Available online at www.agrifarming.org

DOI: http://dx.doi.org/10.18782/2582-7146.232

ISSN: 2582 – 7146

Curr. Rese. Agri. Far. (2024) *5*(5), 6-9

Review Article

Current Research in Agriculture and Farming

Peer-Reviewed, Refereed, Open Access Journal

Integrated Farming System: An Introduction

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Received: 19.08.2024 | Revised: 29.09.2024 | Accepted: 11.10.2024

ABSTRACT

The Integrated Farming System (IFS) is an environmentally friendly method where the loss of one enterprise becomes integral, thereby making efficient use of agricultural resources. IFS is a mixed farming system consisting of at least two separate but equally dependent parts of plant and animal business. . IFS helps improve soil health, kill weeds and pests, increase water efficiency and maintain water quality. In an integrated agriculture program, the use of hazardous chemical fertilizers, herbicides and pesticides should be minimized and should ensure the protection of the environment from adverse effects. The integrated agriculture program improves the economic situation of small farmers, improves education, health and social obligations and improves livelihood security. IFS approaches the use of chemicals (fertilizers and pesticides), it can be limited to providing healthy non-chemical foods in the community.

Keywords: *Integrated farming system, fertilizers, pesticides, arable land, pollen.*

INTRODUCTION

According to the 2008 Economic Survey of India, the growth rate of grain production fell to 1.2% between1990-2007, which is 1.9% less than the population growth rate. It is estimated that the population in our country will reach 1370 million by 2030 and will reach 1600 million by 2050. To meet future demand, we need to produce 289 grains and 349 mt at the right times. The current situation in the country suggests that arable land may be decreasing and more than 20% of the current planting area will be converted to non-agricultural purposes by 2030 (Gill et al., 2005).

In India, declining farm size rates and financial challenges with high investment in agriculture due to 80% of farming families belonging to the small and medium farmer categories add to this challenge. In order to achieve nutritious food and food security for more people, improving production can be an important solution. This includes the adoption of agricultural scientific practices and technologies that form an agreement to increase the productivity of traditional farming systems.

Cite this article: Banga, R. S., Singh, G., Singh, R., Kumar, A., Alam, M. A., Singh, T., Singh, L., & Singh, G. (2024). Integrated Farming System: An Introduction, *Curr. Rese. Agri. Far. 5*(5), 6-9. doi: http://dx.doi.org/10.18782/2582-7146.232

Agricultural practices such as the approval of fertilizers and pesticides during the 20th century greatly improved productivity, but adverse environmental degradation coupled with rising operational costs in agriculture raised concerns about economic viability and sustainability (IAASTD, 2009 & FAO, 2010). In the past, animals were used for direct feeding or to provide other services such as energy (aquatic animals) or transport (horses) in integrated farming systems. In addition, animals were hired indirectly to provide services such as weed and pest control, fertilization or pollination; or foods such as milk, eggs or honey. Animals have also been a source of products such as compost or hides that can be directly sold or converted into value-added products and return money to the business (Devendra & Thomas, 2002). million families of small farm owners. Scaling up agricultural production systems for sustainable and high economic recovery is a critical process for increasing incomes, food security and nutrition in developing countries (Ravallion, 2007). IFS is an integrated and efficient farm solution to the problems of small and medium farmers. The objective of IFS is to increase the employment and income of smallholder farmers by consolidating various agricultural enterprises and revitalizing crop residues and farm products. Farmers have to settle on a standard income to live at least below the poverty line. To meet the challenges posed by the current economic, political and technological situation, progress in production or continuous growth of products is necessary. In this case, agriculture is one of the most important solutions to deal with this unusual situation, because in this way, various enterprises can be carefully created and, based on available resources, spatial plans are drawn up that will lead to further development (Dashora & Hari., 2014)

Therefore IFS is a multidisciplinary whole farm approach and very effective in solving the problems of small and marginal farmers. The approach aims at increasing income and employment from small-holding by integrating various farm enterprises and recycling crop residues and by products within the farm itself. The farmers need to be assured of regular income for living at least above poverty line. The progress in production or steady growth in output is necessary to face the challenges posed by present economic, political and technological environment. In this context, farming system approach is one of the important solutions to face this peculiar situation as in this approach the different enterprises can be carefully undertaken and the location specific systems are developed based on available resources which will result into sustainable development.

Objectives of the integrated agricultural plan

The four main objectives of the IFS are:

1. Increasing the revenues of all participating businesses in order to ensure a stable and sustainable income.
2. Revitalization / improvement of the production system and the achievement of agricultural and environmental justice.
3. Avoid pests, diseases and weeds by controlling the natural planting system and keeping them low.
4. Reduce the use of chemicals (fertilizers and pesticides) to ensure a healthy chemical and environmental product (Manjunatha, 2014)

IFS components

IFS components include -

A. Agriculture - agriculture, forestry, dairying, fish breeding, duck breeding.

B. Mushroom farming - Sericulture, Azolla farming, Kitchen gardening, Fodder production, Child care center.

C. Seeds - Production - Vermiculture, Pigeon breeding, Poultry house, Goat breeding, Poultry.

D. Sheep-pig farming, rabbit farming, value addition (Lal et al., 2018).

A unique integrated approach to small farms is a growing trend in aquaponics. Often associated with greenhouse or other controlled ecosystems, aquaponics is a combination of aquaculture and hydroponic production. In this type of production system, nutrients found in fish waste, tilapia, the most abundant fish species, are also systematically distributed and

used by plants to meet their nutritional needs. Typically, large numbers of fish are reared in small volumes of water to allow concentration of non-toxic nutrients (Rakocy et al., 2006).

Advantages of IFS

IFS is more profitable than what farmers can produce more through resource efficiency and waste recycling and family work. It is useful in any investigation as it not only provides an overview of work done in the past but also provides a basis for interpreting and discussing the findings of future research (Sasikala et al., 2015). (Let me tell you about it. (Singh et al., 1993 & Singh et al., 1997) noted that the consolidation of multinational corporations tends to be more profitable than conventional agriculture alone and creates more employment opportunities. (Rangasamy et al., 1996) describes the combination of poultry, mushrooms and fish with rice cultivation over five years, which increases the income of farms and farm workers compared to a general rice cultivation system, and a comparative analysis suggests that the diversity and growth of rice. to be productive, profitable and manageable.

CONCLUSION

Although the Green Revolution transformed India from a food retailer to a food exporting country, independent agriculture became a major concern in this transition. This, among other things, led to a lack of soil nutrients and increased use of chemical fertilizers needed to boost agriculture. IFS mimic the natural environment at least to some extent. The diversity and interdependence between different and integrated agricultural practices leads to the problem of internet catering. In addition to the ecological balance, IFS has a significant impact on society in terms of food and nutrition and job creation. Above all, it increases the profitability and productivity of small farmers. Therefore, integrated farming systems will contribute significantly integrated farming systems offer unique opportunities for maintaining and extending biodiversity. The emphasis in such systems is on optimizing resource utilization rather than maximization of individual elements in the system. The wellbeing of poor farmers can be improved by bringing together the experiences and efforts of farmers, scientists, researchers, and students in different countries with similar eco-sociological circumstances i.e. through Integrated Farming System to the sustainability of agriculture and the vision of doubling farmers' profits.

Acknowledgement:

I would like to sincerely thank my co-authors for their support and kind gesture to complete this manuscript in time.

Funding: NIL.

Conflict of Interest:

There is no such evidence of conflict of interest.

Author Contribution

All authors have participated in critically revising of the entire manuscript and approval of the final manuscript.

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