



Grenada Agriculture Climate Newsletter

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Upcoming Events

- World Water Day
22nd March 2015
- National Climate Change Adaptation Plan Workshop
19th-20th February 2015
- Training on Climate Finance -
April 2015 TBC

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RAINFALL OUTLOOK FOR FEBRUARY —APRIL 2015



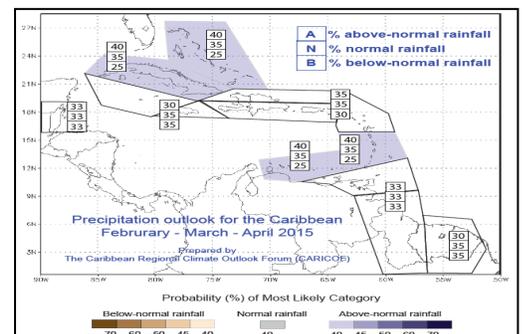
NATIONAL RAINFALL OUTLOOK

The Rainfall Prediction for the period February to April is that a 40% Above Normal Rainfall, 35% Normal Rainfall and 25% Below Normal Rainfall may be experienced during this Dry Season period. This means that we may experience above normal rainfall of 40% over the next three months. This may have positive impacts on farming and water supply in general. Farmers will have to irrigate less, plant more vegetables, and may have less pest and disease. However, based on the number of rainy days being experienced, it could also have negative impacts on some vegetables and see an increase in pest and disease. The outlook for NAWASA is good because it means that there will be adequate supplies of water in the reservoirs and dams to meet domestic supplies, **if water conservation is observed by the general public and consumers in general. Farmers need to pay close attention** and need to observe field conditions through soil moisture, plant condition and crop type.

This means that there is a likely hood that there will be increased humidity which can mean that day time temperatures can appear to be higher than it actually is. This can also have some negative impacts on crops, pest and disease.

February - April 2015 Drought Update:

It should be noted that drought concerns have subsided somewhat throughout the Caribbean. However, some concern still exists in the ABC Islands, Belize, Trinidad & Tobago and in portions of French Guiana and the Windward Islands.



PROTECTING THE NUTMEG TREE FROM CLIMATE CHANGE

It is ten and a half years ago since 90% of Grenada's nutmeg trees were destroyed by Hurricanes Ivan and Emily. The nutmeg trees suffered particularly badly due to their shallow roots which the strong winds uprooted easily. Since it takes 7-10 years until the tree produces fruits, the recovery period for the nutmeg production is still ongoing.

In order to prepare the new nutmeg tree seedlings and young trees for the upcoming climate challenges such as intense rainfall and tropical storms, agro forestry practices are very suitable. Higher trees, windbreakers and boundary planting are measures to protect the nutmeg tree from strong rainfall and wind, while at the same time providing shade. Intensive rainfall can cause root rotting, and can be prevented by adequate drainage.

Soil erosion control structures by contour farming or grass barriers protect trees against storms as well as promote soil and water conservation. A diversified cropping system in form of strips or mixed intercropping reduces water and wind induced soil erosion, protects water quality and protects growing crops from wind-borne soil particles. In case of less rainfall or even droughts, mulch, such as grass, coconut shell or compost, conserve moisture and inhibits weed growth. It should be put around the plant 2-4 times the hole's diameter and about 3 inches depth. Additionally, rainwater harvesting and the construction of cisterns, farm dams and irrigation systems provide water in dry periods.

OUTLINE OF A MINI-ROOFLET RAIN WATER HARVESTING SYSTEM

Though Grenada is blessed with average annual rainfall totaling 2350 mm, the monthly and daily distribution in rainfall across the island varies which gives rise to dry conditions being experienced in the north and south of the island. The situation is worse in Carriacou and Petit Martinique with 1,000 mm of average annual rainfall. This uneven distribution of rainfall results in a reduction of water for crops in areas where most of the flat, fertile land suitable for mechanized farming is located. This dry period can last from 1-6 months, which means that some source of water to supplement the rainfall has to be identified and collected for use in irrigation for a variety of crops, especially vegetable which is more sensitive to lack of water.

One possible source of this water is from rain. Rain Water Harvesting (RWH) is widely recognized as a critical alternative source of water besides using rivers or ponds for agricultural irrigation.

While Rain Water Harvesting is widely practiced in Grenada,

Carriacou and Petit Martinique for domestic water supply, few have extended its adoption for irrigation of agriculture. The level of practice varies from simple containers storing roof runoff to relatively sophisticated catchment design, conveyance, filtration, storage and distribution systems. While some farmers practice RWH on their own, efforts to employ RWH for irrigation water supply for vegetable farms on the islands is small but growing. RWH is a viable option because crops grown under irrigation are mainly vegetables, fruit trees and cut flowers which require daily irrigation. Irrigation is an economically viable option in vegetables and other cash crop production and the development of Rainwater Harvesting will only help to increase crop production and farmer earning. The Ministry is already providing technical and other incentives to ensure RWH becomes an usable option for farmers located in the drier areas of the island.

A mini rooflet RWH system is used for collecting all the rainfall from the roof of the structure on the farm. All that is required is a Roof catchment which can be galvanized iron sheet, which has a high Rainfall Collection Efficiency estimated at 85%, a piece of guttering, down pipe and a storage container.

A roof 8 ft x 8 ft can harvest approximately 3, 145gals gallons of rainwater yearly. This quantity of water will meet the demands of irrigation for a small plot.

The guttering and down pipe will have to be installed to collect and convey the rainwater into the storage tanks. The Storage tanks, can be two (2), 1000 gallons tanks, which must be installed on a base 4ft high position close to the farm in order to provide sufficient pressure for operation of the irrigation system without a pump. This will allow the water to flow by gravity into the designed drip Irrigation system on the farm. This mini-rooflet RWH system would avoid energy consumption for operation.

The Irrigation system recommended is a Drip system because micro-sprinkler would require more pressure and there would be greater losses associated with this system.

Example of Rain Water Harvesting System



About this Newsletter

The purpose of this newsletter; which is being produced quarterly, is to assist in improving and developing the weather information provided by the Meteorological and Agricultural Services, as well as provide timely, relevant information to the Farming community. It is hoped that the informa-

tion will be used by the Farming community as a guide to help them in crop selection, planting times and other agricultural practices. The newsletter is published by the Ministry of Agriculture, through the Land Use Division. **Your feedback is highly appreciated and will help us to improve this newsletter!**

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