

Extent of awareness of indigenous plant protection practices

I. ISAAC DEVANAND AND K. KANAGA SABAPATHI

See end of the article for authors' affiliations

Correspondence to :

**K. KANAGA
SABAPATHI**
Department of
Agricultural Extension,
Faculty of Agriculture,
Annamalai University,
ANNAMALAI
NAGAR (T.N.) INDIA

ABSTRACT

The present Ex-post facto study was conducted at Cuddalore district of Tamil Nadu with the aim of analysing the extent of awareness of farmers about the indigenous agricultural practices in the study area. Three hundred respondents were indentified by proportionate random sampling method for the collection of relevant data. Percentage analysis was applied and interpretations were made. The results revealed that majority of the farmers in the study area were aware of most of the indigenous agricultural practices. Many of the indigenous agricultural practices on land preparation, seeds and sowing, plant protection and post-harvest technologies were known to more than 50.00 per cent of the respondents.

INTRODUCTION

Indigenous knowledge is local knowledge that is unique to a given culture or society. Indigenous knowledge is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture. According to Haverkort (1991), indigenous knowledge is the actual knowledge of a given population that reflects the experiences based on traditions and includes more recent experiences with modern technologies.

Indigenous agricultural knowledge is the information base for a society and it facilitates eco-friendly environment. It is dynamic, it changes through creativity and innovativeness as well as through contact with other systems.

Sustainable agriculture is a complex issue associated with producing food while maintaining our biophysical resources including soil, water and biota with no adverse impacts on the wider environment.

In India, the total use of pesticides account for about 90,000 tonnes annually, out of which 63 per cent is for agriculture. Among the pesticides used, 70 per cent are insecticides, 12-15 per cent are fungicides and 4-5 per cent herbicides.

The indiscriminate use of chemical fertilizers, pesticides and unplanned use of irrigation water have threatened the

sustainability of agricultural production. They increased the health hazards and pollute soil, water and environment.

It is strongly suggested that indigenous plant protection practices serve for sustainable environment and sustainable agricultural production.(Warren, 1991).

Considering the significance of indigenous agricultural practices an attempt has been made to find out the extent of awareness of indigenous plant protection practices in Cuddalore district of Tamil Nadu State in India.

METHODOLOGY

Cuddalore district in Tamil Nadu was purposively selected for the study considering the significance of the availability of large number of agricultural families in this district. Ex-post facto design was followed. Data were collected from 300 respondents identified based on simple random sampling method. Statistical tools like percentage analysis was employed for the study and the results obtained were tabulated and appropriate inferences were drawn.

RESULTS AND DISCUSSION

The extent of awareness of indigenous plant protection practices identified in the study area are presented in Table 1.

It is observed from the above table that a number of farmers are aware of the various

Key words :

Awareness,
Indigenous
practices,
Plant protection

Accepted :
January, 2010

Table 1 : Extent of awareness of indigenous plant protection practices (n=300)

Sr. No.	Indigenous plant protection practices	Frequency	Percentage
1.	Clipping the tip of paddy seedlings to gather stem borer egg masses before transplanting.	276	92.00
2.	Irrigating rice crop once in 2-3 days to maintain uniform water column to reduce weeds.	262	87.33
3.	Using "Panchakaviam" (FYM solution + Cow's urine + milk + curd + ghee) for control of pests and diseases and also to induce growth in paddy.	246	82.00
4.	Keeping bunches of neem leaves and neem cake in rice field to control leaf folder at vegetative stage.	235	78.33
5.	Immersing sacks filled with neem cake in irrigation channel to control termites and other insect pests in paddy.	232	77.33
6.	Digging 1 feet deep trenches around field and placing calotropis leaves in them to control red hairy caterpillar in groundnut.	232	77.33
7.	Neem oil + pungam oil is used to control leaf folder and leaf roller at vegetative stage in paddy.	228	76.00
8.	Application of neem cake in the pits before planting coconut, to avoid the attack of insect pests and ants.	228	76.00
9.	Neem oil is mixed with water at 30 ml/lit and sprayed to control stem borer in rice.	198	66.00
10.	Flooding the coconut garden to wash off termites.	192	64.00
11.	Earthen pots are placed in small pits in coconut gardens and 3/4 th of the pot is filled with water and ¼ kg of castor cake. After three days due to the smell, rhinoceros beetles get attracted, fall into the pot and die.	183	61.00
12.	In coconut, kolungi (<i>Tephrosia purpurea</i>) and Calotropis gigantean are applied in circular basin just before flowering to control button shedding.	164	54.67
13.	To control stem weevil in coconut, the hole bored by it, is cleaned and plugged after putting common salt.	142	47.33
14.	Cowpea is cultivated as intercrop in cotton to attract aphids.	132	44.00
15.	In coconut to control stem bleeding, the bleeding mouth on the trunk is cut to certain extent, cleaned and poured with lime solution.	127	42.33
16.	Cultivation of sunhemp (<i>Crotalaria juncea</i>) or diancha (<i>Sesbania</i> sp.) to control nut grass weed at summer.	121	40.33
17.	Crowns of coconut trees are examined during every harvest and adult rhinoceros beetles are hooked out and killed.	117	39.00
18.	Broadcasting leaves of calotropis at different location of the paddy field to check the movement and infestation of larvae. The worms gather along the leaves, feed them instead of rice plants. Pass a rope along rows of plants to knock down these larvae found still on plants.	117	39.00
19.	Applications of Eruku (<i>Calotropis gigantean</i>) as green leaf manure to prevent thrips attack in rice nursery field.	113	37.67
20.	Putting 1 – 2 kg of common salt in the pit, while planting coconut, to control termites and to conserve moisture.	113	37.67
21.	In paddy application of sheep / goat and pig dung under irrigated condition will lessen the pests and diseases.	107	35.67
22.	Spraying neem oil mixed with solution of calotropis plant soaked in water to control red hairy caterpillar in groundnut.	102	34.00
23.	Mixing pulp extract of neem fruits with water in a ratio of 1 : 20 and sprayed in the field in morning hours to control red hairy caterpillar in groundnut.	97	32.33
24.	Growing castor as border crop to control early shoot borer attack in sugarcane.	85	28.33

indigenous agricultural practices in aspects like land preparation, seeds and sowing, plant protection, harvest and post-harvest technologies. Majority of the practices were known to more than 50.00 per cent of the respondents in the study area. The farmers were aware of the fact that these practices were adopted by their fore-fathers. Kanagasabapathi (1997) reported that a wide variety of indigenous agricultural practices were known to more than 80.00 per cent of the tribal respondents of Kolli Hills. Issac devanand (2000) also made a similar observation in his study area.

Conclusion:

From the study, it is observed that, indigenous plant protection practices serve for eco-friendly environment. Hence, it is suggested that formal research may be focused much on indigenous plant protection practices to find out the rationality and to make necessary promotional efforts for the spread of these practices for achieving sustainable environment.

Authors' affiliations

I. ISAAC DEVANAND, Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, ANNAMALAI NAGAR (T.N.) INDIA

REFERENCES

- Harverkot, B.** (1991). Agricultural development with a focus on local resources : ILEIA's view on indigenous knowledge. In D.M. Warren, D. Brokensha and L.J. Slikkerveer (Eds.). *Indigenous knowledge system : The cultural dimensions of development*. London. Kegan Paul International
- Isaacdevanand, I.** (2000). Indigenous plant protection practices in Kanyakumari district. M.Sc. (Ag.) Thesis, Annamalai University, Annamalai Nagar, Tamil Nadu.
- Kanagasabapathi, K.** (1997). Indigenous knowledge of tribals for agricultural development. Ph.D. (Ag.) Thesis, Dept. of Agricultural Extension, Annamalai University, Annamalai Nagar, Tamil Nadu.
- Warren, D.M.** (1991). Indigenous Knowledge Systems for Sustainable Agriculture in Africa. *In Proceedings of the 1990 International Conference on Sustainable Agriculture in Africa*. Columbus, Ohio: The Ohio State University, Centre for African Studies.

