



Knowledge Level On Innovative Pest and Disease Management In Banana Cultivation Of Tamilnadu

¹Muthukumar R.* ²Prakash S. and ³Jayasankar R.

1&3- Assistant Professors, 2-P.G. Scholar

Department of Agricultural Extension, Faculty of Agriculture,
Annamalai University, Annamalai nagar, Tamil Nadu, Pin-608 002

*E-mail: auagriextnmuthu@gmail.com

ABSTRACT

Banana is an important fruit, representing about 40.00 per cent of the world trade in fruits. It is also the fourth most important commodity at global level next to rice, wheat and dairy products. It is widely grown in India and has great socio-economic significance. It is a dessert fruit for millions and is used as staple food. It is otherwise called as 'Apple of Paradise'. It is a good source of carbohydrates, vitamins and minerals and the leaves of the banana plants are large, flexible and water proof. Banana aphids, Nematodes attack and bunchy top were the important factors to affect the yield. Keeping this in view, the present study was conducted in Madurai district of Tamil Nadu. In Madurai District, seven taluks viz., Vadipatti, Melur, Madurai (North), Madurai (South), Thirumangalam, Peraiyur and Usilampati was selected to his study.

Key words: *Banana, Banana growers, pest and diseases*

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INTRODUCTION

Banana is an important fruit about 40.00 percent of the world trade in fruits. It is also the fourth most important commodity at global level next to rice, wheat and dairy products. It is a widely grown in India and has great socio-economic significance. It is a dessert fruit for millions and is discussed as staple food. It is otherwise as 'Apple of paradise'. It is a good source of carbohydrates, vitamins and minerals, the leaves of the banana plants are large, flexible and water proof. They innovation pest and disease management in Banana cultivation. They main items are pest management, Banana aphid, Nematode disease management, Burchy top. In 2015, India ranked first in banana production, representing approximately 23 per cent of the worldwide crop, most of which was for domestic consumption. The vast majority of produces are small-scale farmers growing the crop either for home consumption or for local markets. Because bananas and plantains will produce fruit year-round, they provide an extremely valuable sources of food during the hunger season (that period of time when all the food from the previous harvest has been consumed, and the next harvest is still some time away). It is for these reasons that bananas and plantains are of major importance of food security. Banana ranks third in importance among the fruits of the world. In India, banana is so predominant and popular among people as both poor and rich like it. It could be considered as 'Poor man's apple' and it is the cheapest among all other fruits in the country. Considering the year round availability of fruits, unlike the seasonal availability of other tree fruits, it has become an inevitable necessity in any household in India, for all functions. In India, it is the second most important fruit crop both in area and production, accounting to nearly 12.9 per cent of the total area under fruit crops and over 37 per cent (16.81 million tonnes) of fruit production. It is commercially cultivated in the states of Tamil Nadu, Maharashtra, Karnataka, Assam. Andhra Pradesh, Bihar, Gujarat, West Bengal and Madhya Pradesh.

MATERIAL AND METHODS

The Madurai District of Tamil Nadu was purposively selected for conducting research due to the following reasons. Existence of maximum area under banana cultivation. Familiarity of the student researcher with

the local language and culture of the people. Time factor and other resources available to the researcher. Madurai district have seven taluks viz., Vadipatti, Melur, Madurai (North), Madurai (South), Thirumagalam, Peraiyur and Usilampatti of which, Perayurtaluku were selected as they had maximum area under Banana cultivation.

RESULTS

The results on knowledge level of the respondents on the recommended plant protection practices are given in Table 1.

Table 1. Distribution of respondents according to their knowledge on recommended plant protection practices

S. No.	Knowledge items	Number	Per cent
I.	Pest management		
1.	Recommended pesticide	58	48.33
2.	Quantity of pesticide	58	48.33
II	Banana aphid		
1.	Recommended pesticide	70	58.33
2.	Quantity of pesticide	65	54.16
3.	Interval of application	63	52.05
iii.	Nematode		
1.	Nematode symptoms	37	30.83
Mean percentage			48.63
II.	Disease management		
i.	Sigatoka leaf spot		
1.	Recommended fungicide	45	37.05
2.	Quantity of fungicide	40	33.33
3.	Interval of application	43	35.83
ii.	Bunchy top		
1.	Recommended method of control	89	74.16
Mean percentage			45.04
Overall mean percentage			46.85

The data in Table 1 displays a overall mean knowledge percentage on plant protection practices was (46.85). The mean knowledge percentage on both the plant protection items was also found to be low against disease management (45.04 per cent) and pest management (48.63 per cent).

Disease management

The mean knowledge percentage of 45.04 was observed on disease management practices. Around three-fourth (74.16 per cent) of the respondents had knowledge on recommended method of control in bunchy top of banana. Nearly one-third of the respondents gained knowledge on recommended fungicide (37.05 per cent), interval of application (35.83 per cent) and on quality of fungicide to control sigatoka leaf spot (33.33 per cent). From the perusal of the results, it may be concluded that a less percentage of farmers had knowledge on disease management practices. Most of the disease management practices are scientific and complex in nature and the farmers found it quite difficult to identify the disease and to follow the recommended control measures. This findings is in line with the findings of Senthilkumar [2].

Pest management

The mean knowledge percentage of 48.63 per cent was observed under the subject matter of pest management. The knowledge scores under the various pest management practices ranged only from 58.33 per cent to a minimum of (30.83 per cent). The three sub-practices wherein the respondents had comparatively higher knowledge were on the recommended pesticide (58.33 per cent), followed by 54.16 per cent each on quantity of pesticide to control banana stem borer and interval of application. A similar percentage (48.33 per cent) of the respondents possessed knowledge on recommended pesticide and on recommended quantity of pesticide and only a less percentage of them had knowledge in identifying the nematode symptoms (30.83 per cent). As reported by the farmers, the possible reasons for the expressed low knowledge level on the above technologies were the most of the technologies were highly complex in nature and they lacked awareness on the pest management practices

Practice wise adoption of recommended plant protection practices

The results obtained on adoption of recommended plant protection practices are presented in Table 2.

Table 2. Distribution of respondents according to the adoption of recommended plant protection practices(n=120)

S.No.	Practices	Number	Per cent
I	Pest management		
i.	Banana stem borer		
1.	Recommended pesticide	42	35.00
2.	Quantity of pesticide	42	35.00
II.	Banana aphid		
1.	Recommended pesticide	56	46.66
2.	Quantity of pesticide	48	40.00
3.	Interval of application	44	36.66
III.	Nematode		
4.	Recommended nematicide	20	16.66
5.	Quantity of nematicide	16	13.33
	Mean Percentage		31.90
II.	Disease management		
i.	Sigatoka leaf spot		
1.	Recommended fungicide	36	30.00
2.	Quantity of fungicide	30	25.00
3.	Interval of application	34	28.33
ii.	Bunchy top		
1.	Recommended method of control	70	58.33
	Mean Percentage		35.41
	Overall mean percentage		33.65

Under the subject matter of plant protection practices, a low overall mean adoption percentage of 33.65 was observed. The adoption of the plant protection items *viz.*, disease management (35.41) and pest management (31.90) was also found to be low which is evident from their respective values.

Disease management

A low mean adoption percentage of 35.41 was found under the disease management practices. The respondents' adoption against the sub-items of disease management in the descending order was *viz.*, recommended method of control of bunchy top (58.33 per cent), recommended fungicide for sigatoka leaf spot (30.00 per cent), interval application (28.33 per cent) and quantity of fungicide (25.00 per cent). Lack of complete information and high cost of chemicals might be the reasons for low level of adoption. This findings is in line with the findings of Kavaskar [1].

Pest management

The mean percentage score on adoption of pest management was found to be very low (31.90). Further, their adoption of various items under pest management was also found to be low *viz.*, recommended pesticide for the control to banana aphid (46.66 per cent), quantity of pesticide used to control aphid (40.00 per cent), interval of application for banana (36.66 per cent). This was followed by 35.00 per cent each under recommended pesticide for stem borer and quantity of pesticide used to control stem borer, recommended nematicide (16.66 per cent) and recommended quantity of nematicide (13.33 per cent). Lack of knowledge in identifying the pests and diseases and high cost of chemicals may be the possible reasons for non-adoption. This findings is in line with the findings of Kavaskar [1].

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