Perception of Coconut Farmers About the Plant Protection Measures Against Eriophyid Mite

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Introduction

Coconut plays a pivotal role in the agrarian economy of Kerala State. Though Kerala contributes about 45% of the production of coconut in the country, productivity of the crop in the state is low (5911 nuts/ha/year) as compared to its neighbouring states like Tamilnadu (11620 nuts/ha/year). It is even lower than the national average of 6898 nuts/ha/year. One of the important reasons attributed to the low productivity is the incidence of pests and diseases. Studies have shown that adoption of plant protection measures is very low. Of late, there occurred the outbreak of the nut infesting eriophyid mite, severely affecting the coconut gardens in districts like Trichur, Ernakulam, Alappuzha and Kottayam. Since then the pest infestation is gradually spreading to other parts of the state. It is considered as another blow to the coconut sector in the state, which is already plagued by several problems. Alarmed by the severity of the problem government organizations have initiated steps to implement schemes to ensure prompt adoption of plant protection measures against the mite infestation. State Department of Agriculture is organising the plant protection campaign with the support of local bodies and coconut development committees at ward level in all the panchayats. The success of the venture is determined largely by the extent of timely adoption of the recommended control measures by the coconut cultivators. The perception of the farmers about the recommended plant protection measures has a direct effect on the proper adoption. In this background, a study was conducted in Alappuzha district of Kerala State among coconut cultivators to analyse their perception about the plant protection measures against eriophyid mite.

Methodology

Alappuzha district was purposely selected as it was one of the districts severely affected by the mite. The study was conducted during January 2000 among 112 farmers randomly selected from 16 grama panchayats of Alappuzha district. Data were collected in person from the respondents using a well-structured interview schedule. Simple statistical tools like percentage analysis was employed to analyse the data collected.

Results and Discussion

The salient findings of the study are discussed below :-

1. Perception about the severity of the pest incidence

Majority of the respondents (75%) revealed that they have observed the pest infestation since the last one year. As high as 60% of the respondents felt that the incidence was severe, while the remaining rated the incidence as moderate/mild.

2. Knowledge about the recommended plant protection measures.

a) Chemical control

Only 32% of the farmers were knowledgeable about the chemical to be used against the mite and only 11% knew the dose and frequency of the application

b) Bio pesticides

A similar trend was observed regarding the knowledge of coconut cultivators about the use of bio pesticides against eriophyid mite. The material components of the bio pesticides were known to 36% of the respondents. But only a few of them (11%) knew the method of perparation, quantity of the components and frequency of application.

3. Adoption of plant protection measures against eriophyid mite

Out of 112 farmers surveyed, only 41 had sprayed the chemical pesticide, while 14 had resorted to the use of bio pesticides. All of them have adopted only the first round of spraying. It is clear that only 49% of coconut cultivators have adopted the recommended control measures. It is observed that wherever the ward level Kera Vikasana Samithies (Coconut Growers Committees) are active, the scheme for spraying against the mite has been taken up with some success by the government with the support of local grama panchayat. In other places, inordinate delay is observed in the implementation of the scheme.

All the farmers except one who have adopted chemical control methods used Dicofol as the chemical. Spraying was undertaken in all those gardens by the respective committees. Farmers contributed their share of money. Only one farmer used a wettable sulphur formulation @ 4ml/litre and expressed satisfaction about the result. He sprayed on his own without waiting for the committee for taking action.

As far as the bio pesticide use was concerned, the stock solution with the components viz., garlic, neemoil and bar soap was prepared by the committee under the supervision of technical personnel of the Agricultural Department.

In both the cases, procurement and preparation of spray materials, arrangement of climbers and supervision of spraying were done by the committee.

4. Preference of coconut farmers about the method of mite control

Majority of the farmers (71%) preferred bio pesticides for the control

of eriophyid mite. The reasons attributed by the cultivators for their preference for bio pesticides were :

- bio pesticides are environmentally safe.

- belief that large scale chemical spraying will kill natural enemies of the pest.

Those farmers who preferred chemical control method argue that chemical pesticide only could bring quick effect in controlling the pest. Moreover, preparation of garlic neemoil mixture, the bio pesticide recommended was quite cumbersome and quality neemoil was not available.

5. Perception of farmers regarding government intervention in mite control

All the respondents perceived the government's intervention for providing suitable/sufficient information about the incidence of mite and methods as satisfactory. But as many as 80% of them felt the extent of financial incentive provided by government for spraying as inadequate. Again, all the respondents perceived the timeliness followed in implementation as highly unsatisfactory.

6. Perception about the ideal plant protection measure

The respondents felt that developing a natural enemy of the mite as a biological control agent will be by far the best and appropriate plant protection measure. The reasons attributed were :

- less labour requirement
- effective
- safe for environment
- self-perpetuating

It is heartening to note that institutions such as Central Plantation Crops Research Institute and Kerala Agricultural University are involved in the research on mite control have already initiated works on evolving a **suitable natural enemy against the mite.**

7. Participation of coconut cultivators in the extension programmes organised by the Department of Agriculture.

Agricultural seminars and group discussions were the extension methods largely employed by the Agricultural Department to create awareness among coconut cultivators about mite infestation and its control. However it is found that only 9% of the respondents have attended any of such programmes. The very low level of extension participation is amply reflected in the low level of knowledge of farmers about the control measures.

8. Participation of coconut cultivators in the implementation of spraying schemes

Even though 55 farmers have adopted the spraying against mite, the extent of participation in implementing the plant protection programme is far from satisfactory. As high as 82 of them (73%) were members of the Kera Vikasana Samithi, functioning in their ward. Yet the office bearers alone were fully involved in the implementation. The adoption of plant protection measures seems to be quite passive. The cultivators were waiting for the committee to spray their palms. It is significant to observe that individual initiative was poorly forthcoming from a population known for its high level of literacy. That too at a time when the State is launching the peoples campaign for decentralised planning. Over dependence of government intervention, especially for a situation like pest incidence which warrants timely action, may not be a welcome gesture.

9. Perception of coconut growers about the constraints in the adoption of plant protection measures against eriophyid mite.

Data were collected on the constraints experienced by the farmers in adopting plant protection measures against eriophyid mite which are summarised as follows according to the order of their importance.

Sl. No.	Item
1.	Lack of labour and high cost of labour
2.	Spraying chemicals/pesticides causes environmental pollution
3.	Natural enemies are killed because of large scale chemical spraying
4.	Government incentive not sufficient for spraying
5.	Reluctance of labourers to follow the precautions and their tendency to spray indiscriminately
6.	Spraying is harmful to the livestock/fishery
7.	Farmers prefer bio pesticides but the implementing agency opted for chemical spraying
8.	Quality neem oil is not available
9.	Lack of interest
10.	Low degree of pest incidence

Implications

- Efforts are required to ensure more participation of coconut cultivators in the implementation of plant protection scheme for mite control.

- Research programmes with more emphasis on evolving suitable biological control measures.

- Steps to be taken for making available quality materials such as neemoil for the preparation of bio pesticides.

- It is needed to strengthen transfer of technology efforts on mite infestation and control measures with more farmer participation.

- Follow up action is required to take up appropriate plant protection measures at periodic intervals in those gardens where initial round of spraying has been already undertaken.