

MULTISTORY FARMING: A PROFITABLE FARMING

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ARTICLE ID: 70

Abstract:

The global society is facing the food-insecurity and climate change like huge & complex challenges. The alarming population growth rate significantly affects the dimension and complexity of these issues. India is the second-most populous country in the world and producing and providing access to safe food for such a large population is an arduous job. From an agricultural scientific point of view, the article tries to emphasise the traditional and modern multistory farming practices to contribute to food security. Besides, this is more promising in production and optimum utilization of natural resources, and the farmer community can get benefitted through this too.

Introduction:

Multistory farming, also known as Multitiered/ Multilevel cropping is a farming system for growing the different heights of crops at the same time on the same piece of land with higher density, aims to increase the efficiency of the available resources like land, water and agriculture inputs, eventually to increase the overall productivity. Multistory farming is based on the annidation principle and utilizes the available vertical space more efficiently through spreading their canopies in air and roots in soils. A widely adopted example of such type farming is the combination of the following Coconut + Black pepper + Pineapple + Grass.

Why Multistory farming is a profitable farming system?

- i. In this farming, system grower can take the number of different crops in a particular time by using the same land and resources.
- ii. Multistory farming is a one-time investment farming process including less space, minimum investment with minimal requirement of other resources.
- iii. In absence of land, it can be done on the roof terrace and kitchen garden by which we get fresh and different types of fruits, vegetables for daily home consumptions like Okra + Radish + Cluster Bean + Beetroot.

- iv. Growing multistory crops with Orchard and Plantation crop is very effective because it utilizes the available space very effectively and gives us economically high benefits as compared to conventional farming.
Some examples are -
 - a. Coconut + Jackfruit + Coffee + Papaya + Pineapple
 - b. Papaya / Banana + Ginger + Colocasia
 - c. Mango + Gauva + Cowpea.
- v. Grower can take a combination of four to five crops simultaneously in the multistory farming system so it is a day to day income-generating process by which growers gets maximum production and profit from their crops.
- vi. Multistory farming, cost of cultivation is much lower and profit is much higher than as compared to another farming system so it is a good option to the small and marginal farmer.
- vii. In multistory farming four to five crops cultivated if one or two crops destroy by any sudden biotic and abiotic factors then also grower can take profit from the remaining crops and nowadays, climatic changes affect crop production very badly so multistory farming gives better yield and profit in some adverse conditions also.
- viii. Taller plants stop high-velocity wind and work as a wind barrier for short height plants and these short height plants spread their leaves in the soil so it protects the soil from erosion and prevents the water evaporation process.
- ix. The multistory farming system has a great impact on biodiversity it protects biodiversity and provides shelters to beneficial insects, birds etc. so it maintains the ecological balance.

Precautions should be adopted during the multistory farming system:

- Multistory farming system plants should be grown in such a way that each plant utilizes maximum resources so in different level of tiers the partial shade-loving crops placed in first-tier which have short height and the taller plants which have foliage tolerant of strong lights and high evaporative demands are growing in the final tier.
- Selection of short duration, photoperiod insensitive crops because these crops do not find any difficulties and easily grows between different levels of tiers.
- Crops should be grown in such a way that they do not show Allelopathic effects between them otherwise Allelo – chemicals exude by one crops species will drastically reduce the germination and growth of another crop.
Selection of different crops done in such a way that they do not have competition with other crops.
- Spacing between different layers of crops should be maintained scientifically so that proper shade and sunlight should be available to each part of the plants.



- Proper manure and fertilizers dose should be given to that particular crops because heavy doses may reduce the yield of crops and also causes diseases and disorders in them.
- Irrigation and drainage facilities should be available in the field.
- Harvesting and other farming operations should be done from time to time.

Conclusion:

In conclusion, multistory farming has huge potential to combat the food insecurity issues and also to augment the farmer livelihood basket. Many farmers are practising in a different part of the country but still, it has not been utilized optimally. Farmers can easily go with multistory farming with little training and can get benefitted economically.

