species and the most recent Africa-wide revision of the group was dated only from 2006 with some amendments made in late 2009.

Dacus goergeni belongs to one of the three main African genera of fruit-attacking flies within the family Tephritidae. Several of these are of high economic importance, causing severe damage to fruits and vegetables and constitute a major constraint to commercial and subsistence farming in sub-Saharan Africa.

Fruit infestation on average can reach 20-40% and is considered the main problem impeding the production and export of quality (sub)tropical fruits throughout the continent.

IITA Director General, Dr Nteranya Sanginga, commended Dr Goergen, noting that the honor demonstrates the research excellence in IITA.

Dr Goergen joined the biological control program against the cassava mealybug at IITA, Ibadan in 1987, under the framework of a GTZ-sponsored fellowship, and completed his PhD in entomology at the Justus Liebig University Giessen, Germany, in 1992.

With financial support by the Austrian government, he was then appointed as a postdoctoral scientist at IITA, Cotonou, Bénin, where he gradually established an institutional taxonomic capacity for arthropods of agricultural importance with a focus on integrated pest management, habitat management, and the biological control of various important agricultural pests in tropical Africa.

As a senior entomologist, he provided biosystematics support to IITA and its collaborating scientific community and developed, over a 20-year timeframe, one of the largest insect reference collections in West Africa. Currently, he is in charge of an SDC-funded biological control project to control the newly introduced papaya mealybug in close collaboration with national partners from six countries in West and Central Africa.

**Livestock**


**Full Article**

Dominicans interested in taking advantage of the opportunity for business in the pig and poultry industries may now be able to source funds for investment from the Dominica Agricultural, Industrial And Development Bank.

The AID Bank has announced a concessionary line of credit to complement the project to develop and expand the pig and poultry industries which to a large extent is manifested in the establishment of the Abattoir facility at Layou Park.

Through its collaboration with the Ministry of Agriculture, the Agricultural Investment Unit and Private Sector entities, the AID Bank will ensure the success of this venture.
The institution intends to sensitize and encourage farmers to take advantage of this concessionary line of credit and other products offered by the bank.

According to the bank’s press release, “in keeping with its mandate, it is pleased to support this project which will create jobs, generate revenue, reduce the food import bill and in general impact favourably on the livelihood of farmers, their families, their communities and the nation as a whole.”

In this same vein... The AID Bank is also offering Renewable Energy Loans at an interest rate of five percent.

This rate will be offered to companies incorporated in Dominica, investing in renewable energy or energy efficiency projects or project components.

Renewable energy sources that will be considered include solar energy, hydropower, biomass, wind power, geothermal and energy efficiency ventures.

These projects should have the potential to reduce energy bills and allow consumers to exercise greater control over energy costs. They should also decrease air pollution and greenhouse gases as well as lessen the overall expenses of the state and the private sector while impacting positively on job creation.

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**Biodiversity**

**Tailwind for the Caribbean Bio-Corridor.** Rural21, August, 2013

**Full Article**

Welthungerhilfe supports sustainable agro-forestry and the use of alternative energy sources to help make the Caribbean Biological Corridor a reality. Sustainable conservation and better living conditions for the local population are the aim. Implementation is not easy, however, particularly in Haiti where people rely very heavily on wood as a fuel.

The Caribbean islands rank among the regions of global importance for biodiversity. Thanks to their high concentration of biological diversity, the ecosystems of the island groups are acknowledged as one of the world's biodiversity hotspots. In 2007 the governments of Cuba, Haiti and the Dominican Republic agreed that the establishment and organisation of the Caribbean Biological Corridor (CBC) is to be a political priority. Since then, this project has been run under the auspices of their respective environment ministries.

The fragility of the ecosystems on Cuba, the island of Hispaniola and the other island states (especially Jamaica and Puerto Rico) has worsened even further in recent years due to poverty, inadequate planning and unsustainable exploitation of resources. The CBC territories, especially in Haiti, stand out for their high population density per square kilometre, making it essential to
compensate for the destructive impacts of human activities on biodiversity and to find alternative models for development and organisation as well as marketing.

The Caribbean Bio-Corridor initiative (see Box at the end of the article) sets out to channel national projects for the conservation of biodiversity, integrate them in a regional approach and support them in the long term. Establishing connectivity between nature reserves is likely to yield potential for regional cooperation, which may come about through technology transfer, through the design of training tools or the transfer of methods for environmental sustainability. Furthermore, the CBC also contributes to two Millennium Development Goals (MDGs): reducing poverty and ensuring environmental sustainability.

Reducing poverty, fostering biodiversity

In concrete terms, the work of Welthungerhilfe is geared towards putting the rural population living in biodiversity hotspots, particularly in the buffer zones of the protected areas in Haiti and Cuba, in a position to use alternative resources and innovative methods to meet their needs for food, building material and fuels, with the underlying aim of fostering biodiversity. The intention is to combat poverty among smallholder farmers and reduce pressure on the nature reserves. The restoration and conservation of biodiversity is addressed in relation to landscape ecology and regeneration, soil conservation and food security as well as the promotion of alternative energies (above all biogas and solar energy). Welthungerhilfe works closely in situ with the relevant units within the respective environment ministries, known as focal points, and with a network of non-governmental organisations (NGOs) in the three countries. With the help of this South-South cooperation, longer-term institutional benefits will accrue most of all to Haiti, the weakest link in the field of environmental management.

A new awareness is necessary

A further goal over the next few years is to integrate the biodiversity component into existing projects. It is not always easy, though, to raise awareness and get people thinking about sustainable alternatives. Even now, more than 90 per cent of Haitian households still make daily use of wood or charcoal to cook food. Estimates put the annual number of trees felled at more than 50 million, and wood-burning accounted for 72 per cent of total energy consumption in 2011. In rural areas and in low-income households, the share was even higher.

Specific targets for the use of alternative energies are intended to help people manage their natural landscapes better and more sustainably. The construction of biogas plants, determined by the district of Ouanaminthe – in the direct vicinity of one of the priority CBC sites in Haiti, in Dosmond in the north-west of the country – should improve both waste disposal and waste reuse. A second example is the use of solar panels at the Propagation Centre for Biodiversity in Dosmond, which is underpinned by a series of education and information programmes as well as a round table at which local representatives from all sectors plan and agree binding resolutions on the expansion of alternative energy use. A third example originates from the districts of Marigot, Jacmel and Belle Anse in the southern part of the country: here smallholders and their families who farm in the buffer zones and within the “La Visite” and “Forêt des Pins” national parks at the foot of the Massif de la Selle are receiving support to construct and distribute energy-efficient stoves. Supportive primary education and economic measures are aimed at helping families to meet their fuel needs from alternative sources or from outside the protected areas.

A project proposal to conserve biodiversity by increasing agroforestry in the districts of Jacmel, Marigot and Belle Anse, the buffer zones of the “La Visite” and “Forêt des Pins” protected areas, has
been submitted jointly with the Haitian partner ACDED to the German Federal Ministry for Economic Cooperation and Development (BMZ), and has been approved. It is expected to have impacts on two levels: on human capacity-building in the countries through initial and continuing vocational education and training, and on retaining the newly acquired knowledge in sustainable institutions. It is important to generate new knowledge in the allied interdisciplinary fields of biological diversity and food security and at the same time to bring about new practices on the social and political levels.

**Strengthening governance and social cohesion**

Networking the activity areas of “biodiversity”, “renewable energies” and “continuing education and further training for the rural sector” in Haiti, the Dominican Republic and Cuba, should have positive effects on the population’s food situation, on ecosystem services and on policy-makers. Local governance and the social cohesion of the participating countries will be strengthened as a consequence. Linking up the activities of the CBC initiative with other locally adapted programmes run by Welthungerhilfe should ensure that it is disseminated and accepted and becomes socioculturally embedded among the stakeholders and target groups involved. In terms of content and composition, the network is very flexible in structure: it includes Cuban para-statal organisations from local agricultural development sectors, state research alliances (such as Cuba Solar) on alternative energy use, and independent institutes like BioEco which are active in the restoration and development of protected areas. These are joined by non-governmental organisations (NGOs) from the Dominican Republic with concrete experience in forestry management (CEDAF), environmental education and control measures (Grupo Jaragua), and several local partners of Welthungerhilfe in Haiti (including ACDED and Concert Action) who are working towards the population’s acceptance of the measures.

**Numerous challenges still to be mastered**

Responsibility passes incrementally to the national partners in the course of activities. This creates a solid and sustainable foundation for the management of the projects in their entirety by the partners in future. Convincing as this sounds, in practice it is not always easy: conservation and development of biological diversity in Haiti is still proceeding without clear targets and in the absence of a stronger presence and control by state bodies in situ. On the government level, no concrete agreements exist on where to allocate and how to weight biodiversity as a transversal theme across the ministries for agriculture, environmental protection and energy.

Added to this, in most districts of Haiti the general public is unaware of the connections between protection and regeneration of natural landscapes, environmental services, innovative income models and health. The CBC initiative is also struggling with one bottom-up approach, namely a “state priority” defined by political leaders in La Habana, Port-au-Prince and Santo Domingo to develop pilot locations in collaboration with district representatives, taking account of citizens’ interests; here the sustainability of the measures is still a challenge. Nevertheless, Welthungerhilfe hopes that by supporting decision-makers, donor organisations and the entire CBC programme it can also help to achieve a new awareness among the wider population.

**Box: Bio-corridors and the CBC initiative**

Bio-corridors refer to the geographical continuity of habitats in connected ecosystems. Such continuity can be either spatial or functional. Links between habitats are maintained or, where they have been fragmented by natural causes or human development, restored. Bio-corridors promote the diversity of species and give flora and fauna a chance of survival. The initiative to establish a Caribbean Biological Corridor, which originated among Cuban biologists, is being financed for the first few years (2009 to
Cooperation among the countries is concentrated on three overall goals: environmental remediation, development of alternative resources and livelihoods, and poverty reduction in order to reduce the pressure on biological resources.

The 2009 Action Plan of the CBC and its revision of June 2013 (see http://www.cbcpnuma.org/) give the environmental ministries some scope for action. Approaching the work on a decentral basis, the three countries will integrate over 1,600 km of landscapes, ecosystems, habitats and cultures. Since there are more than 60 protected areas within the CBC, these merit special attention: the governments want more investment to support development and are calling for actions which combine poverty reduction with improved quality of life, education and environmental remediation.

Currently the Caribbean Biological Corridor initiative involves three countries: Haiti, Cuba and the Dominican Republic. But Jamaica and Puerto Rico are already participating with observer status. The first three countries mentioned are acknowledged to be vulnerable to extreme weather events, including hurricanes and tropical storms. All three countries were hit by natural phenomena in recent years, like the tropical storms Isaac and Sandy in September and October 2012. Furthermore, Haiti is still struggling with the rise in its poverty rate, with the massive earthquake destruction of January 2010 and a very slow process of reconstruction, especially of its infrastructure.

The United Nations declared the years 2011 to 2020 the UN Decade on Biodiversity. On 2 May 2011 the European Commission published its own biodiversity strategy, aimed at halting the loss of biological diversity by 2020.

Herbals

Farmers trained to combat beet armyworm by the Jamaica Information Service, 23 August, 2013

Full Article

To combat the dreaded beet armyworm on local onion and escallion production, the Ministry of Agriculture and Fisheries has completed the training of some 22 farmers and eight extension officers in pest management procedures.

The training course comes against the background of the 2012 outbreak of the pest, which resulted in the destruction of some 45 hectares of crops valued at approximately $31 million.

The beet armyworm has had a debilitating effect on onion and escallion cultivation and the livelihood of farmers in South St. Elizabeth.

The 22 lead farmers from Junction and Gillards in St. Elizabeth, and eight Rural Agriculture Development Authority (RADA) facilitators, were presented with their certificates in Integrated Pest Management on August 21, during a graduation ceremony held on the grounds of the Ministry’s Hope Gardens offices.
Agriculture and Fisheries Minister, Hon. Roger Clarke, who was guest speaker at the function, said the knowledge and skills which the graduates have acquired will now serve national efforts to combat the impact of the pest on the cultivation and production of onions and escallion.

He noted that the 22 lead farmers will now go on to work in pairs to train an additional 150 farmers in pest management procedures, particularly as it relates to combating the beet armyworm.

The eight RADA extension officers, he said, are also expected to transition into a mentorship role to guide the newly trained farmers. Additionally, they will provide technical assistance in support of the Agro-Invest Corporation initiative to develop Agro-Parks in the production of over 717 acres of onions.

For her part, Assistant Food and Agriculture Organisation (FAO) Representative in Jamaica, Karen Pyne, said the Farmer Field School took a very practical and ‘hands-on’ approach in equipping the farmers with the knowledge and expertise needed to tackle the pest.

She informed that the training programme enabled farmers and facilitators to study the beet armyworm in their natural habitat and applied the realistic management approaches to their own experiences.

For her part, Deputy Mission Director, United States Agency for International Development (USAID), Jeannette Vail, congratulated the graduates, noting that they are now leaders in their field.

She said the programme has provided them with the knowledge and expertise needed to combat and put an end to the beet armyworm pest.

“Without you, we can’t combat this problem, and so, I ask you to go do the good work and share this information with your fellow farmers,” Ms. Vail said.

The ‘Strengthening a National Beet Armyworm Programme’ is organised by the Government of Jamaica, with funding support from the United Nations Food and Agriculture Organisation (FAO). The programme is being implemented under the Jamaica Rural Economy and Ecosystems Adapting to Climate Change (Ja REEACH) project.

**Agro-Energy**

**More bio-energy initiatives for Guyana** by the Guyana Information Agency, 23 August, 2013

**Full Article**

Minister of Agriculture Dr. Leslie Ramsammy at the opening at the bioethanol demonstration plant in Albion, Berbice on Tuesday, announced that two foreign investors are eyeing investment in bio-energy production in the Canje Basin, Region Six.

The Minister disclosed that over the next weeks, one of the investors is expected in the country, to commence working on a feasibility study for the production of bio-fuel which is fuel made from by converting materials derived from biological sources into energy.
Speaking with the Government Information Agency (GINA) today, Minister Ramsammy advised that this group of investors, which hail from Malaysia and China, have spent the last 12 months in discussion with the ministry, identifying possible projects in the Canje Basin.

He said that the ministry agreed to sign a Memorandum of Understanding (MoU) for the group to begin the feasibility study and the technical team is expected to visit soon in this regard. The team will spend a week in the country.

The group is mainly interested in palm oil for bio-fuel production, and in the production of a particular nutritious crop production, Minister Ramsammy said. The latter is intended mostly for niche export, he said.

Meanwhile, with regards the other investor that is from India, Minister Ramsammy explained that an MOU has already been signed for this investor to begin a feasibility study on 12,000 plots in the Canje Basin. He said this group is looking at sugar cane and palm oil production, and has requested 100,000 acres of land, which will be agreed to, depending on the development of the project.

The development of bio-fuel has become increasingly popular because of rising oil prices and the need for energy security.

It is to this end that Guyana recently commissioned its first ever bio-ethanol demonstration plant. This commissioning, Minister Ramsammy said, signals the start of the agro-fuel revolution of country, whose Government and people are leaning aggressively towards a renewable energy pathway.

**Bio ethanol demonstration plant to be commissioned tomorrow** by the Guyana Information Agency, 20 August, 2013

**Full Article**

In keeping with the Government’s vision for developing sustainable, renewable and locally available sources, a Technical Cooperation Agreement with the Inter-American Development Bank was signed, one aspect of which was the installation of a Bio-ethanol Demonstration Plant.

The main objectives of this plant are to demonstrate the production of fuel grade ethanol locally, provide fuel for future demonstration of use of ethanol as a vehicle source, and develop a facility for the training of local personnel in bio-fuel technology.

The plant will utilise “blackstrap” molasses, the final output from the sugar production process to produce ethanol which can then be combined with gasoline for use in vehicles.

This plant, the first in Guyana, utilises a two stage process: fermentation, and distillation and dehydration.

Green Bio-refineries of Brazil and White Fox Technologies Ltd of Canada were contracted and subcontracted to install the components for the respective processes.
Soil and Water Management

How does your garden grow? University of Cambridge Research News, 22 August 2013
http://www.cam.ac.uk/research/news/how-does-your-garden-grow

Full Article

A simple mixture of organic waste, such as chicken manure, and zeolite, a porous volcanic rock, has been developed into a powerful fertiliser which can also reclaim desert or contaminated land.

“This is a whole new approach to plant nutrition.” Peter Leggo

Food and biofuel crops could be grown and maintained in many places where it wasn’t previously possible, such as deserts, landfills and former mining sites, thanks to an inexpensive, non-chemical soil additive.

The additive, a simple mixture of organic waste, such as chicken manure, and zeolite, a porous volcanic rock, could be used to support agriculture in both the developed and developing world, while avoiding the serious environmental consequences associated with the overuse of chemical fertilisers.

The mixture permits a controlled release of nutrients, the regulation of water, and an ideal environment for growing crops.

Researchers from the University of Cambridge have demonstrated that with the addition of the biofertiliser, biofuel crops can be successfully grown and – more importantly, sustained - even on coal waste highly contaminated with metal residues.

Using coal waste from the site of a former colliery in Nottinghamshire as a substrate, the researchers grew rapeseed, flax, sugar beet and maize, with different additives: manure, zeolite, lime, or biofertiliser, as well as coal waste alone and regular garden soil. Plants grown in the coal waste with added biofertiliser achieved nearly twice the weight and yield of those grown in garden soil or in coal waste with added manure, and more than twice the weight and yield of those grown in coal waste with added zeolite. The results are published in the August issue of the International Journal of Environment and Resource.

The coal waste contains chemical elements that can be ionised by the biofertiliser, making nutrients which are essential to growth available for uptake by the plants. As the organic waste in the mixture decomposes, it produces ammonium ions which build up on the surface of the zeolite. When the mixture is added to soil, it boosts the population of micro-organisms responsible for nitrification, which is essential for plant nutrition. The biofertiliser also helps plants develop dense root systems which stabilise the soil against erosion.

In addition to the coal waste, the team is working with marginal soils, such as those in desert climates, which normally require large amounts of water and chemical fertilisers in order for plants to grow. Control experiments have shown that water held in the zeolite increases the moisture content of soil in desert conditions. After initial watering, early-morning dew is held in the pores of the zeolite and released during the hottest part of the day. Plants grown with the biofertiliser achieve greater weight, and in the case of fruits and vegetables, a better taste, than those grown with chemical fertilisers.
Nitrogen is critical for crop development, yet is deficient in many types of soil. Over the past century, chemical fertilisers have been used to boost nitrogen levels and crop yields, helping global food supply keep pace with population growth. However, this has come at a cost as they are detrimental to long-term soil health. Without a regular input of organic matter, soil microbial diversity decreases and the carbon concentration is lowered. The overuse of chemical fertilisers causes the soil to lose both its ability to hold water and its overall structure, leading to greater runoff and groundwater pollution. Nitrogen-rich fertiliser runoff is the primary cause of oxygen depletion in oceans, lakes and rivers, leading to aquatic ‘dead zones.’

“This is a whole new approach to plant nutrition,” says Dr Peter Leggo of the Department of Earth Sciences, who developed the material. “Previously, you’d douse crops with chemicals, and it’s caused a huge reduction in soil microbial diversity. It has reached the stage that in certain parts of North America enormous dust bowls have developed as a consequence. The material we’ve developed takes less energy to produce, improves soil structure and enables you to grow crops on almost any type of soil.”

The team has plans to commercialise the material where there are large deposits of zeolite, and export it to other markets. There are also plans to collaborate with charities and social enterprises to create sustainable farmland for small hold farmers in the developing world.

For more information on this story, contact Sarah Collins on sarah.collins@admin.cam.ac.uk or +44 (0)1223 323300.

Agricultural Development

Food imports down as more food grown locally. Trinidad Express Newspapers, 24 August, 2013, pp.21

Full Article

Less food has been imported for this year because of an increase in local food production, a release from the Ministry of Food Production has stated.

“Minister of Food Production Devant Maharaj noted that the July 2013 Central Bank report for the agriculture sector showed that there was increased availability of selected local commodities in 2013. For the first half of 2013, there was increased availability of local produce such as sweet potatoes (70.8 per cent), cucumbers (33.3 per cent), cassava (31.8 per cent) and watermelons (29.6 per cent), when compared with the same period a year earlier.

“Provisional information from Central Bank’s July 2013 report also suggested lower imports of selected commodities due to the increased availability of local produce at wholesale markets. For example, imports of sweet potatoes, cabbages and tomatoes declined by 28.1 per cent, 14.2 per cent and 6.4 per cent respectively in the first six months of 2013 when compared with the corresponding period in 2012,” the release added.
The release pointed out that on a year-on-year basis, food inflation reached single digits for the first time since October 2011, slowing to 9.4 per cent in April 2013.

“Since then food inflation has picked up somewhat in June (12.6 per cent), but still remained much lower when compared with June 2012 when it stood at 24.1 per cent.

“In 2012 the food, drink and tobacco sub-sector accounted for 4.6 per cent of GDP, up from 3.4 per cent.

“As a present of the manufacturing sector, the food, drink and tobacco subsector contributed 52 per cent of the manufacturing sector’s GDP, up from 46 per cent.”

The Central Bank report also indicated that in 2011 exports of food and live animals, beverages and tobacco accounted for 54.6 per cent of the total non-energy exports to the Commonwealth Caribbean from Trinidad and Tobago, the release stated.

The release added that Maharaj is thanking farmers, personnel of the Ministry of Food Production and other stakeholders for their continued efforts and support of the work of the ministry, helping it to realise its goals of increasing food production and reducing inflation.

**Two-way agricultural trade necessary** by the Barbados Advocate, 20 August, 2013

**Full Article**

Agricultural trade in the Caribbean will not be a success unless there is two-way trade among countries.

That is the view of Chief Executive Officer of the Barbados Agricultural Society (BAS), James Paul. According to the local agriculturalist, the challenge facing the region at this time is that trade in agricultural produce is generally “one-way street”.

“For instance, one country sends a ship out to another one, but in return there is nothing to be sent back. What that does is drive up the cost of the commodity that is being imported. In order to achieve reciprocated trade it is important that we understand that the necessary logistics have to be put in place, as it relates to the production and procurement of goods,” he said.

With that in mind, he is saying that regional governments perhaps need to consider devising a set of incentives, which can be offered to companies which are interested in creating dedicated shipping lines or shipping services for the region.

“In the same way we have a regional air carrier in LIAT, which serves the sub-region; it is not inconceivable that we can have a similar situation in relation to shipping. And I am suggesting that this is something we may need to explore in order to address the issue of moving cargo throughout the region,” he said.
However, Paul added that before moving to that stage, CARICOM would have to assume more of a leadership role, to assist individual countries to be able to produce food products to trade. This, he said, would also assist the region in meeting its food and nutrition needs.

“It calls for CARICOM to encourage production through the region; helping countries to make the best of the strengths they have and to capitalise on them. We cannot have a situation where we are developing one country’s agricultural sector or manufacturing sector as the case for maybe, but the others do not develop; because all that will do is drive up the costing of goods. You must have two-way trade to make production as efficient as it can possibly be,” he maintained. (JRT)

http://www.gov.kn/node/1572

Full Article

BASSETERRE, ST. KITTS, AUGUST 20TH 2013 (CUOPM) – The construction of the 20-acre Agro-Tourism Demonstration Farm at Sir Gilles demonstrates the commitment of the Government of St. Kitts and Nevis to transform the national economy from that of sugar agriculture to tourism and hospitality services.

St. Kitts and Nevis’ Prime Minister the Rt. Hon. Dr. Denzil L. Douglas speaking during a ceremony marking a tour of the project by the President of the Republic of China (Taiwan), His Excellency Dr. Ma Ying-jeou, thanked the people of his constituency for their longstanding support since March 1989 and reaffirmed a commitment to ensure that their lives and those of all the people are improved.

He also spoke of the significance of the Agro-Tourism Demonstration Farm to the economic and social development of St. Kitts and Nevis.

“It demonstrates a commitment to find the necessary vehicle for the economic development of the country and also to lead on the development in the lives of the people of St. Kitts and Nevis. This demonstration farm demonstrates the commitment of our Government to create a synergistic relationship between diversified agriculture and tourism. The two planks on which the new economy of St. Kitts and Nevis is being planned, is being driven and which to a large extent will enhance the development of the people of St. Kitts and Nevis,” said Dr. Douglas.

He reiterated his government’s commitment to reduce its dependence on fossil fuel energy, in the generation of Electricity and increase dependence on renewable energy in creating the first entirely green country in the entire Caribbean Region.

“We shall achieve this by ensuring that there will be greater exploration on the dependence of renewable energy such as solar energy, wind energy and geothermal energy that would power our services here in St. Kitts and Nevis and will continue on a sustainable development of our country,” Dr. Douglas said.

The Prime Minister said the Agro-Tourism Demonstration Farm emphasises more than any other project between the Government and People of Taiwan and those from St. Kitts and Nevis a firm commitment of pursuing the relationship that is not only demonstrated in the political arenas around
the world, “where we have a voice and speak on behalf of the People and Government of Taiwan, but it demonstrates our commitment as two countries, as two People’s and as two Governments to enhance the lives of ordinary people of St. Kitts and Nevis in a relationship of 30 years.”

Dr. Douglas, in thanking President Ma, noted the project embodies a commitment for the neutral enhancement of the lives of the people in Taiwan and St. Kitts and Nevis.

**Agri plant expansion to generate employment, income for small farmers** by the Jamaica Observer 19 August, 2013


**Full Article**

AUS$500-million planned expansion for Stanmark Processors Company Limited in Yallaha, St. Thomas, is expected to bring significant economic benefits to this oft-forgotten parish, when the roll out is completed in another year and a half.

Not only will the company be able to provide more jobs for residents, it will also serve as a sure market for hundreds of farmers, to include those who are now participating in the Government initiated agro-parks.

“Not only will it (expansion) employ far more persons, but we will also be able to give back more to the parish,” Stanmark’s chairman, Canute Saddler told the Jamaica Observer North East.

The plans will also include the relocation of the factory from its current site in the residential area of South Haven, to five acres of land in nearby Albion. Additionally, the company, which exports the majority of its products to the United States, the United Kingdom and Canada, is now looking to tap into both local and overseas markets with a soonto-be developed line of naturally brewed local ginger beer.

“We have a massive development plan for the factory, which will see us reequipping the facility to double the production by introducing a more sophisticated bottling line,” Saddler said.

“We also plan to do juices from the fruits that go to waste each year, and these will be all natural as persons become more health conscious,” the Stanmark chairman said, adding that the company just received a large order for canned orange juice for export.

Stanmark currently exports 99 per cent or roughly US$5-million worth of its products each year. This includes canned ackee, callaloo, breadfruit, jerk seasoning, ketchup, pepper sauce, carrot juice, mango nectar, and fruit punch0 which are sold under the Stanmark and Island Sun brands. The factory also does processing for private companies.

The expansion will also see the facility increasing its production for the export market to meet the high demand and talks have already begun for the company to do a public offering on the Jamaica Stock Exchange.

“We now do 500-600 cans of callaloo for the week but we will be able to move that up to 2,000,” Saddler said.
The factory now provides employment to more than 100 people during the peak seasons, but it falls to about 40 in off-peak times. The raw material is sourced locally and as such, the factory also provides a stable income for small farmers.

The local manufacturer said he is not perturbed about competition from imported goods, as the soon-to-be installed state-of-the-art equipment will allow him to still produce at prices which he says are competitive.

The expansion of agroprocessing plants such as Stanmark, Saddler believes, will boost the declining agriculture sector where thousands of acres of farm lands have either been used for housing or are sitting idly.

Both the agro-processors and the agro-parks, he said, will greatly benefit from each other. The former group, he said, will now be able to buy all the raw material in one place, while farmers will be assured of a steady market when there is excess food supply.

“That will help us to be better able to plan because the biggest challenge we are having now is that produce are scattered all over the place and we have to travel all across Jamaica to get them,” he said. Meanwhile, Saddler said one way Government can help facilitate the expansion is to introduce good energy programmes to reduce the high electricity costs impacting businesses.

$48 Million Project to assist small farmers. Jamaica Information Service, 18 August, 2013

**Full Article**

The earnings of small-scale rural farmers in St. Thomas are expected to be boosted under a US$479,000 ($48 million) pilot project.

Dubbed the Extending Financial Services Directly to Rural Jamaican Farmers (Direct2Client) Project, the initiative is being implemented by the St. Thomas Cooperative Credit Union through funding by the Inter-American Development Bank (IDB).

Under the programme, farmers will gain increased access to financial services as a result of a new financing model which is to be developed.

Officially launched in April this year, the project was publicly rolled out during a ceremony held at the Whispering Bamboo Cove in Morant Bay, St. Thomas on Friday (August 16).

Prime Minister, the Most Hon. Portia Simpson Miller, welcomed the initiative which she noted is "a significant step in providing financial and other services to rural farmers”.

In her speech delivered by Minister of Agriculture and Fisheries, Hon. Roger Clarke, Mrs. Simpson Miller commended the credit union for providing assistance where it is needed.

“Your project comes at a time when there is a great need to uplift the farming communities of the parish...Thank you for believing in our farmers,” she said.
The Prime Minister said the country appreciates the efforts of thousands of small farmers who continue to produce in spite of such challenges such as disease, drought and flooding, which are difficult to withstand.

"Our small farmers continue to be the backbone of the agricultural sector of this country and today I salute them for their contribution," she said.

Mrs. Simpson Miller further contended that there is room for improvement and expansion of farming in Jamaica, noting that revitalizing agriculture is high on the list of priorities for the administration, with a number of programmes already in place to boost production in banana and sugar as well as the dairy industry.

The project, which is expected to last for 30 months, will be designed and implemented, using the most appropriate technologies to ensure operational efficiency and sustainability. It will combine the adaptation of value chain financing with state of the art technologies geared towards enabling greater efficiency in the delivery of these services to remote rural communities.

Minister Clarke also welcomed the initiative, describing it as a "true new beginning" for Jamaica's small farmers.

Member of Parliament for Eastern St. Thomas, and Minister of Health, Hon. Dr. Fenton Ferguson, said he was excited about the possibilities of the project in enhancing the lives of the small farmers of his constituency.

Country Representative, IDB, Therese Turner-Jones said it is intended that the project will be scaled up and rolled out in the Caribbean.

"So St. Thomas is going to be a pilot and for that Jamaica should be proud. We would like it to be successful because we would like to replicate it in other parts of the region," she said.

**Production push** by the Barbados Advocate, 18 August, 2013

**Full Article**

MORE WORK has to go into addressing the issue of food production in this country.

That is the view of James Paul, Chief Executive Officer of the Barbados Agricultural Society (BAS). Speaking about the importance of achieving food and nutrition security, Paul said that while there is variety of locally produced foods available to meet the population’s nutritional requirements, the problem is that producers have been producing at “too small volumes”.

“Farmers have not been able to keep pace with market demands, largely because they have been crowded out of the market. I think our propensity to import foreign foods has not helped in terms of the development of the local market for local agricultural commodities and it calls for those who are involved in food businesses in this country, as well as retailers and wholesalers, to recognise this and come on board and support the producers,” he said in an interview with The Barbados Advocate.
The BAS head said that as a country, we seem to be overlooking the fact that if we are to achieve food security, the private sector, which is responsible for the food industry, has a role to play.

“Unfortunately, when we sit down and discuss these things, by and large too much of the private sector is left out of it and the private sector then proceeds in doing its own thing and sometimes what the private sector is doing is actually frustrating our national plans. Without a doubt, this is an issue that we need to fix,” he stated.

Looking at the global picture, Paul also noted that agricultural land is being alienated at a rapid pace around the world and if countries do not at least maintain some capacity to produce, even the objective of trying to achieve food and nutrition security is going to be unreachable. That, he explained, would be the result, because they would not have control over a lot of the core commodities that they should control.

“One issue, though, is that we have not set ourselves targets in the past. We talk about food security and food production in a vacuum and one of the things we need to do is set targets. We should be able to say the quantities of commodities we should be able to produce on an annual basis and commit our producers to producing those commodities,” he said.

Going this route, Paul said, would help to stimulate investment in those areas and with targets in place, countries like Barbados would be better equipped to mobilise the necessary resources — technical, financial and human, in order to meet them. (JRT)

**Agricultural Technology**

**Creating plants that make their own fertilizer** by Diana Lutz. Washington University in St Louis Newsroom, 22 August 2013


**Full Article**

Washington University biologists are undertaking an ambitious project to engineer tiny nitrogen-fixing devices within photosynthetic cells.

Since the dawn of agriculture, people have exercised great ingenuity to pump more nitrogen into crop fields. Farmers have planted legumes and plowed the entire crop under, strewn night soil or manure on the fields, shipped in bat dung from islands in the Pacific or saltpeter from Chilean mines and plowed in glistening granules of synthetic fertilizer made in chemical plants.

No wonder biologist Himadri Pakrasi’s team is excited by the project they are undertaking. If they succeed, the chemical apparatus for nitrogen fixation will be miniaturized, automated and relocated within the plant so nitrogen is available when and where it is needed — and only then and there.

“That would really revolutionize agriculture,” said Pakrasi, PhD, the Myron and Sonya Glassberg/Albert and Blanche Greensfelder Distinguished University Professor in Arts & Sciences and director of the International Center for Advanced Renewable Energy and Sustainability (I-CARES) at Washington University in St. Louis.
Engineering with biological parts

Although there is plenty of nitrogen in the atmosphere, atmospheric nitrogen is not in a form plants can use. Atmospheric nitrogen must be “fixed,” or converted into compounds that make the nitrogen available to plants.

Much of modern agriculture relies on biologically available nitrogenous compounds made by an industrial process, developed by German chemist Fritz Haber in 1909. The importance of the Haber-Bosch process, as it eventually was called, can hardly be overstated; today, the fertilizer it produces allows us to feed a population roughly a third larger than the planet could sustain without synthetic fertilizer.

On the other hand, the Haber-Bosch process is energy-intensive, and the reactive nitrogen released into the atmosphere and water as runoff from agricultural fields causes a host of problems, including respiratory illness, cancer and cardiac disease.

Pakrasi thinks it should be possible to design a better nitrogen-fixing system. His idea is to put the apparatus for fixing nitrogen into plant cells, the same cells that hold the apparatus for capturing the energy in sunlight.

The National Science Foundation just awarded Pakrasi and his team more than $3.87 million to explore this idea further. The grant will be administered out of I-CARES, a university-wide center that supports collaborative research regionally, nationally, and internationally in the areas of energy, the environment and sustainability.

This award is one of four funded by the National Science Foundation jointly with awards funded by the Biotechnology and Biological Sciences Research Council in the United Kingdom. The teams will collaborate with one another and meet regularly to share progress and successes. The NSF release is available [here](#).

A proof of principle

As a proof of principle, Pakrasi and his colleagues plan to develop the synthetic biology tools needed to excise the nitrogen fixation system in one species of cyanobacterium (a phylum of green bacteria formerly considered to be algae) and paste it into a second cyanobacterium that does not fix nitrogen.

The team includes: Tae Seok Moon, PhD, and Fuzhong Zhang, PhD, both assistant professors of energy, environmental and chemical engineering in the School of Engineering & Applied Science at Washington University; and Costas D. Maranas, the Donald B. Broughton Professor of Chemical Engineering at Pennsylvania State University.

“Ultimately what we want to do is take this entire nitrogen-fixation apparatus — which evolved once and only once — and put it in plants,” Pakrasi said. “Because of the energy requirements of nitrogen fixation, we want to put it in chloroplasts, because that’s where the energy-storing ATP molecules are produced.” In effect, the goal is to convert all crop plants, not just the legumes, into nitrogen fixers.

Amazing cycling chemistry

All cyanobacteria photosynthesize, storing the energy of sunlight temporarily in ATP molecules and eventually in carbon-based molecules, but only some of them fix nitrogen. Studies of the evolutionary
history of 49 strains of cyanobacteria suggest that their common ancestor was capable of fixing nitrogen and that this ability was then repeatedly lost over the course of evolution.

The big hurdle to redesigning nitrogen fixation, however, is that photosynthesis and nitrogen fixation are incompatible processes. Photosynthesis produces oxygen as a byproduct and oxygen is toxic to nitrogenase, the enzyme needed to fix nitrogen. This is why most organisms that fix nitrogen work in an anaerobic (oxygenless) environment.

Cyanobacteria that both photosynthesize and fix nitrogen separate the two activities either in space or in time. *Cyanothece* 51142, a cyanobacterium Pakrasi’s lab has studied for more than 10 years, does it through timing.

*Cyanothece* 51142 has a biological clock that allows it to photosynthesize during the day and fix nitrogen at night. During the day, the cells photosynthesize as fast as they can, storing the carbon molecules they create in granules. Then, during the night, they burn the carbon molecules as fast as they can. This uses up all the oxygen in the cell, creating the anaerobic conditions needed for nitrogen fixation.

Thus, the environment within the cell oscillates daily between the aerobic conditions needed for capturing the energy in sunlight and the anaerobic conditions needed for fixing nitrogen.

*A single mega transfer*

The scientists have chosen their proof-of-principle project very carefully to maximize the odds it will work.

*Cyanothece* 51142 is particularly attractive as a parts source for the project because it has the largest contiguous cluster of genes related to nitrogen fixation of any cyanobacterium. Roughly 30 genes are part of the same functional unit under the control of a single operating signal, or promoter.

The scientists hope this cluster of genes can be moved to another cyanobacterial strain in a single mega-transfer. The one they’ve picked as the host, *Synechocystis* 6803, is the best-studied strain of cyanobacteria. Not only has its genome been sequenced, it is naturally “transformable” and able to integrate foreign DNA into its genome by swapping it with similar native strands of DNA.

But it’s actually the next step in the project that will provide the greater challenge for Pakrasi and his team. The scientists will need to figure out how to connect the transplanted nitrogen-fixing gene cluster to *Synechocystis’* clock. “Like every cyanobacterium,” Pakrasi said, “*Synechocystis* has a diurnal rhythm. But how to tap into that rhythm, we don’t know yet. We have some ideas we’re going to test, but that’s where the challenge lies.”

Overcoming the challenge of sustainably producing food for a world population of more than 7 billion while reducing pollution and greenhouse gases will require more than luck. Odds are it will take a daring, “out of the box” idea like this one.
Upcoming Events

September 2013

2013 National Goat Conference - North Carolina A&T State University
Date: 15-18 September 2013
Location: Joseph S. Koury Convention Center, Greensboro, North Carolina, USA
Theme: “Looking Towards the Future”
Website: http://www.ncat.edu/academics/schools-colleges1/saes/cooperative-extension/goatconf.html

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

International Conference on ICT4ag
Date: 4-8 November 2013
Location: Kigali, Rwanda
Website: http://www.ict4ag.org/en/

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