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Adoption of integrated pest management practices followed among cotton growers

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Abstract
Integrated Pest Management is an eco-friendly strategy that focuses on long term prevention of pests or their damage through the combination of various techniques. The present study, which investigated on Integrated Pest Management Practices Followed among cotton Growers was carried out in Parbhani District of Maharashtra state. In the present study, the exploratory design of social research was studied by using random sampling; all 120 respondents from 10 villages were chosen. The information was gathered by conducting personal interviews with the respondents by using a pre-planned interview schedule. The results revealed that Cotton Growers had a medium adoption of recommended cultural, mechanical, physical, biological and chemical IPM approaches. Therefore, by carrying out result and method demonstrations like showing how to use pheromone traps, trichocards, sticky traps etc on a broad scale.

Keywords: Integrated pest management, adoption, cotton

Introduction
The "White gold" or cotton (*Gossypium* sp.) is one of our nation's most valuable commercial fibre crops. Cotton is one of the most important commercial crops cultivated in India and accounts for around 25% of the total global cotton production. It plays a major role in sustaining the livelihood of an estimated 6 million cotton farmers and 40-50 million people engaged in related activity such as cotton processing & trade. One of India's key commercial crops and a major contributor to economic growth and India is one of the largest cotton producing country in the world with estimated production of 315.43 lakh bales (5.36 Million Metric Tonnes) during cotton season 2021 -22 which is 21% of world cotton production of 1522 lakh bales (25.89 Million Metric Tonnes). India is one of the largest consumer of cotton with estimated consumption of 326 lakh bales (5.54 Million Metric Tonnes) i.e. 21% of world cotton consumption of 1538 lakh bales (26.16 Million Metric Tonnes). India is third in terms of production and first in terms of area wise.
Cotton is a prominent crop in the Parbhani District, which is well known for its specialised cultivation. Cotton is grown on around 60% of the region's gross cropped land. In other words, cotton is the farmers' main source of revenue. The excessive and careless use of chemical pesticides has led to increase in number of issues, including environmental contamination, development of pest resistance, recovery of insect populations, toxicity to beneficial organisms, and contamination of food, feed, and fodder. Integrated Pest Management practices are some of the ways to prevent these negative effects of pesticides. The integrated pest management practices include multiple pest control methods, namely cultural, physical, biological, chemical, and mechanical ones. These methods are simple to use, non-toxic to larger animals, beneficial to insects, maintains the ecosystem, and also environmental friendly. To keep pest population below the economic threshold levels, Integrated Pest Management is a broad ecological approach to pest control that integrates all tactics and strategies. In the light of this, the current study “Integrated Pest Management Practices followed among Cotton Growers” was conducted with the objective to study the adoption of Integrated Pest Management practices by cotton growers.

Methodology
The Study was conducted in Parbhani District because this district occupied highest cotton area in Marathwada region of Maharashtra state. This district consists of nine Talukas namely Parbhani, Selu, Purna, Gangakhed, Jintur, Pathri, Manwath, Sonpeth, Palam out of these three talukas has been selected randomly i.e. Parbhani, Jintur, manwat.

The ex-post facto research design was used for the study. The questionnaire was developed on the basis of objectives for collection of data from the respondents of the cotton growers. Suitable statistical tools such as frequency, percentage, mean, standard deviation, and coefficient of correlation were used for data analysis.

Results and Discussion

It is observed from the Table 1, regarding cultural practices of IPM in cotton showed that about with full adoption of summer ploughing (100.00%) and sowing of healthy improved seeds showed with (100.00%) adoption, followed by (60.83%) with proper crop rotation, while (60.00%) with use of trap crop, and none of them were adopted the seed treatment because all the respondents are using the treated seed.

While coming to the mechanical practices it was concluded that (100.00%) with removal of hand weeding, followed by (75.83%) with Collection and Destroyed of egg masses and Larva, while (64.16%) followed Removal and Destruction of unhealthy and diseased plants, (25.00%) with used proper number of Yellow Sticky traps and installed proper number of Bird Perches, and remaining (8.33%) with proper use of Pheromone traps.

Only 8.33 per cent respondents used light traps in IPM in cotton in case of physical practices.

It also found that in biological practices (82.50%) followed conservation of Natural enemies, (52.50%) used NSKE, while remaining (18.33%) used Trichocards.

It was also concluded that in chemical practices (62.50%) used profenophos 50EC, followed by Emmamectin benzoate 5SG (45.83%) in case of bollworms, followed by (77.50%) with Imidacloprid, 17.8% SL followed by (55.83%) with Dimemothate 30% EC in sucking pests, while (75.00%) with Bordeaux mixture 0.1% or Copper Oxy Chloride followed by (67.50%) of the respondents used Mancozeb 75WP, respectively. The findings are Similar to Thakur (2016) [6], Borhude (2016) [2], Abha Tiwari (2019) [1].

Table 1: Distribution of the Respondents according to overall Adoption of IPM Practices

SL. No.	Practices		Frequency	Per cent
A	**Cultural practices**			
1.	Have you done summer ploughing		120	100.00
2.	Have you treated seed		00	0.00
3.	Have you followed trap cropping		72	60.00
4.	Have you followed proper crop rotation		73	60.833
5.	Did you sow healthy seeds of improved variety		120	100.00
B	**Mechanical Practices**			
1.	Have you followed hand weeding		120	100.00
2.	Have you followed Removal and Destruction of unhealthy and diseased plants		77	64.16
3.	Have you used proper number of Pheromone traps		10	8.33
4.	Have you used proper number of Yellow Sticky traps		30	25.00
5.	Have you installed proper number of Bird Perches		30	25.00
6.	Have you followed Collection and Destroyed of egg masses and Larva		91	75.83
C	**Physical Practices**			
1.	Have you used Light traps		10	8.33
D	**Biological practices**			
1.	Have you used NSKE		63	52.50
2.	Have you used Trichocards		22	18.33
3.	Have you followed conservation of Natural enemies		99	82.50
E	**Chemical Practices**			
1.	Have you used the chemicals for pest management			
	Insect	**Chemical**		
1.	Bollworms	Emamectin benzoate 5 SG		45.83
		Profenophos 50% EC		62.50
2.	Sucking pests	Imidacloprid 17.8% SL	93	77.50
		Dimethoate 30% EC	67	55.83
3.	**Disease**	**Chemical**		
4.	Blackarm	BM 0.1% OR Copper oxy chloride	90	75.00
	Anthracnose	Mancozeb 75 WP	81	67.50

Conclusions

The results revealed that Cotton Growers had a medium adoption of recommended cultural, mechanical, physical, biological and chemical IPM approaches. Therefore, by carrying out result and method demonstrations like for example showing how to use pheromone traps, trichocards, sticky traps etc on a broad scale, the adoption of these technological practices can be encouraged. It should be understandable as well as clear about IPM procedures. It may also inspire cotton farmers to adopt IPM and scientific farming methods.

References

1. Abha T, Neha M, Dubey MK. Factors Responsible for Adoption of Improved Pea Production Technology among the Pea Growers. Int J Curr Microbiol Appl Sci. 2019;8(03):933-938.
2. Borhude SM, Gohad VV, Surduse AV. Awareness and adoption of pesticides by cotton growers. Adv Res J Soc Sci. 2016;7(2):210-213.

3. Choudary S, Rey P. Knowledge and adoption of integrated pest management technique. Indian J Agric Res. 2010;44(3):168-176.
4. Godale PP. Adoption of improved package of practices by safflower growers [master's thesis]. Vasantrao Naik Marathwada Krishi Vidhyapeeth, Parbhani; 2013.
5. Jakkawad SR, Patange NR, Kadam SB. Extent of adoption of practices by cotton growers for the management of pink boll worm. Young (up to 37). 2019;18:22-50.
6. Thakur SV, Shirke VS. Adoption of plant protection measures for control of mango pest and disease. Int J Sci Res. 2016;5(5):483-485.