Knowledge and Adoption of Recommended Practices by Coconut Cultivators of Root (Wilt) Affected Area

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Coconut palm is one of the special gifts of nature to mankind. In all the major coconut growing areas it is essentially a crop of small and marginal farmers, though the size of holdings varies. Coconut is cultivated in 10.1 lakh hectares in Kerala with a production of 5759 million nuts and productivity of 5702 nuts per hectare, which is lower than the national average. Eventhough research results and recommendations for increasing the coconut yield are available, farmers are found to be less keen in adopting them. A study was conducted among the coconut cultivators of Alappluzha district with the following objectives :

1. To determine the adoption and knowledge level of recommended package of practices by the coconut cultivators.

2. To analyse the constraints faced by coconut cultivators in adopting the technologies.

Methodology

The study was conducted in Alappuzha district of Kerala State during 1995-1997. Thirty-eight panchayats were selected randomly from a total of 74 panchayats. Total samples of 570 coconut cultivators were selected using random sampling technique. The data was collected through personal interview using a well structured pretested interview schedule. The data collected was processed using appropriate statistical tools.

Results

The knowledge and adoption levels of the sample coconut cultivators were studied in detail. Practices of coconut cultivation as recommended by CPCRI were considered for analysis. The broad areas of recommendations considered were nursery management, planting in main field, nutrient management, management of pests and diseases, biological control of pests, moisture conservation measures and post harvest technologies. The sub areas coming under each of the broad subjects were also covered in the study.

The knowledge and adoption were assessed in three categories each, i.e., correct knowledge, incorrect knowledge and no knowledge and proper adoption, improper adoption and non-adoption with a score of 3, 2, and 1, respectively.

The table shows that nursery management practice and planting in main field are correctly known to 48 and 67 percent of the coconut cultivators respectively.

Biological control measures against pests or diseases are preferred by the farmers as an environment friendly, sustainable and less labour intensive technique. But the table shows that a mere one - percent of the sample farmers knows correctly about biological control practices and none of them are adopting them properly. This data emphasize the need for intensive awareness creating activities and sincere transfer of technology efforts. Similarly post harvest technologies help in value addition, reduce post harvest losses and help diversify consumption thereby widening the market. The data indicate cent percent non-adoption and a meager one percent knowledge among the small and marginal farmers about post harvest technologies. Majorities of

Table 1 : Knowledge and adoption of package of practices of coconut - Alappuzha district ***No = 570***

	Knowledge			Adoption		
Recommended package of practices	Correct knowledge	Incorrect knowledge	No knowledge	Proper adoption	Improper adoption	Non-adoption
Nursery Management	48	22	30	28	13	59
Planting in mainfield	67	31	2	59	36	5
Nutrient management	20	34	46	12	28	60
Management of pests	18	22	60	2	17	81
Management of diseases	24	29	47	2	16	82
Moisture conservation measures	10	33	57	3	34	63
Biological control of pests	1	9	90	0	1	99
Post harvest technologies	1	2	97	0	0	100

* All values are in percentage

the Kerafed societies have copra moisture meter and copra drier which are innovations of Central Plantation Crops Research Institute. The knowledge and adoption level stress the need for extensive transfer of technology efforts and awareness programmes among coconut cultivators. Also there is a need for developing small-scale household oil extracting units along with other simplified mechanization aids for coconut cultivators.

From the collected data about various practices it is seen that there are three categories of farmers based on the knowledge and adoption level.

High Knowledge - High Adoption Category

- Seednut collection
- Seedling selection
- Pit size
- Depth of planting
- Planting time

All the practices in this category are traditional practices and involves no cost. Also the farmer himself can take decision and implement without anybody's help unlike the adoption of other practices; especially plant protection aspects.

High Knowledge - Low adoption Category

- Mother palm selection
- Hybrid varieties
- Recommended spacing
- Irrigation
- Farmyard manure

All these practices were known to more than 50% of the sample farmers. But the proper adoption is less due to many constraints.

Low Knowledge - Low Adoption Category

- Fertilizer application for seedlings
- Control of red palm weevil, coried bug, white grub, mealy bug, nematodes, leaf rot, leaf spot and deficiency disorders.
- Root (wilt) disease management practices as a package
- Biological control of coconut pests
- Post harvest technologies

Awareness creating programmes and transfer of knowledge as well as training to acquire skill on a regular basis are to be undertaken along with thrust in adaptive research / trials.

Constraints

Recommended Spacing :	•Small and marginal holdings. Hence farmers are planting more seedlings. Also since it is a disease affected area seedlings are under planted on a regular basis.
Application of chemical fertilizers as recommended :	• Cost of fertilizers is increasing • Belief that if not used continuously, the soil health and vigour of palm and yield will be affected. • Farmers opined that the palms are not responding to fertilizer application, so the application is not economical. • Perception that local varieties can be managed profitably without chemical fertilizers, but with organic alternatives. • Perception that susceptibility to diseases and pests will increase due to continued use of chemical fertilizers. • Not knowing the correct dose and frequency of application. • Farmers apply chemical fertilizers as a single dose due to high labour problem.
Organic manure application :	• Inadequate or non availability of green leaf and farm yard manure and their high cost. • Change in mixed farming system among farmers, hence local resource availability is lacking. • High labour cost for transporting and application of organic manure.
Management of coconut pests and diseases :	• Cannot identify red palm weevil attack at the initial stage and later farmers do not get timely assistance of skilled labourers and the palm dies. High labour cost and non-availability in time. • Lack of knowledge about recommendations and lack of skill in identification of pest attack symptoms • High cost of plant protection chemicals. • Cannot be completely cured or controlled with one or two applications. • Not convinced about biological control measures and do not have the skill to adopt it.

- Lack of time in observing and attending the crop.
- Not interested in coconut cultivation due to acute labour problems, pests and diseases.
- Aversion to chemical pesticides due to environmental concern.
- A coconut farmer cannot adopt the plant protection measures recommended; without the help of skilled climbers.
- Techniques of application by the farmer himself are lacking, which is very much needed for continued adoption by small and marginal farmers.

Suggestions of farmers for improving the adoption of recommended practices in coconut

Suggestions by coconut farmers were collected in the study for improving the adoption of scientific practices. The following suggestions are presented which were suggested by more than 50 percent of the sample farmers.

1. Series of transfer of technology are to be taken up for the benefit of extension officials, farmers and coconut climbers; especially on simple ways of plant protection aspects.
2. Arrangements and policies to ensure good quality planting materials including hybrids and improved selections of local varieties to farmers.
3. Early detection devices; simple and cheap, for identifying red palm weevil infestation in coconut palms.
4. Organic farming technology (to reduce labour involvement and to encourage on farm resource utilization) has to be standardized and transferred to farmers for adoption.
5. Coconut clinics should be modified with facilities like registered labour force with insurance coverage for climbers associated, chemicals and equipment's needed and fixed affordable charges for the operation.
6. Group trainings to small and marginal farmers with emphasis on practicals and demonstration methods.
7. Mechanization aids for harvesting, plant protection etc. from ground level which can be done by the farmers themselves so that adoption becomes simple and easy.
8. Recommendation for scientific and profitable under planting/ replanting procedures are lacking for existing gardens, especially in root (with) affected areas.
9. Establishment of sustainable model farm in farmers field is to be established for convincing farmers about recommended technologies and other research results of the institute.
10. Wide spread propaganda/awareness activities to locate root (wilt) tolerant/resistant mother palm should be undertaken and a programme to assess the local varieties and to conserve them.
11. Policy support for getting stable prices of coconut.

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