

PRESS RELEASE

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CRFM and PFR of New Zealand developing innovative products from Sargassum



Greenhouse trial with liquid organic fertilizer derived from Sargassum
(Photo: M. Haughton, CRFM)

Belize City, Thursday, 7 December 2023 (CRFM)—Groundbreaking work has begun in the Caribbean to produce Sargassum-derived liquid fertilizers or plant growth promoters, as well as an organic compost from processed Sargassum, for eventual incorporation into farmer and grower practices in the Caribbean. The Caribbean Regional Fisheries Mechanism (CRFM), an inter-governmental organization of the Caribbean Community (CARICOM), and Plant & Food Research, a New Zealand Crown Research Institute, are leading this initiative, under the Sargassum Products for Climate Resilience in the Caribbean Project, a multiyear project funded by the New Zealand Ministry of Foreign Affairs and Trade.

This builds on work undertaken by the CRFM since 2015, to address the persistent problem of recurring Sargassum inundations which have been plaguing the region for the past 12 years. Sargassum blooms continue to adversely affect the coastal ecosystems and economic sectors—such as fisheries and tourism—in many Caribbean countries, and clean-up efforts have been costly. Although Sargassum levels have fluctuated from year to year, the general forecast is for continued high levels of blooms and beaching of Sargassum in the foreseeable future. Climate change and nutrient enrichment of the oceans have been identified as major contributing factors to this phenomenon which has been affecting our region since 2011.



Sargassum inundation across a fishing beach in Saint Lucia
(Photo: M. Haughton, CRFM)

“Sargassum is a natural marine living resource that has been abundant in our coastal waters. It is often an unpleasant sight on our otherwise picturesque beaches, and rotting Sargassum heaps are hazardous to humans and marine life and environmental health. We must, therefore, find ways to use the Sargassum while neutralizing any potential negative effects of the heavy metals contained therein. The safe and profitable conversion of Sargassum biomass into innovative products to adapt to climate change and bolster economic resilience will also generate tangible economic and social benefits for local communities and present and future generations across the entire Caribbean,” said Milton Haughton, Executive Director of the CRFM.

The first phase of the project, which focused on testing the Sargassum to better understand how to handle and use it safely, was completed in 2022. This second phase, which commenced early 2023, focuses on product and process development. In May 2023, the CRFM concluded agreements with the University of the West Indies (UWI), Department of Biological and Chemical Sciences, Cave Hill Campus, and the Caribbean Agricultural Research and Development Institute (CARDI), which are providing technical support for joint research and surveys to advance the second phase of the project. During this phase, the project will develop and evaluate liquid fertilizers and compost from Sargassum. The hope is that this initiative will help to protect the marine environment and coastal communities, and create jobs and value-added products, while contributing towards the reduction of the region’s high import bill for fertilizers used by farmers.

There are two very important guiding principles of this project. The first is the application of the precautionary principle which ensures that when there is uncertainty and a risk of harm, we should act with care and caution, guided by the best available scientific information. The second principle encompasses the circular economy approach, which ensures total utilization of the Sargassum to eliminate waste and pollution, which is good for people, business, and the environment. The Sargassum harvested from the sea will, therefore, be used to produce fertilizer, and the residue will be utilized to generate other products such as compost and building materials—all of which will be safe and effective for their intended purposes.

UWI has assisted with the process of producing liquid fertilizers from the Sargassum. CARDI has been conducting a survey of farmers to engender a deeper understanding of how they use fertilizers and their interest in a fertilizer product from Sargassum. This knowledge will enhance strategies to promote the uptake of the Sargassum-derived products for use in the agriculture sector.

CARDI is now completing a study to evaluate the performance of the liquid fertilizers developed with the assistance of UWI on crops under greenhouse conditions. Further studies will be conducted in the field with the assistance of farmers.

Since the commencement of the Sargassum Products for Climate Resilience Project in 2020, the CRFM and Plant & Food Research of New Zealand have worked with partners in Barbados, Belize, Jamaica, and the Dominican Republic, and with specialized laboratories in the United States and New Zealand, to conduct Sargassum raw material safety testing and to review potential products that could be made from the Sargassum.

The final phase of the project, which is due to commence in 2024, will focus on the establishment of a pilot plant to produce liquid organic fertilizer, as well as on outreach and supply chain development, which would entail the dissemination of a workable model to industry stakeholders in the Caribbean. Through continued stakeholder engagement, the project will also gather feedback to guide future work, strengthen relationships with Caribbean enterprises, and develop sustainable pathways for the commercialisation of new Sargassum products.

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RESOURCES:

- **Project Brochure:**
https://www.crfm.net/images/Sargassum_Products_for_Climate_Change_in_the_Caribbean_14Oct20.pdf
- **Explainer Video:**
<https://youtu.be/vLqR08DYkOO>

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ABOUT THE CRFM:

The [Caribbean Regional Fisheries Mechanism](#) (CRFM) was officially inaugurated on 27 March 2003 in Belize City, Belize, where it is headquartered, following the signing of the Agreement Establishing the CRFM on 4 February 2002. It is an inter-governmental organization whose mission is to promote and facilitate the responsible utilization of the region's fisheries and other aquatic resources for the economic and social benefits of the current and future population of the region.



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