KNOWLEDGE LEVEL OF ECO-FRIENDLY AGRICULTURAL PRACTICES IN COCONUT FARMERS IN TIRUNELVELI DISTRICT OF TAMILNADU

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Abstract

Eco-friendly agricultural practices are unique to a given culture or society, this knowledge aids for sustainable agriculture development. It is dynamic; it changes through creativity and innovativeness as well as through contact with other systems. Agriculture is considered as the backbone of India. In many countries of the world, great emphasis is being given in recent years for the development of eco-friendly and sustainable agriculture aiming for a sustainable environment. This study was conducted to analyze the knowledge level of eco-friendly agriculture practice in coconut cultivation in Tirunelveli district of Tamilnadu. Three hundred farmers were identified based on the proportionate random sampling method and data was subjected to statistical analysis like percentage analysis. About fifteen eco-friendly practices associated with coconut cultivation like coconut trashes are burnt, treating the seeds with azospirillum, and selecting sets with shorter internodes were identified. Majority of the respondents have more knowledge in identified eco-friendly agricultural practices of coconut cultivation.

Key words: Sustainable agriculture, eco-friendly agricultural practices, environmental sustainability, coconut cultivation, etc.

1. Introduction

An eco-friendly technology refers to the use of knowledge and resources systematic way to produce desired outputs without harming the environment (Reijntjes, et al. 1992). In a population rich but otherwise poor country like India, enduring food security will depend greatly on strategies to enhance crop yields. Rapid progress in economic, technical and demographic conditions brought in increasingly rapid changes in the small holder farming system. The strength of sustainable farming lies in its regional orientation and farm level sufficient and output efficiency. It means sustainable farming offers way to make a living and responsible way to produce sufficient food (Berman, 1990) eco-friendly agricultural products provide lucrative business in the world market. In this study, an attempt is made to analyze the awareness of eco-friendly agricultural practices in coconut cultivation.

2. Methodology

Tirunelveli district of Tamilnadu is selected for the study. A sample size of 300 farmers was selected based on the proportionate random sampling from the 11 taluks. In each taluk, four villages were selected and the data are collected by using well-structured interview schedule. The data were subjected to percentage analysis and the results are reported.

3. Findings

Extent of knowledge of eco-friendly agricultural practices in coconut cultivation is presented in Table 1.

TABLE 1

Extent of Knowledge of Eco-friendly Agricultural Practices in Coconut Cultivation

S.No.	Eco-friendly Agricultural Practices	Frequency	Percentage
1.	For coconut planting, pits are dug and filled with wild indigo (*Tephrosia purpurea*) and allowed to decompose for six months.	215	71.66
2.	Application of 10-15 kg of FYM per tree every year.	210	70.00
3.	Coir waste is applied as mulch around the tree to minimize water evaporation.	209	69.66
4.	Mulching by burying of coconut husks around the tree to conserve moisture and control weeds.	194	64.33
5.	Setting up light traps following the first rains in summer and monsoon period to attract and kill rhinocerous beetles.	186	62.00
6.	Picking rhinocerous beetles from the coconut tree with the help of the needle.	185	61.66
7.	Pasting the hole with 2:1 mixture of tar and kerosene to control trunk borer.	169	56.33
8.	To control termite, the coconut garden is flooded with water, so that the termites are washed off.	159	53.00
9.	Growing poultry birds in coconut garden to feed on termites.	155	51.66
10.	Using castor cake 1kg in 5 liters of water in small mud pots and keeps them in coconut garden to attract and kill the adults of rhinocerous beetles.	148	49.33
11.	Application of mixture of neem seed kernal powder and sand 1:2 ratio @ 150gm/tree applied in the base of the 3 inner most crown leaves to control rhinocerous beetles damage.	147	49.00
12.	To control stem weevil in coconut, the bored hole is cleaned and plugged after putting common salt.	120	40.00
13.	To control stem bleeding, the bleeding mouth on the trunk is cut to certain extent, cleaned and poured with lime solution.	116	38.66

14.	Castor seeds are ground and boiled in mud pots till a thick gum of oil floats on surface and pots are kept at orchards. Rhinoceros beetles are attracted by the smell and trapped and get killed in the oil extract.	113	37.66
15.	Cultivating sesbania / leucaena on the sides of beds to provide shade to the nursery bed.	105	35.00

It could be observed from Table 1 that that more than three-fifth of the respondents had the knowledge about the following practices:

For coconut planting, pits are dug and filled with wild indigo (*Tephrosia purpurea*) and allowed to decompose for six months (71.66 per cent), application of 10-15 kg of FYM per tree every year (70per cent), coir waste is applied as mulch around the tree to minimize water evaporation (69.66 per cent), mulching by burying of coconut husks around the tree to conserve moisture and control weeds (64.33 per cent), setting up light traps following the first rains in summer and monsoon period to attract and kill rhinocerous beetles (62 per cent) and picking rhinocerous beetles from the coconut tree with the help of the needle (61.66 per cent).

Slightly more than half of the respondents were known the following practices: pasting the hole with 2:1 mixture of tar and kerosene to control trunk borer (56.33 per cent). The coconut garden is flooded with water, so that the termites are washed off (53 per cent) and growing poultry birds in coconut garden to feed on termites (51.66 per cent). About 40-50 per cent of the respondents following practices: castor cake 1kg in 5 liters of water in small mud pots are kept in coconut garden to attract and kill the adults of rhinocerous beetles (49.33 per cent), application of mixture of neem seed kernal powder and sand 1:2 ratio @ 150gm/tree applied in the base of the 3 inner most leaves to control rhinocerous beetles damage (49 per cent).

More than one-third of the respondents have knowledge about the following practices: to control stem weevil in coconut, the bored hole is cleaned and plugged after putting common salt (40 per cent), to control stem bleeding, the bleeding mouth on the trunk is cut to certain extent, cleaned and poured with lime solution (38.66 per cent), castor seeds are ground and boiled in mud pots till a thick gum of oil floats on surface and pots kept at orchards. Rhinoceros beetles are attracted by the smell and trapped and get killed in the oil extract (37.66 per cent) and cultivating sesbania / leucaena on the sides of beds to provide shade to the nursery bed. Thus, many of the eco-friendly agricultural practices associated with coconut cultivation were known by many of the respondents in the study area.

4. Conclusion

At present, eco-friendly agricultural practices are recommended world over to attain sustainable agricultural development. In the study knowledge of farmers on eco-friendly agricultural practices is comparatively less. Hence, efforts may be made to teach the farmers about the significance of eco-friendly agricultural practices and to encourage them to adopt these practices for attaining sustainable agricultural development.

5. Reference

Berman, H. (1990). No Sustainability without External Inputs. *Proceedings of Sub Saharan Africa, Africa Seminar,* Maastricht, The Netherlands, 24-134.

Reijntjes, C., Haverkort, B., & Waters Bayer, A. (1992). *Farming for the Future -An Introduction to Low-External Input and Sustainable Agriculture*. London: Mac Millan Press Limited.