

Field To Fortune

A Farmer's Path to Prosperity

1. Dinesh .K

Palar Agriculture collage, TNAU, Kothamarikuppam, Melpatti, Vellore-635805, Tamil Nadu, India

Received: November, 2024; Accepted: December, 2024; Published: January, 2025

Abstract

This content will be showcasing innovative farming practices from various farmers across Tamil Nadu. These farmers are leading the way with new techniques and ideas, inspiring others to pursue agriculture as a profitable profession.

Through their years of experience and creative approaches, we'll also see how non-agriculture professionals are contributing to the field. This collection will motivate you to explore farming and its potential.

Mr. Ranjit Kumar. R

Ranjit Kumar with 120 Farmers in Pollachi, Coimbatore District. Forms a Nutmeg **Farmer Producer Company (FPC)** to collectively sell their produce directly to consumer. After pursuing higher education in Nanotechnology from Cambridge University, Ranjit worked in Bengaluru for two years. He returned to his village in 2017.

He had to look after the 60acre farmland of his family, He was growing 10 acres of Nutmeg. Compared to Coconut, Nutmeg has known for its dual yield of Nutmeg and Mace.

Ranjit understood that so many intermediaries are involving in the selling process, and the Farmers couldn't know the exact market price of their product. He understood that just by cutting these intermediaries they will generate a good income. He Started to reaching out to likeminded farmers to stream line the supply chain process and establish direct contact with exporters.

He organized a series of Training programmes and field visit to Institutions such as the ICAR (Indian Council of Agricultural Research) IISR (Indian Institute of Spices Research) to understand the scientific cultivation methods,



quality standards, suitable var., soil testing and post-harvesting practices.

FPC practices to segregate the first-grade material for direct export, and selling second-grade to local traders for Oil Extraction. The FPC also introduced financial transparency by establishing a dedicated bank account for all transaction to enhance accountability and trust. It also aims to utilize the Nutmeg byproduct as value added product by making Jam, Jellies and pickles by their fruits. The FPC had made the 120 small peasant Farmers who lacked

traceability and didn't know where their produce has been sold, now they are exporting their commodities far off places in Australia, Canada, France.

Dr. Kandasami Saravanan

Dr. Kandasami Saravanan Somankottai village, Tiruppur district, 2017, he took the bold step of resigning from his prestigious position at the Tamil Nadu Agriculture University, where he had worked as a soil scientist for about seven years.

He has cultivated Moringa on four acres of his land. Departing from conventional practices of waiting for the trees to bear Drumsticks, he turned to harvest quickly the leaves instead. For leaf production a bigger spacing is not required as it is there for Drumstick production. The leaves are harvested before flowering phase to arrest the quality of the leaves. Six times harvesting at 50-60 days intervals which is like year around production.

He uses no-till cultivation to grow the moringa leaves. Additionally, he has also installed drip irrigation to ensure crops are grown without any wastage. To maximise production and suppress weed growth, he uses a new technique called bundle mulching, where crop residues, such as dry leaves are stacked along the crop rows to suppress weed growth, it controlled the weed growth for six to eight months. More importantly, it improves the soil quality by making it more porous and allowing roots to grow easily.

For drumsticks, farmers earn between ₹100 and ₹150 per kg. But during peak production, the price reduces to as low as Rs 5 per kg. He earns

Mr. Manimozhi Selvan & CO.

They are Engineering Students of Sona College of Technology in Salem District. They found a method which convert the Hard water into soft water which eventually helps to increase the yield and decrease the water consumption. They say that water molecules have minerals bonded with it. The large size of these minerals may make them difficult for plants to absorb but magnetizing the water molecule breaks the structure and forms it into a smaller hexagonal structure.

The magnetized water makes it easy for absorption by plants, and the breaking down process eliminates hard elements like

Annually, the Farmers are able to generate a business of ₹3crore by the FPC, it helped to boost their income. Earlier ₹300/kg had been sold to the middlemen. Now it is about ₹470/kg.



a net profit of up to Rs 40,000 every month. He says, "By investing Rs 1 lakh per acre, farmers can fetch up to Rs 1.25 lakh annually just by selling their leaves. If they venture into value addition, they can earn up to Rs 2.5 lakh to double the profits". With just Moringa leaves, Dr Saravanan has set up a profitable venture by processing them into value-added products such as moringa podi, leaf soup, and powder. Selling at over Rs 800/ kg, the former soil scientist has successfully tapped into an international market base in the USA, Canada, Europe, and several Gulf countries.



Magnesium and Chloride. Minerals like iron, Potassium and nitrogen also get added; due to the alteration the water quality improves.

The reduced salts increase the germination capacity of the soil, thus more pods/plants. This method eventually reduces the water requirement of plants and increases the yield.

The students had experimented with the paddy and other flower plants which gives a result of 800 litres consumed by water which was underwent magnetic process. The untreated groundwater consumed 1,200 litres.

R. Malathy, a professor in the Civil Engineering dept. says that this process could help to improve the quality of water of Agriculture. Students used Permag neodymium (N406, a rare earth material) with a specific strength to treat the water. This technology helps us to know the mineral levels in the water before and

after the process. By knowing the properties of minerals and its content in water allows the magnetic power to be increased or decreased. It also gives an idea about the time that the water needs to be exposed to the magnetic field. Every crop requires different proportion of minerals from water. The device is cylindrical to put around the water pipe. The smartphone application can help to control the parameters. The components in the device last for Ten years with Zero Maintenance Cost. The team is currently working on Corn, Paddy and turmeric. Few Farmers have start to use this Technology. This project won an Award at Smart India Hackathon 2020. The team working to develop a device for large scale Plantations.

Mr. Saravanan. P

P. Saravanan has been farming in Ariyagoundampatti village, Namakkal, District. Government introduced the micro-irrigation scheme in 2005-06, under which subsidies were provided for drip and sprinkler irrigation. 2007, this Farmer had moved to drip irrigation on his 6 acre and 36 cents (1 acre is 100 cents) land on which he cultivates turmeric, groundnuts, and vegetables. He also practices integrated farming, a sustainable agricultural system where crops, livestock, aquaculture, poultry are managed together.

After he started drip irrigation, he got his soil tested. The test indicated that the soil was not healthy, and had rising pH levels and was getting spoilt. This was the same time when his turmeric crop was affected by diseases. KVK suggested some bio-fertilizers to salvage the turmeric crop, and it worked. They also suggested that the only way to preserve the soil and prevent further damage was by moving to organic farming,”

2011, KVK Namakkal conducted a demonstration of soilless Hydroponic Farming for Maize. The unit costs about Rs 20,000. 2018, Aavin the dairy co-operative in Namakkal, gave a hydroponics unit to Saravanan. Hydroponics is a technique of growing plants without soil and very little water. It uses a water-based solution and produces fodder, cereals and pulses on a small-scale level. Saravanan explains that by planting 500 gm of maize, he gets 4.5-5 kg of maize



fodder in a matter of 8 days. He keeps the trays in cupboard as it should be avoided from sunlight. Since it grows in 8 days, he gets a sufficient yield in a month.

Saravanan explains the steps to grow maize fodder using a hydroponics unit:

- Wash and soak the grains for 24 hours.
- Tie the seeds in a gunny bag and keep it in water for 24 hours.
- Transfer the sprouted seeds to a tray and spread it out.
- Keep it in the cupboard & irrigate it once every three hours, either manually or using a sprinkler with a timer for 7 days. The yield will be ready on the 8th day.

In 2018, he received the Haldhar Organic farmer award from the Indian Council of Agricultural Research along with the ‘Innovative farmer award’ from the Central government.

Mr. Rajarathnam. S

Rajarathnam a farmer from Mettupalayam in Coimbatore district has mastered a low-cost and unique Leaf-Culture technique which uses a leaf to grow a plant. In 2010, He went to a five-day tissue culture course at TNAU. He was inspired and planned to set a Commercial Tissue Culture Centre, but the cost was high. He made it low-cost by using leaves of the Plant instead of shoot tip cuttings and other tissues. He focused on simplifying the methods to keep it low cost so small and marginal farmers also get benefitted. Leaf-Culture can cut down input costs in Agriculture, because of no need to depend on seeds to multiply their crops. This technique assures genetic purity of what they grow. After several trial&error he found the ideal temperature could be 30° (+ or -2) RH should be maintained at 70% for leaf to survive and inducing roots. First for Root-inducing chemical hormone used later it changed to Tender Coconut Water.



Producing of Clonal Plantlets and seedling by this method has been a profitable in his 6acre land. The first batch of sp. was Gundumalli and Ixora. Then he propagated several sp. including J.multiflorum, J. nitidum, Crossandra, Guava, Jamun, Noni, Betel leaves etc.

Steps for Leaf-Culturing by Rajarathnam :-

- Pluck the leaf of the selected Plant. Treat the leaf with tender coconut water for 30 mins. Then leaf are placed in the pockets of a tunnel Mist Chamber(₹20k-₹30k) its had a capacity of 3000 individual pockets.
- The leaves in the individual pockets of the chamber are covered air-tight with polythene sheets. The tunnel mist chamber is then fitted with an eight mm frame and placed under a shade net.
- Every five days, the polythene sheet is removed to monitor the moisture level in the individual pocket. Based on the water requirement the water is sprayed. Rooting take place in a matter 4-5 weeks. Another

4-5 weeks, the sapling grows in height but this depends on the var. we planted.

- Once this stage has been arrived the polythene sheet is removed and the pockets with saplings are moved to the sunlight.
- Once it is hardened it is good to go to the main fields.

Rajarathnam is now trying out this technology which multiply major food crop, endangered sp., rare medicinal plants. He received support from Dr. Murugesan, Director, DABD (Directorate of Agri-Business Development) TNAU in promoting Nursery Garden and the leaf Culture Technology. He also been sanctioned a grant of ₹6.25 lakhs for leaf culture by MSME (Ministry of Micro, Small and Medium Enterprises, Govt. of India. Rajarathnam was Honoured with the Chinnikrishnan Innovation Award in 2019. He also trained more than thousands of Farmers, Entrepreneurs, Self-Help group, and Students in the technique completely free of cost (act of Service).

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