

## **Sheltered Farming/Hydroponics**

### **Boosting innovative and climate resilient agricultural systems across Mauritius**

The setting up of sheltered farms, in line with Government's policy to stimulate agricultural innovation and promote sustainable agriculture and local food production of fruits and vegetables, is gaining in popularity across Mauritius.

For the last two years, some 59 planters have benefitted from the sheltered farming scheme offered by the Food and Agricultural Research and Extension Institute (FAREI), for the construction of greenhouses funded to the tune of Rs 15.9 million when the grant was Rs 250,000. During these two years, FAREI which operates under the aegis of the Ministry of Agro-Industry and Food Security and is the implementing body for the sheltered farming scheme, received more than 200 applications under that scheme.

However, Budget 2022/23 makes provision for a booster plan to further encourage the production of fruits and vegetables by granting 50% up to a maximum of Rs 500,000, for the purchase of a sheltered farm for hydroponics and extending it for the purchase of a second sheltered farm. VAT exemption is also granted on the purchase thereof.

In fact, for Financial Year 2022/23, a sum of Rs 50 million has been earmarked to further encourage growers to adopt this ecological production method which reduces the use of insecticides and pesticides considerably.

Already, more than 50 applications for the Rs 500,000 grant scheme are being processed by FAREI. Beneficiaries are, amongst others, planters registered with the Small Planters Welfare Fund (SFWF), operating in the agro-industrial sector and engaged in production of high value crops/horticultural and food crops on a minimum land area of 0.5 arpent.

## **Sheltered farming in Mauritius**

Conventionally in agriculture, explains Mr A. Goolaub who is Ag. Chief Executive Officer at FAREI, farmers grow produce in open fields but, over time, climate change, pest and disease attacks, have impacted on the production in open fields.

Thus, with the introduction of sheltered farming, which is a concept whereby produce is grown in a structure, either a greenhouse with a plastic roof or in an insect proof net-house, the plants are protected from insects and bad weather, he indicates. The quality of vegetables grown under sheltered farming is also even better as compared to those cultivated in open fields, he says.

As for hydroponic greenhouse growing systems, he points out that the plants are supplied with mineral nutrients thus allowing for better production.

In Mauritius, sheltered farming started in the year 2000 with around ten greenhouses producing mostly tomato and English cucumber. Presently, there are around 60 hectares that are under hydroponic culture generating around 10,000 tons of produce annually.

## **What is hydroponics?**

Hydroponics is the cultivation of plants without using soil. The word hydroponics is derived from two Greek words: “hydro” (water) and “ponos” (labour). Hydroponic flowers, herbs, and vegetables are planted in inert growing media and supplied with nutrient-rich solutions, oxygen, and water. This system fosters rapid growth, stronger yields, and superior quality.

While fruits and vegetables grow in the ground in the traditional way, hydroponics is mainly developed in greenhouses or in closed and controlled environments.

Hydroponics requires less pesticides and herbicides, which translates into healthier food for consumption. The other advantages are savings in water and space.

Crops that are grown in hydroponics are: bean, cucumber, lettuce, melon, snow pea, sweet pepper, tomato, strawberry and ornamentals such as gerbera and rose.

## **Setting up a hydroponics system**

An area of about 400 m<sup>2</sup> is needed for a 270 m<sup>2</sup> hydroponics unit. Besides the space required for the greenhouse, the remaining land is for the pump house, the construction of a concrete platform for a water tank and a store.

It is important to meet certain conditions for the setting up of a hydroponic system including: flat or levelled land; permanent supply of water; electric power supply; skilled/trained labour.

In addition, the prospective grower should avail himself of necessary equipment and materials to start a hydroponic system including: Greenhouse structure, UV treated plastic sheet and insect proof net; Fertigation system; Hydroponics fertilisers; Growing substrates; Seeds and substrate (for seedlings production); Weighing balance - electronic and spring balance; pH meter, EC meter, thermometer and hygrometer; Water pump; Power generator in case of electric power failure; Clips, hooks and rope for plant support (trellising); Pesticides; and, Disinfectants.

Local grower, Mr Sanjay Proag from Camp de Masque Pavé, who has been cultivating the land in open fields for 20 years now and producing mainly pineapples, bananas and vegetables, has turned to sheltered farming since 2017. He employs around ten persons who work in his sheltered farm that produces tomatoes, English cucumbers, eggplants and strawberries which are all marketed locally in supermarkets around Mauritius.

Mr Proag started his project with a land surface area of 2000 m<sup>2</sup> and availed of the sheltered farming scheme when the grant was Rs 250,000. Under sheltered farming, he says, produce is grown throughout the year with less pesticide, involving less manpower and more produce is grown when compared to open fields' cultivation.

While he reckons that the initial setting up of a sheltered farming system was a bit difficult as it had required a lot of investment, he however affirms that this challenge was tackled with the support of the Ministry of Agro-Industry and Food Security through the provision of the grant of Rs 250,000. This aid, he says, brought relief in many ways especially in 2020 during the COVID-19 pandemic when several sectors had been impacted and whereby funds were meagre.

The local farmer also highlights his will of expanding his sheltered farming project in the future so as to progress and consequently to avail of the Rs 500,000 sheltered farming scheme in that endeavour.

### **Mode of application for the sheltered farming scheme**

Eligible applicants who are interested to avail of the scheme need to fill in and submit the appropriate application form together with supporting documents at the nearest sub-offices of the Food and Agricultural Research and Extension Institute (FAREI) for further process.

Relevant documents to be submitted include: copy of SFWF registration card; copy of Identity Card; copy of relevant permits, licenses authorising agricultural activities; proof of funding for the remaining amount on proposed investment; and, quotation(s) from the supplier(s).

Beneficiaries will have an obligation to sign an agreement with the Ministry of Agro-Industry and Food Security (represented by FAREI) upon approval of their respective requests for financial support.

Application forms are available at any Crop Extension Sub Offices of the FAREI across Mauritius.

Crop Extension Office Contact Number

Long Mountain Sub Office 245 5759

Solitude Sub Office 261 9216

Mapou Model Farm 266 2087

Goodlands Sub Office 282 0563

Rivière du Rempart Sub Office 412 9969

Bon Accueil Sub Office (Wednesday only) 418 9482

Flacq Model Farm 413 8125/413 4617

Beau Champ Sub Office (Mondays only) 417 6699

L'Unité Sub Office 416 9209

St Pierre Sub Office 433 9350/433 4378

Vacoas Sub Office 606 3087

Maison des Eleveurs (Henrietta) 684 1228

Wooton Sub Office 670 7453

Union Park Sub Office 677 1419

Rivière des Anguilles Model Farm 629 2554

Plaisance Demonstration Centre 637 8112

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