Israel and Brazil reps pay courtesy calls on CARDI.
CARDI Press Release, 12 May 2013

His Excellency Amiram Magid, Ambassador of the State of Israel to the Republic of Trinidad and Tobago, who is based in New York, visited CARDI’s Headquarters on April 24th, 2013. CARDI and Israel have had a number of successful collaborations in the past, particularly in the dry Leeward Islands, where Israeli knowledge of coping with semi-arid conditions has been beneficial. During the visit, His Excellency indicated Israel’s continuing interest in providing assistance to CARDI, inclusive of short term courses for agricultural professionals in Israel.

For more information see page 5

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
Cassava

Cassava's huge potential as 21st Century crop by the FAO, 28 May 2013

Full Article

FAO offers sustainable farming model to meet increased demand.

28 May 2013, Rome - Save and Grow, an environmentally-friendly farming model promoted by FAO, can sustainably increase cassava yields by up to 400 percent and help turn this staple from a poor people's food into a 21st Century crop, FAO said today.

In a newly-published field guide detailing Save and Grow's applications to cassava smallholder production, FAO noted that global cassava output has increased by 60 percent since 2000 and is set to accelerate further over the current decade as policymakers recognize its huge potential.

But using the inputs-intensive approach pioneered during last century's Green Revolution to boost cassava production risks causing further damage to the natural resource base and increasing the greenhouse gas emissions responsible for climate change.

The solution, says FAO, lies in the Save and Grow approach which achieves higher yields with improved soil health rather than with the heavy use of chemical inputs. Save and Grow minimizes soil disturbance caused by conventional tillage such as ploughing, and recommends maintaining a protective cover of vegetation over soil.

Instead of the monocropping normally seen in intensive farming systems, Save and Grow encourages mixed cropping and crops rotation, and predicates integrated pest management, which uses disease-free planting material and pests' natural enemies to keep harmful insects down, instead of chemical pesticides.

Spectacular results

The approach has yielded spectacular results in trials organized in Viet Nam, where farmers using the improved technologies and practices boosted cassava yields from 8.5 tonnes to 36 tonnes -- an increase of more than 400 percent.

In the Democratic Republic of Congo, through training in the use of healthy planting materials, mulching and intercropping, farmers attending field schools achieved yield increases of up to 250 percent.

In Colombia, rotating cassava with beans and sorghum restored yields where mineral fertilizer alone had failed.

Cassava is a highly versatile crop grown by smallholders in more than 100 countries. Its roots are rich in carbohydrates while its tender leaves contain up to 25 percent protein, plus iron, calcium and vitamins A and C. Other parts of the plant can be used as animal feed, and livestock raised on cassava have good disease resistance and low mortality rates.
One reason driving increased demand for cassava is the current high level of cereal prices. This makes it an attractive alternative to wheat and maize, particularly as cassava can be processed into a high-quality flour than can partially substitute for wheat flour.

Food security

But, together with its importance as a source of food and food security, cassava also has a range of industrial uses that give it huge potential to spur rural industrial development and raise rural incomes.

Cassava is second only to maize as a source of starch and recently-developed varieties produce root starch that will be highly sought after by industries. Demand for cassava as a feedstock for the manufacture of bioethanol is also growing rapidly.

Another important consideration is that of the major staple crops in Africa, hardy, resilient cassava is expected to be the least affected by advancing climate change.

With Save and Grow developing countries can thus avoid the risks of unsustainable intensification while realizing cassava's potential for producing higher yields, alleviating hunger and rural poverty and contributing to national economic development.

**Renewed Focus on Cassava** by the Jamaica Information Service, 30 May 2013

**Full Article**

The Ministry of Agriculture and Fisheries will be placing renewed focus on increasing cassava cultivation.

Portfolio Minister, Hon. Roger Clarke, said the move forms part of the thrust to promote food security within the island and ultimately reduce the country’s food import bill.

“I want to commit the Rural Agricultural Development Authority (RADA) and the Ministry of Agriculture to do whatever we can in making that move go forward with urgency,” he stated.

The Minister was speaking on Wednesday, May 29, at the launch of the book: ‘Celebrating the Culinary Wonders of Cassava’ at the University of Technology’s (UTech) Old Hope Road premises in St. Andrew.

He noted that already, the Ministry has partnered with local manufacturer, Red Stripe, for the use of cassava in the brewing of beer.

“Red Stripe says they want cassava to substitute for the hops that they put in their beers...so we soon will be drinking cassava...we are trying to work out the pricing arrangement to enable us to get our farmers into production,” he stated.

Minister Clarke congratulated the authors of the book, noting that it is an important step in increasing consumer education and awareness about cassava and its uses, and marketing the produce to appeal to the palette of consumers.
He said that numerous attempts have been made to promote the use of cassava locally; however, these efforts have been unsuccessful as, among other things, they “did not have the underpinnings of a proper marketing arrangement”.

“One of the difficulties we face in introducing local foods to our people is the way it’s presented and glancing through your book, it makes it so attractive to have cassava and therefore I am fully on board... and we are going to be working (assiduously)...because we are going to be producing cassava,” he stated.

Co-author of the book, Janeen McNish, informed that the publication contains 49 recipes from Jamaica and other Caribbean islands, which showcase the versatility of cassava.

“The primary goal of creating this recipe book...is therefore to promote local and regional consumption of cassava and its value-added products,” she said.

She informed that the publication was made possible through the sponsorship of the European Union Common Fund for Commodities and the Caribbean Agricultural Research and Development Institute (CARDI) under its ‘Increasing Food Production of Roots and Tubers in the Caribbean’ project.

Ms. McNish, who is also a lecturer at the School of Hospitality and Tourism Management at UTech, noted that the recipes include appetisers, entrees, side dishes, desserts and snacks, adding that nutritional analyses of all the recipes have been conducted.

In the meantime, Mr. Clarke informed that the Ministry will be collaborating with several tertiary institutions to formulate a joint research programme to address critical challenges in the agricultural sector.

The institutions are: University of the West Indies (UWI); University of Technology (UTech); Northern Caribbean University (NCU), and the College of Agriculture, Science and Education (CASE).

Greater Effort Needed To Make Cassava More Appealing by the Jamaica Gleaner, 1 June 2013

Full Article

JAMAICANS HAVE been challenged to tap into the vast economic potential value of "less fashionable" agricultural crops such as cassava as a first step towards achieving food security, while reducing the growing food-import bill of just under US$1 billion.

Shauna Brandon, rural development specialist with the Inter-American Institute for Cooperation on Agriculture (IICA), says the time has come for Jamaicans to recognise and to begin to fully utilise underexposed crops such as the cassava.

She told the opening ceremony of Wednesday's Cassava Expo, hosted by the Caribbean Agricultural Research and Development Institute and the University of Technology, that consuming more of these locally grown products is critical to national development and the country's long-term economic welfare.
Arguing that as a country which suffers periodically from exchange-rate devaluation, an import-dependent lifestyle will become more increasingly expensive to maintain. She insisted that Jamaicans must move away from this economically unsustainable practice.

She said: "Logic should, therefore, dictate that as a nation, we must try to eat more locally grown food, and I say try to eat more because it does and will take some more effort to shift the mindset and make produce such as cassava appealing to the average consumer."

BOOK LAUNCHED

On a day when a number of presentations were made showcasing the many and varied value-added products that can be made from the root crop, and which was highlighted by the launch of the book Celebrating the Culinary Wonders of Cassava, the IICA representative made a case for giving the crop its due recognition.

Said she: "Cassava can play an important role in feeding the nation as a carbohydrate source via input into animal feed and even for alcoholic beverages. We must resist the argument that we cannot utilise cassava for animal feed because we do not produce enough of it. We must start somewhere."

Failure to make a start in this direction, no matter how small, will see Jamaica locked in a cycle of dependence on others, said Brandon.

"The current scenario need not be the only scenario," she advised. "The alternative is to be forever at the mercy of foreign producers of grain-based animal feeds in a world that heavily demands grains and will thus continually force the price of grains upwards."

Getting the process started will, however, require a comprehensive national campaign to change the public's perception of cassava, which has traditionally been viewed as a poor cousin to more high-profile root crops and tubers such as yam and sweet potato.

Cereals and Grains

Soybeans finish up 40¢ by Mike McGinnis, 28 May 2013
http://www.agriculture.com/markets/analysis/corn/soybeans-finish-up-40_9-ar31734

Full Article

DES MOINES, Iowa (Agriculture.com)--Flooding and late planting sparked the CME Group soybean market to settle sharply higher, pushing up corn too Tuesday.

The July futures corn contract settled 9 cents higher at $6.66. New-crop Dec. futures finished 14 cents higher at $5.51. The July soybean futures contract ended 33 cents higher at $15.09, new-crop Nov. soybeans settled 40 cents higher at $12.88. July wheat futures closed 4 cents lower at $6.93 per bushel. The July soymeal futures finished $14.10 per short ton higher at $442.30. The July soyoil futures settled $0.30 higher at $49.54.
In the outside markets, the NYMEX crude oil is $1.14 per barrel higher, the dollar is higher and the Dow Jones Industrials are 87 points higher.

Pete Meyer, PIRA Senior Director of Agricultural Commodities, says the late plantings and flooding are the obvious major concerns at the moment for corn acreage.

"With many in Iowa and Minnesota facing their final corn planting date at the end of this week, the reality of the situation is sinking in. I believe that we’ve already lost three million acres of corn, not to mention the affect this flooding is having on the loss of nitrogen from the soil," Meyer says. Nitrogen that runs through drainage tile helps no one, he says.

"The final issue is the size of the replant acreage. With this week’s weather looking wet once again, it’s a good bet that as many as 15 million acres of corn could be planted in June, if they’re planted at all. No one wants to see their corn pollinate in early August," Meyer says.

Mike North, First Capitol Ag, says the market is experiencing fireworks. "Obviously the 9:30 push gave us another exciting move in soybeans. With flash flood warnings in Iowa, many have taken on a defeatist attitude toward corn plantings and are already beginning to develop the same for soybeans.

However, the guess on this afternoon's USDA Crop Progress planting rate puts us near the 85% mark. "That is very close to the 5-year average," North says.

People have still not shaken off the late planting mentality. Weather will be watched closely this week as will fund activity. There is renewed optimism that the recent fireworks in grains coupled with growing nervousness in equities could bring more money into the trade. That would certainly allow the market to support a rally regardless of fundamental perception," North says.

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**Agricultural Development**

**Israel and Brazil reps pay courtesy calls on CARDI.** CARDI Press Release, 12 May 2013

Full Article

His Excellency Amiram Magid, Ambassador of the State of Israel to the Republic of Trinidad and Tobago, who is based in New York, visited CARDI’s Headquarters on April 24th, 2013. CARDI and Israel have had a number of successful collaborations in the past, particularly in the dry Leeward Islands, where Israeli knowledge of coping with semi-arid conditions has been beneficial. During the visit, His Excellency indicated Israel’s continuing interest in providing assistance to CARDI, inclusive of short term courses for agricultural professionals in Israel.

Just one day prior, on April 23rd, 2013, a team of scientists from the Brazilian Agricultural Research Institute (EMBRAPA) also visited CARDI’s Head Office. The team members included Dr. F. reseghello, Plant Breeder; Dr. F. P. de Agreu, Fruit Processor; and Dr. R. d Camargo, Apiculture. Accompanying them were Ms. S. Dura of the Brazilian Agency for Cooperation and Mrs. R. Bettencourt of the Brazilian Embassy in Port of Spain, Trinidad.
The CARDI/Brazil Agreement was signed by the President of Brazil and the Heads of Government of the CARICOM countries in 2010. One of the areas covered by the Agreement is agriculture, and within this framework, CARDI and EMBRAPA collaborate. A proposed initiative by the Government of the Republic of Trinidad and Tobago is the establishment of a regional training programme, facilitated by EMBRAPA, on a model farm in Trinidad and Tobago.

The initial modules of reference in research and technology include rice, goats and sheep, fruit processing, apiculture and plant genetic resources. At the meeting, CARDI’s possible roles in this project were discussed and will be presented by CARDI to the CARICOM Secretariat in due course.

CARDI Units across the Region participate in Agri Shows by news.gov.tt, 24 May 2013

Full Article

This year saw the CARDI Belize Unit again participating in the country’s National Agriculture and Trade Show 2013 (NATS) which was held from 3 to 5 May 2013 at the Agriculture Show Ground in Belmopan, Belize. This year’s theme was "Stimulating Prosperity in Agriculture and Food Production through Renewed Public - Private Partnership". The Keynote Speaker at the Opening Ceremony was the Deputy Prime Minister and the Minister of Natural Resources and Agriculture, the Honourable Gasper Vega.

CARDI participated in the Show by displaying CARDI’s activities and accomplishments in Belize through posters and display of plants and seeds. CARDI’s participation also included the showing of videos on ‘What is CARDI’, ‘Field Day of Red SICTA’, and ‘Protected Agriculture’. A novelty that was very popular with the more than three hundred (300) visitors was the samples of cooked rice and black-eye and rice and red and black beans. One visitor shared her view on the samples, saying that it “tastes similar to traditional red kidney beans and rice”.

CARDI also sought the opportunity to provide one hundred pounds (100 lbs) of yellow corn seed, variety CARDI YC-001 to the senior Farmer of the Year.

The official tour of the Show included DPM and the Minister of Natural Resources and Agriculture Hon. Gasper Vega; Chief Executive Officer Agriculture Mr. Jose Alpuche; CEO Natural Resources Ms. Beverly Castillo and Chief Agricultural Officer Mr. Eugene Waight.

Across the ocean, CARDI’s St Kitts Office participated in the St Kitts and Nevis Ministry of Agriculture and Marine Resources’ 20th Annual Open Day held on April 25 and 26 under the theme ‘Embrace the change, Face the Challenge, Maximize the Opportunities’. Among the visitors to the CARDI booth were farmers, Government officials and other agriculture stakeholders.

Agriculture remains viable, says Clarke by the Jamaica Observer, 31 May 2013
Agriculture in the News May 26 – June 1, 2013. Issue compiled by CARDI

Full Article

AGRICULTURE and Fisheries Minister Roger Clarke says that agriculture remains a viable industry with the capacity for long-term sustainability.

He was speaking yesterday at the opening ceremony of the Spring Gardens All-Age School's one-day agricultural exhibition at the institution's campus in Bushy Park, St Catherine.

Stating that the sector is "all-encompassing", he said it entails more than the use of basic tools such as a fork, hoe and machete to till the soil for cultivation.

"It is not so. Agriculture is high science... and we must begin to understand that agriculture is a business. There was a time when it was said that (anyone) who is not bright [should] go into agriculture. Not so. Agriculture is not only about tilling the soil. [The sector needs highly trained professionals such as] surveyors, agronomists, botanists, veterinarians; and we even want people with business knowledge. There is a place there for almost everyone, provided you have the aptitude and you get yourselves qualified to do the job," he stated.

The minister said the involvement of young people in the sector, particularly students at the primary and all-age levels, gives him optimism about the it's future.

He noted that commendable pursuits, such as the Spring Gardens project, will ensure a sustainable future for agriculture.

"What we are experiencing here, today, is an indication that you can't be too young to be involved. As I look at these little ones...I...see the potential... what they are capable of doing. I have always said [that] this is one industry that cannot die, because you have to eat to live; and therefore, food has to be produced. So we have to try and produce as much of it as we can for ourselves. What you are [demonstrating] here today is that agriculture has a [sound] future," the minister contended.

The Spring Gardens All-Age School project entails the cultivation of a number crops as well as chicken rearing. The initiative, which was recently boosted by a $300,000 grant from the Development Bank of Jamaica, supports the school's nutrition programme, and serves as a catalyst to enhance the school's literacy and numeracy programme for its over 300 students.

In encouraging the youngsters to remain focused on their undertaking, Clarke advised them that "right here in your little plot, you can use this to educate yourselves as to what you can do in a bigger way".
THE MINISTRY of Agriculture and Fisheries on Tuesday received vehicles and equipment valued at J$20 million from the Inter-American Development Bank (IDB) which will play a significant role in enhancing the competitiveness of the local agricultural sector.

The Veterinary Services Division received two Volkswagen Amorak pickups and eight desktop computers, with three Volkswagen Amorak pickups going to the Plant Quarantine/Produce Division and the Rural Agricultural Development Authority (RADA) getting 15 post-harvest kits to be used in the training of farmers, processors and exporters, in quality assessment and management of fresh produce.

The vehicles which are to be assigned to the Plant Quarantine/Produce Division have been earmarked for mobile fumigation and the canine detection programme, with the Veterinary Division's vehicles to be utilised for surveillance and other field services and the computers to be used for networking of its laboratories and quarantine offices.

US$15-million programme

Tuesday's donation is the latest in a US$15-million, five-year programme being financed by IDB and implemented by Agro-Investment Corporation (AIC), the investment arm of the agriculture ministry. Started in November 2010, it will be executed in three components with the aim of developing farm-to-market linkages, developing a food-safety management system and an agro-processing value-chain development.

Designed with the overall aim of making Jamaican farmers and agro-processors globally competitive, it will include a public education campaign to raise public awareness about food safety, as well as animal and health issues, which are in fact critical to public health.

Everton Spencer, chief executive officer of the AIC, told the handover ceremony, held at the Agro-Export Centre, 188 Spanish Town Road, Kingston, that the vision for the Agricultural Competitiveness Programme is to have an integrated, efficient and sustained agricultural health and food-safety system which meets international standards and has active stakeholder participation.

He explained: "This will be achieved through the development of competitive agro-business value chains, institutional strengthening of the Agro-Invest, and establishment of a value chain innovation facility."

Spencer said the dynamic global trade environment dictates that only countries which can successfully manage the challenges and risks, capitalise on inherent advantages, and innovate, will become and remain competitive.
Agriculture in the News May 26 – June 1, 2013. Issue compiled by CARDI

Full Article

A stronger linkage between agriculture and business is needed!

This view was expressed by Minister of Industry, International Business, Commerce and Small Business Development, Donville Inniss, who said that a more business-like approach was needed to boost the local agricultural sector.

He made these comments when representative for the Inter American Institute for Agriculture (IICA), Ms. Jean Lowrey, paid a recent visit to his Reef Road headquarters.

Along with voicing concern over the state of Barbados' agro processing industry, the Minister also pointed to the challenges faced by farmers with regards to accessing viable 'market places' to ply their trade in a consistent and sustainable manner as cause for worry.

The Minister told the IICA representative that there were those who had been involved in farming because it was a family tradition and they inherited land. However, he noted that farming also called for a certain level of business acumen since there were technical and productive aspects.

“They are those who are involved in farming because it's a family tradition. They have inherited the land whether it be the whites or the plantocracy or Barbadian blacks who happen chance upon it. However, farming is not the cheapest and easiest thing to do particularly when you look at the risk element such as praedial larceny ...You still have to find ways to maximise productivity from every acre... A guy who may love farming still has to know the fundamentals of irrigation, pesticides and that type of stuff....”

Pointing out that a far more aggressive and sustained programme of education was needed, Mr. Inniss noted that having such a programme in place would ensure that Barbadians had a greater appreciation for consuming what was locally produced, as well as preserving items.

In response, Ms. Lowrey stressed that education was a priority in order to make persons aware of the importance of the sector, as it had so much to offer.

In addition, the Minister also hinted that his Ministry was keen through the Barbados National Standards Institution to look at standards and agricultural products, including the preserves and agro-processed items, and labelling issues.
**KISS ME DEADLY Proteins May Help Improve Crop Yields** by Science Daily, 27 May 2013

http://www.sciencedaily.com/releases/2013/05/130527153652.htm

**Full Article**

May 27, 2013 — Dartmouth College researchers have identified a new regulator for plant hormone signaling -- the KISS ME DEADLY family of proteins (KMDs) -- that may help to improve production of fruits, vegetables and grains.

The study's results will be published the week of May 27 in the journal Proceedings of the National Academy of Sciences.

Professor G. Eric Schaller, the paper's senior author, studies the molecular mechanisms by which a plant recognizes a hormone and then responds to it. Among the hormones he studies are "anti-aging" cytokinins, which play critical roles in regulating plant growth and development, including stimulating yield, greening, branching, metabolism and cell division. Cytokinins are used in agriculture for multiple purposes, from crops to golf course greens.

In their PNAS paper, the researchers identify KMDs as a new regulator for cytokinin signaling. To regulate plant growth, plants need to perceive cytokinins and convert this information into changes in gene expression. The KMDs target a key group of cytokinin-regulated transcription factors for destruction, thereby regulating the gene expression changes that occur in response to cytokinin. In other words, increases in KMD levels result in a decreased cytokinin response (or less crop growth), while decreases in KMD levels result in a heightened cytokinin response (or greater crop growth).

The results suggest that KMDs represent a natural means by which plants can regulate the cytokinin response and may serve as a method to help regulate agriculturally important cytokinin responses.

"We expect that a better understanding of cytokinin activity and KMDs could lead to improved agricultural productivity," said Schaller.

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**Plant help online** by news.gov.tt, 27 May 2013


**Full Article**

Fact sheets on how to grow ochro, bodi, hot pepper, tomato and a host of other short crops as well as how to grow cassava, dasheen, yam and sweet potato are all available on the Ministry of Food Production's website:agriculture.gov.tt.

Interested gardeners can even get information on where to grow these plants around their homes, how to prepare seedlings, what type of containers to use and a lot of other helpful advice with just a click of a mouse or the touch of a screen.

Under the Hints and Tips section of the website, the Ministry is offering advice on how to grow everything that the local householder could need in his or her kitchen garden.
In addition the Ministry continues to offer its monthly free courses at its county offices for farmers or those who prefer a class room and a hands on instructor. In addition, the Ministry's monthly plant clinics for those who need to have the various plant diseases and parasites identified with advice on how to treat the problem continued during the month of May.

Agricultural Research

Project Aims to Biofortify Rice for Improved Nutritional Value by Jan Suszkiw, 28 May 2013
http://www.ars.usda.gov/is/pr/2013/130528.htm

Full Article

A team of U.S. Department of Agriculture (USDA) and collaborating scientists is closing in on genes in rice that regulate the uptake and storage of important minerals, a pursuit that could bolster the nutritional value of this cereal grain crop as a staple food of roughly half the world's population.

According to Shannon Pinson, a team member with USDA's Agricultural Research Service (ARS), the ultimate goal is to conventionally breed new rice varieties whose grains boast exceptionally high concentrations of one or more of 14 essential minerals, including zinc, iron and calcium.

ARS is USDA's principal intramural scientific research agency, and the research supports the USDA priority of promoting international food security.

Rice is a popular mainstay because it's a rich source of energy, free of gluten, easy to digest, low in fat and packed with vitamins, minerals and other nutrients. However, some key elements like iron are lost when the bran on unmilled brown rice is stripped off to produce white rice, notes Pinson, a plant geneticist at the ARS Dale Bumpers National Rice Research Center in Stuttgart, Ark.

In developing countries, re-fortifying rice after milling may not be a viable option. Additionally, the soils in which the crop is grown may be lacking in certain essential minerals, or the minerals are unavailable for uptake by the plant's roots. To address these issues, the ARS-university team focused attention on three different population groups of rice—with the most diversity represented by 1,643 accessions collected from 114 countries. In this diverse group, they encountered rice accessions whose grains contained up to nine times the amount of minerals normally observed in standard U.S. varieties.

The team also is developing molecular marker data for use in rapidly identifying high-mineral rice plants without growing them to maturity during breeding operations. The team has so far identified 127 gene locations in 40 different chromosome regions that correlate to high concentrations of certain minerals and other grain features.

Read more about this research in the May/June 2013 issue of Agricultural Research magazine.
Taiwan develops 'colorful' rice by Andrew Liu and Lilian Wu, 1 June 2013

Full Article

Taipei, June 1 (CNA) A government-assisted farmers' research group in eastern Taiwan has developed "colorful" rice -- no longer rice in white, but in four different colors -- red, yellow, green and purple.

The Hualien District Agricultural Research and Extension Station -- which is dedicated to helping local farmers improve their earnings from farming, including by coming up with new products -- said it has spent seven years developing the technology to add natural colors to rice using vegetables.

"The colorful rice can add interest, enrich your visionary sight and increase your appetite, especially for children," the station said.

It said that Southeast Asian countries and India have used natural colors to cook rice since ancient times, mostly using turmeric (a plant of the ginger family) and herbs to give rice color.

It said that using the natural colors of vegetables to produce colorful rice is both "safe and delicious."

The four colors developed by the station -- red, yellow, green and purple -- are derived from using anka (red yeast), turmeric, chlorophyll (green pigment derived from green vegetables and anthocyanidin (plant pigment).

The station noted that rice colored with anka, turmeric, and anthocyanidin will not change color during the cooking process.

The green color, using chlorophyll, however, tends to turn into an olive color after cooking.

"The best ingredient is using something that is natural," the station said.

It said that it is not only targeting families as the main consumers of colorful rice, but is also eying hostels or leisure farms, which may want to use it for creative dishes.

They could also make it a souvenir or gift for visitors, he said.

In the earlier days of research into making colorful rice, the technology could only produce a small amount of colorful rice, according to the station. But after further development, it has come up with the technology for mass production, and has obtained a patent.

The station later transferred the technology to the private sector, which can now produce two metric tons of colorful rice each day.
**Climate Change**

*5Cs’ Work Showcased at the 10th Carbon Expo!* By Caribbean Climate, 29 May 2013
http://caribbeanclimateblog.com/2013/06/03/5cs-work-showcased-at-the-10th-carbon-expo/

**Full Article**

The Caribbean Community Climate Change Centre showcased its work at the 10th Carbon Expo in Barcelona, Spain last week (May 29-31 2013). The Carbon Expo is the largest event for the international carbon market and attracts project developers, regulators, financiers, brokers, businesses, and entrepreneurs.

The Centre shared a display booth with Cuba and the UNEP Riso Centre. Despite the depressed state of the carbon market, approximately 2,200 participants attended the expo representing 110 countries and 150 exhibitors.

The expo was organized in three streams covering: policy, climate finance, and clean energy and clean technology in plenary, training and dialogue sessions. While the regulated market which developed as a result of the Kyoto Protocol has declined significantly in 2013, the voluntary market and the national and regional markets are expanding. The focus of the expo therefore was considering options for linking these diverse markets, exploring opportunities in NAMAs, understanding the new market mechanisms being negotiated under the UNFCCC, and bridging the gap until the new mechanisms come into effect. For the first time, the Carbon Expo included issues of adaptation on the agenda as the organizers appreciated the linkages between adaptation and mitigation.

The Centre’s representative at the Carbon Expo, Carlos Fuller, the International and Regional Liaison Officer, held discussions with the representatives of Cuba, UNEP Riso, Barbados, and representatives of several organizations to explore opportunities for collaboration in the Caribbean. The Centre work was also promoted through a World Bank display featuring the Pilot Programme for Climate Resilience (PPCR) project.

The Centre’s attendance was facilitated by the World Bank. Carbon Expo 2013 was preceded by the First Forum of the standing Committee on Finance of the UNFCCC, where Mr Fuller was part of a panel discussion during which he highlighted the work of the Centre in adaptation in the Caribbean.

*Subsistence Farmers to Receive $30 Million in Grants* by the Jamaican Information Service, 28 May 2013

**Full Article**

Some 1,000 vulnerable subsistence farmers, who were most severely affected by the passage of Hurricane Sandy last year, will receive much-needed assistance, which will provide them with food security and a means of resuscitating their income.

The Ministry of Agriculture and Fisheries, on Monday, May 27, signed an agreement to provide $30 million in grant funding to 50 farmers in the communities of Leith Hall, and 900 in Font Hill both in St. Thomas; as well as 50 farmers in Reach district, Portland.
Under the initiative, which will be implemented by the Rural Agricultural Development Authority (RADA), the farmers will receive vouchers to purchase critical agricultural inputs, and also benefit from training to boost their resilience to natural disasters.

Speaking at the signing ceremony at the Ministry’s Hope Gardens location, portfolio Minister, Hon. Roger Clarke, noted that the programme, which is being funded by the Food and Agriculture Organization (FAO), will benefit the most affected, who are yet to fully recover.

Special priority will be given to female-headed households, and those with small children, and the youth.

“Participant selection criteria also include: farmer registration with RADA to verify farmer status; holdings of less than five acres; willingness to register and participate in community work programme and training activities; and low level income,” Mr. Clarke outlined.

Some 40,000 farmers islandwide were affected by the hurricane with losses amounting to more than $4 billion. The worst hit parishes were St. Thomas, Portland, and St. Mary, with crops such as banana, cocoa, and coffee being most affected.

The Minister noted that hurricanes and other disasters threaten food and nutrition security, and that in order to mitigate some of the challenges, Cabinet had recently approved the Food and Nutrition Security Policy, which is now before Parliament.

Agriculture Health and Food Safety

Ministry Of Agriculture and The OECS Secretariat Host Workshop On Strengthening Of The Agricultural Health And Food Safety Systems by NBC Radio St Vincent and The Grenadines, 27 May 2013
http://www.nbcsvg.com/news.html

Full Article

The Ministry of Agriculture and the OECS Secretariat is hosting a workshop on the strengthening of the Agricultural Health and Food Safety Systems (AHFS), of the region. Over forty representatives from government ministries, non-government organizations, and non-state actors is participating in the two-day workshop, which opened on 27th May at the Sunset Shores Hotel.

A release from the Ministry of Agriculture stated that the workshop will seek to upgrade the regional Agricultural Health and Food Safety Systems to facilitate production, trade, and competitiveness of all agricultural and fishery commodities. It will also seek to sensitize key stakeholders in the operations of the AHFS systems.

Several areas will be discussed at the workshop including the importance of sanitary and phyto-sanitary measures and the Agricultural Health and Food Safety to trade and plant quarantine systems, and laboratory services. At the end of the workshop participants are expected to contribute towards the
establishment of models through which the AHFS System could be operated, inclusive of costs and benefits.

The workshop is being supported by the Food and Agriculture Organization (FAO), the Inter-American Institute for Cooperation on Agriculture (IICA), CARICOM, CARDI and CROSO.

Water Resources

Caribbean Lecturers to Learn about Using Water Management Toolbox in Education. GWP-C Press Release, 3 June 2013

Full Article

Over twenty (20) lecturers and researchers from universities across the Caribbean will meet in Barbados at The University of the West Indies (UWI), Cave Hill Campus for the first-ever Integrated Water Resources Management (IWRM) Knowledge Management Workshop to be held in the region on June 5th and 6th, 2013.

The two-day regional workshop is being spearheaded by the Global Water Partnership-Caribbean (GWP-C) in collaboration with its partner, the Centre for Resource Management and Environmental Studies (CERMES) of The UWI, Cave Hill Campus in Barbados. The workshop will focus on the Integrated Water Resources Management (IWRM) Toolbox which was developed by the Global Water Partnership (GWP) based in Stockholm, Sweden and its partners.

The IWRM Toolbox is a free online database with a wide range of resources and tools that provide support in finding solutions to water related problems. It is a unique knowledge platform where experiences in water resources management can be shared.

The workshop therefore seeks to introduce tertiary level practitioners in the Caribbean to the IWRM Toolbox and to explore how it could be used in the academic environment of their universities to support their teaching of water resources management. The regional workshop presents an opportunity for these professionals to gain valuable knowledge that could help them establish a range of courses that are not currently being taught on water resources management; and help them share knowledge with their students on water management in a new and creative way. Representatives from the Knowledge Management team of the Global Water Partnership (GWP) in Stockholm will provide hands-on training to participants in the use of the Toolbox.

Addressing the Caribbean university lecturers at the opening of the workshop will be Mr. Peter Gibbs, Dean of the Faculty of Science and Technology of The UWI Cave Hill Campus. Other speakers will include representatives of the GWP-C and the CERMES.

Attending the workshop will be lecturers from universities and research institutes based in Barbados, Belize, Grenada, Guyana, Jamaica, Puerto Rico, Suriname, Trinidad and Tobago, United States Virgin Islands, among others.

The Global Water Partnership-Caribbean (GWP-C) sees that the engagement of these professionals can lead to a regional network of universities that can promote Integrated Water Resources
Management (IWRM), share knowledge and experiences and build capacity in better water resources management in the Caribbean.

**Improving 'Crop Per Drop' Could Boost Global Food Security and Water Sustainability** by Science Daily, 29 May 2013
http://www.sciencedaily.com/releases/2013/05/130529144325.htm

**Full Article**

May 29, 2013 — Improvements in crop water productivity -- the amount of food produced per unit of water consumed -- have the potential to improve both food security and water sustainability in many parts of the world, according to a study published online in Environmental Research Letters May 29 by scientists with the University of Minnesota's Institute on the Environment (IonE) and the Institute of Crop Science and Resource Conservation (INRES) at the University of Bonn, Germany.

Led by IonE postdoctoral research scholar Kate A. Brauman, the research team analyzed crop production, water use and crop water productivity by climatic zone for 16 staple food crops: wheat, maize, rice, barley, rye, millet, sorghum, soybean, sunflower, potato, cassava, sugarcane, sugar beet, oil palm, rapeseed (canola) and groundnut (peanut). Together these crops constitute 56 percent of global crop production by tonnage, 65 percent of crop water consumption, and 68 percent of all cropland by area. The study is the first of its kind to look at water productivity for this many crops at a global scale.

The wide range of variation in crop water productivity in places that have similar climates means that there are lots of opportunities for improving the trade-off between food and water. And the implications of doing so are substantial: The researchers calculated that in drier regions, bringing up the very lowest performers to just the 20th percentile could increase annual production on rain-fed cropland enough to provide food for an estimated 110 million people without increasing water use or using additional cropland. On irrigated cropland, water consumption could be reduced enough to meet the annual domestic water demands of nearly 1.4 billion people while maintaining current production.

"Since crop production consumes more freshwater than any other human activity on the planet, the study has significant implications for addressing the twin challenges of water stress and food insecurity," says Brauman.

For example, if low crop water productivity in precipitation-limited regions were raised to the 20th percentile of water productivity, specific to particular crops and climates, total rain-fed food production in Africa could be increased by more than 10 percent without exploiting additional cropland. Similar improvements in crop water productivity on irrigated cropland could reduce total water consumption some 8-15 percent in precipitation-limited regions of Africa, Asia, Europe and South America.

Because the study is global in scope, it is able to identify potential locations for interventions, crops to pay attention to, and opportunities for the biggest improvements in crop water management. Specific solutions for improving crop per drop will vary by location and climatic zone over time, however.
Upcoming Events

June 2013

10th International Mango Symposium
Date: 3-7 June 2013
Location: Punta Cana, Dominican Republic

Global Cassava Partnership for the 21st Century (GCP21) second meeting on cassava landraces
Date: June 2013
Location: Tanzania
Description: Global Cassava Partnership for the 21st Century (GCP21) second meeting on cassava landraces is scheduled in June 2013 at IITA offices in Tanzania. The meeting’s goal is to deliver products such as draft standard operating procedures to collect, evaluate, preserve and identify these landraces and a roadmap to start the work in East and Central Africa.

49th Annual Meeting Caribbean Food Crops Society (CFCS)
Date: 30 June to 6 July 2013
Location: Port of Spain, Trinidad and Tobago
Description: The 49th Annual Meeting will be celebrated 30 June to 6 July in the Hyatt Regency Hotel in Trinidad. Joint meeting of the CFCS, Caribbean AgroEconomic Society (CAES) and the International Society for Horticultural Science (ISHS). Theme: Agribusiness Essential for Food Security: Empowering Youth and Enhancing Quality Products.
Contact: CFCS website http://cfcs.eea.uprm.edu/

July 2013

International Conference on Tropical Roots and Tubers for Sustainable Livelihood under Changing Agro-climate
Date: 9 -12 July 2013
Location: Thiruvananthapuram, Kerala, India
Website: http://isrc.in/internationalconference2013/

21th Annual International Mango Festival
Date: 13 -14 July 2013
Location: Fairchild Tropical Botanic Garden in the Coral Gables, South Florida, USA
Website: http://www.fairchildgarden.org/Events/?date=2013-07&eventid=748
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”

October 2013

**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