TECH FARMING INTERNATIONAL

‘SPOTLIGHT ON’ Oman’s Green Economy Series brought to you by

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Tech Farming International: Greening Oman's Dreams

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The Government of Oman has for a long time supported food security and food reserves by way of encouraging long-term investments in agriculture and animal farming. These investments help develop the latest technologies for Oman's agricultural sector which helps in the sustainable development of the industry without much environmental impact. Future challenges such as depleting groundwater, saltwater intrusion and other environmental changes will require investments in technology-driven agriculture farming solutions such as hydroponics which consume less water to produce more food.

In this environment, Tech Farming International finds its place in the Omani agriculture sector. Since 2019 we have worked on urban and rural agricultural projects through a comprehensive approach. As a blend of a consulting service and an independent business, we are aware of the unique factors that make up Oman's modern agricultural sector.

About Tech Farming International

Tech Farming International was established in 2019 to help consult businesses in the best farming practices. We champion sustainable farming, hydroponic greenhouses, aquaponics and manage agricultural inputs including essential farming equipment. Our specialists have extensive farming experience in commercial as well as hydroponic greenhouse technologies across the region.

Our particular knowledge of Oman comes from our team that has worked in leading commercial high-tech farms and hydroponic greenhouse companies in the Sultanate of Oman for many years. We have become acquainted with almost every variation of climatic condition, crop, business plan, and technology manufacturers present in the region. Understanding the modern approaches to agricultural production and development is essential in the modern world generally, and in Oman particularly as continues its economic diversification Oman Vision 2040.

Sustainable Farming- A Holistic approach

Chief among the goals set in the Environment and Natural Resources section of Oman Vision 2040 is the need for sustainable agricultural development. In farming, the idea of sustainability rests on an understanding that each farm is a system, and that changes to one component of the farm affect the others. Sustainable practices can be adopted in every aspect of a farm's operations from pest management, soil preservation, and business development. This includes enhancing and preserving natural resources the farm depends upon, making the most of renewable resources, providing long-term stability for food production and farm viability, as well as looking out for the quality of life of farmers and the wider society. In short, sustainable agriculture is ecologically sound and recognises that we must preserve the resource base that sustains us all.

Hydroponic Greenhouses

One form of farming that is growing in Oman is hydroponic greenhouses. Hydroponics is a method of growing plants in a water-based, nutrient-rich solution. Hydroponics does not use soil, instead, the root system is supported using an inert medium such as perlite, rock wool, clay pellets, peat moss, or vermiculite. The basic premise behind hydroponics is to allow the plants' roots to come in direct contact with the nutrient solution, while also having access to oxygen, which is essential for proper growth.

Hydroponics is an excellent choice for all types of growers. It is a great choice because it gives growers the ability to meticulously control the variables that affect how well the plants grow. A fine-tuned hydroponic system can easily surpass a soil-based system in plant quality and amount of produce yielded.

Farm Tech Consultancy has a long experience in designing greenhouses for the cultivation of crops in soilless conditions across Oman. In some cases, this meant simply adapting or expanding facilities farms in Oman already had, and other times this means working from scratch to create a new sustainable farm. Across our many years of experience, we have seen the vast progress the region and Oman's agriculture sector has achieved in this, and we continue to look to add to this continually expanding field.

What is Aquaponics?

Aquaponics is a sustainable method of raising both fish and vegetables. It is popular with individuals, entrepreneurs, educators, missions and governments. Furthermore, with this type of indoor farming, you grow substantially more food with less water, land and labour than traditional agriculture. Aquaponics is a form of agriculture that combines raising fish in tanks (recirculating aquaculture) with soilless plant culture (hydroponics). In aquaponics, the nutrient-rich water from raising fish provides a natural fertilizer for the plants and the plants help to purify the water for the fish. Aquaponics can be used to sustainably raise fresh fish and vegetables for a family, to feed a village or to generate profit in a commercial farming venture, year-round, in any climate.

Aquaponics is a great example of year-round, indoor farming. It can be done anywhere, providing fresh local food that is free of pesticides, herbicides and chemical fertilizers. Since aquaponics shares a fundamental similarity with hydroponics, the fact that it is soilless, the benefits are quite similar. However, the unique aspect of Aquaponics is that the fish provide the nutrient food for the plants. But, similar to hydroponics as a method it uses less water than traditional soil cultivation, it is efficient and sustainable and can be grown in any climate at any time of year.

In Oman aquaponics are being used to produce a wide variety of produce: tomatoes, long beans, okra, basil, spinach, melon, and kale have all been produced through the technique not mentioning the fish that are part of the process. It is an exciting new field of agricultural development that many customers are turning to, and we are thrilled to be a part of it, and so many other sustainable farming methods, at Tech Farming International.