



KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Perunthalsivier Kamarajar"

Hydroponic Farming

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Why is in news? Adoption of Hydroponic farming

Hydroponics is a **viable alternative to traditional farming methods for soil less cultivation** for enhancing productivity and water use efficiency.

Hydroponics is a new concept in India and gaining popularity among entrepreneurs and innovative farmers, who are looking for sustainable and efficient ways to grow crops.

At present, this technology is **mostly confined to urban farming, rooftop gardening and commercial farming**.

ICAR-Indian Institute of Horticulture Research, Bengaluru (IIHR) has developed a variant of hydroponics, **"Cocoponics" or the Soilless production of vegetables**, using cocopeat as a substrate, which has been found to be comparatively more successful in many vegetable crops

The Institute has developed the complete production technology including a liquid nutrient formulation (Arka Sasya Poshak Ras) for soilless cultivation of zucchini, colour cabbage, chilli, brinjal, palak, amaranthus, coriander, cucumber, french bean, peas, cow pea, dolichos, ridge gourd, bottle gourd, okra, radish, tomato and exotic leafy vegetables viz., lettuce, parsley, broccoli, bok choy etc on arka fermented cocopeat (substrate) under open as well as in protected conditions.

More than 3000 urban dwellers, cocopeat producers, hydroponics start up etc., were trained at ICAR-IIHR during last 3 years through various capacity building programmes.

About the Hydroponics:

Hydroponics is a method of **growing plants in a water-based, nutrient-rich solution**.

The roots are suspended in a **purified water system** that is enriched with nutrients.

Instead of using soil, the root system is supported using an inert medium such as **perlite, Rockwool, clay pellets, peat moss, or vermiculite**.

Hydroponic Farming Farms can be set up in a space as **small as a cubicle-sized room fitted with a tech support** system that creates an **artificial environment** conducive for growth.

These hi-tech, sustainable farms, operate on the science and principles of hydroponic farming — a **soil-free farming technique**.

Hydroponics allows the plants' roots to come in direct contact with the nutrient solution while also having access to oxygen, essential for proper growth.

In hydroponic farming, plants grow naturally, drawing nutrients out of reservoirs filled with nutrient-rich and water-based solutions, under optimal positioning of lights and regulated temperature conditions.

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