



A Possibility for Sustainable Agriculture: Mixed Farming

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Agriculture is a key component of India's economy. Since majority individuals chose agriculture as their primary source of income, it serves as the country's principal economic engine. However, this source of income is in jeopardy as a result of agriculture's increased risk associated with harsh climate change and uncertain agricultural markets. In India, there are several issues affecting each specific sub-sector of agriculture, including horticulture, livestock and fisheries. One solution to these issues is the mixed farming system, which increases production while also giving farm owners better financial returns.

What is mixed farming?

Mixed farming is a type of farming which involves both the growing of mixed farming crops and raising of livestock. It is an integration of two or more independent agricultural practices. It will be an agricultural event by which farmers engage in various agricultural practices jointly, such as raising cash crops and cattle, in order to increase income from variety of sources and to concurrent labour and land demands throughout the year. Crop-livestock, crop- forestry, crop-horticulture fish-pig, fish-duck production are the forms of mixed farming.

Benefits of mixed farming

- The productivity of land will increase as long as crops and cattle are produced continuously.
- The fields in this kind of farming are never untended. They would continuously produce one or more crops.

- When crop cultivation and animal husbandry are combined, the crop will provide the animals with food, and in exchange, the animal waste can be used as manure for crops.
- There would be less need for input because recycling of waste produced by plants and animals is used inside.
- In mixed farming, one type of farming can support the other, lowering cultivation costs.

Disadvantages of mixed farming

- In comparison to monoculture farming, this method requires more maintenance. This is due to fact that mixed farming involves a greater variety of operations. It is challenging to monitor and maintain agriculture.
- Additionally, there is a potential that an error in one crop will impact the other.
- As there are numerous actions involved in mixed farming, the farmer needs to be fully aware of all of them.
- The primary disadvantage of mixed farming is the crop that can only be grown there. Commercial production of one crop will be challenging if other crops are cultivated because of limited available space.

Methods of mixed farming system

There are various methods to categories mixed farming systems

Co-cultivation farming

Co- cultivation farming is the practice of growing one crop alongside another crop in a way that does not negatively affect ei-

ther crop but rather works to the benefit of both. These procedures reduce the possibility of single crop failing and provide protection against crop failure brought on by unfavourable weather. Crops should be cultivated together, one tall and one dwarf. Nutrient requirements for one crop should be lower than those for other crops. While some crops need deep roots, others need shallow ones. Farmers utilise the following combinations of crops:

- Maize + potato
- Cotton + Moong bean
- Groundnut + Sunflower
- Barley + Chickpea

Agricultural crops with garden system

It is a technique in which any type of agricultural produce can be cultivated in the fertile area that is adjacent to the gardens or fruit trees.

Agricultural with forestry system

In this approach, agricultural crops and forestry plants are both grown side by side. In several location, trees are grown all around field crop bunds that are harvested.

Fish with pig farming

In this approach, farmers can raise fish while also raising pigs. Typically, 30-40 pigs generate enough manure for one hectare of pond's fish to be raised.

Farm Pond System

In this method, rainwater is either absorbed into the ground, transformed into a drain, or washed away. To store rainwater, a small pond can be built, and fish can be raised there. In this approach, compared to a single farming method, farmers make more money from the pond with vegetable frames.

Fish with duck farming

In this, 250-300 hundred ducks are sufficient to cover 1 hectare spread area with duck dung. In addition to fish, the fish with duck farming system also produces meat and eggs. Compared to a single system, it produces more food and benefits the farmer.

Characteristics of mixed farming

- The finished mixed farming is intended for animal sustaining, personal use and market sale.

- Crop rotation is practiced in mixed farming to preserve the soil's fertility.
- In mixed farming, organic fertilizers are applied extensively.
- A mixed farming system is beneficial for lowering production costs per unit area, raising income, and lowering farmer risk.

Conclusion

For farming to remain sustainable in the future, mixed farming is crucial. The ability to integrate grazing land or green manure into the system is essential for improving the soil and increasing farm productivity. Basically, adding up cattle indicates that a return on investment is made right away. Farmers will depend more and more on outside advice as they battle to maintain the proper level of balance in these systems. This will not only come in the form of agricultural advice but involving taking lessons from other farmer groups and subject-matter experts.