

Adoption of Organic Farming Practices by the Vegetable Growers

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ABSTRACT

The present investigation was carried out in Wardha and Samudrapur talukas of Wardha district in Vidarbha region of Maharashtra State. It was revealed that most of the respondents had complete adoption of practices namely, use of neem seed kernel extract (76.00%), use of neem based insecticides (66.00%), use of insect, pest and diseases, free and resistant varieties (64.00%), use of jivamruiti (64.00%), improved soil fertility by adding FYM / vermicompost (62.00%), weed management (60.00%), application of FYM / vermicompost (61.00%), use of plant biomass (59.00%), use of amritpani (52.00%) and use of multiple cropping (52.00%). The respondents were adopting practices use of green manuring crops like sunhemp, dhaincha, glyricidiakaranjetc (33.00%) and use of trap crop (29.00%). The majority of respondents were not adopting poultry manure (88.00%), crysopa (88.00%), non-edible oil cake (83.00%), use of Beauveria bassiana (82.00%), use of Verticillium sp.(74.00%), use of Tricodemaviridi and use of pheromone trap, light trap (66.00%), respectively. The majority of the vegetable growers were mediocre in respect of adoption behavior of organic farming. It again includes a scope for improvement of adoption behaviour of farmers about organic farming through imparting knowledge and motivating the vegetable growers through demonstration. There is need to organize awareness campaigns and training programmes to encourage the vegetable grower for adoption of organic farming practices and more become economically independent and it will improve nutritional status of farm family, these indirectly better their the socio-economic status.

Key words : Adoption; Organic farming; Vegetable growers.

Organic farming is a production of synthetically compound fertilizers, pesticides, growth regulator, livestock feed additives, green manures, biological pest control, mechanical cultivation to maintain soil productivity and genetically modified organism. In Maharashtra movement of organic farming gaining support from farmers as well as consumers. Now a day's consumers are also becoming conscious about healthy and nutritious food. The farmers from different area are also adopting some organic farming practices. Hence the present study entitled "Knowledge and adoption of organic farming practices by the vegetable growers", was undertaken with specific objective to study the extent of adoption of organic farming practices by the vegetable growers and to study relationship between selected characteristics of vegetable growers with adoption of organic farming practices.

METHODOLOGY

The study was carried out in Wardha and Samudrapur talukas of Wardha district of Vidarbha region of Maharashtra State. An exploratory design of social research was used. The six villages in which higher number of vegetable growing farmers were selected from each selected taluka. Thus, from these two talukas, 12 villages were selected by simple random sampling method and from these villages, 100 vegetable growers were selected by proportionate random sampling method for present study. The data were collected personally with the help of pre-tested structure interview schedule. The data were then tabulated, analyzed and the results were interpreted.

RESULTS AND DISCUSSION

The findings of the study have been presented under following heads.

Table 1
Distribution of the respondents according to their practice wise adoption of organic farming practices by vegetable growers.

Sr. No.	Organic farming practices	Adoption Respondents (n=100)		
		Complete Freq. (%)	Partial Freq. (%)	No Freq.(%)
I	Soil			
1	Use of plant biomass	59 (59.00)	24 (24.00)	17 (17.00)

2	Improve soil fertility by adding FYM / vermicompost	62 (62.00)	36 (36.00)	2 (02.00)
3	Soil mulching	35 (35.00)	19 (19.00)	46 (46.00)
4	Weed management	60 (60.00)	30 (30.00)	10 (10.00)
II Plant nutrients				
5	Application of FYM/ V ermicompost.	61 (61.00)	38 (38.00)	01 (01.00)
6	Use of green manuring crops like sunhemp, dhaincha, glyricidia, karanj etc.	33 (33.00)	40 (40.00)	27 (27.00)
7	Application of biofertilizers for increase nitrogen fixation in soil	47 (47.00)	34 (34.00)	19 (19.00)
8	Use of poultry manure	03 (03.00)	9 (09.00)	8 (88.00)
9	Use of non -edible oil cake	06 (06.00)	11 (11.00)	83 (83.00)
III Plant protection				
10	Use of multiple cropping	49 (49.00)	31 (31.00)	20 (20.00)
11	Use of trap crop	39 (39.00)	34 (34.00)	37 (37.00)
12	Use of <i>TricodermaViride</i>	11 (11.00)	13 (13.00)	76 (76.00)
13	Use of <i>Verticillium sp.</i>	08 (08.00)	13 (13.00)	79 (79.00)
14	Use of <i>Beauvariabassiana</i>	06 (06.00)	12 (12.00)	82 (82.00)
15	Use of neem based insecticides	66 (66.00)	24 (24.00)	10 (10.00)
16	Use of insects, pest and disease free and resistant varieties	64 (64.00)	29 (29.00)	07 (07.00)
17	Application of HaNPV microbial insecticides	36 (36.00)	25 (25.00)	39 (39.00)
18	Use of neem seed kernel extract	76 (76.00)	21 (21.00)	03 (03.00)
19	Hand picking and destruction of larvae / insect.	48 (48.00)	27 (27.00)	25 (25.00)
20	Use of pheromone traps, light traps	18 (18.00)	16 (16.00)	66 (66.00)
21	Use of <i>bacillus thurengensis</i>	20 (20.00)	31 (31.00)	49 (49.00)
23.	Use of crysopa	04 (04.00)	08 (08.00)	88 (88.00)
Iv Others				
24.	Use of Jivamruit	64 (64.00)	11 (11.00)	25 (25.00)
25.	Use of Amritpani	52 (52.00)	14 (14.00)	34 (34.00)

From Table 1, it was revealed that, in case of soil related organic farming practices most of the respondents had completely adopting of soil related three practices like improved soil fertility by adding FYM/ vermicompost (62.00%), weed management (60.00%) and use of plant biomass (59.00%) whereas, over one third of respondents used soil mulching (35.00%) practice.

In case of partially adopting practices more than one third of the respondents (36.00%) adopted practice of improve soil fertility by adding FYM/ vermicompost, followed by weed management (30.00%), use of plant biomass (24.00%) and soil mulching (19.00%). Whereas, 46.00 per cent of respondent have not adopted soil mulching practice.

In case of plant nutrient related practices majority of respondents were completely adopting practices namely application of FYM / vermicompost (61.00%), followed by application of biofertilizers for increasing nitrogen fixation in soil (47.00%), use of green manuring crops like sunhemp, dhaincha, glyricidia, karanj etc. (33.00%). The meagre per cent of respondents used non-edible oil cake (6.00%), and poultry manure (3.00%), respectively. Whereas, respondents partially adopted practices were use of green manuring crops like sunhemp, dhaincha, glyricidia, karanj etc. (40.00%), application of FYM/ vermicompost (38.00%), application of biofertilizers for increasing nitrogen fixation in soil (34.00%), use of non –edible oil cake (11.00%) and use of poultry manure (09.00%), respectively similar findings were obtained by Marathe (2004)

Most of the respondents were not using the plant nutrients related practices namely, use of poultry manure (88.00%) and use of non-edible oil cake (82.00%),.

In case of plant protection practices from Table 1, it was observed that majority of respondents completely adopted on plant protection practices namely, use of neem seed kernel extract (76.00%), followed by use of neem based insecticides (66.00%),

use of insects, pest and disease free and resistance varieties (64.00%) and use of multiple cropping (52.00%). The respondent were also completely adopted practices were hand picking and destruction larvae /insects (48.00%), application of HaNPV microbial insecticides (36.00%), use of trap crop (29.00%), use of *bacillus thurenginesis* (20.00%), use of pheromen traps, light traps (18.00%), use of *Tricodermaviridi* (11.00%), use of *Verticillium sp.*(8.00%), use of *Beauvariabassiana* (6.00%) and use of crysopa (4.00%) respectively similar results were also reported by Ramesh and Santha Govind (2001).

In case of non-adoption of plant protection practices, most of respondents were not using plant protection practices like, use of crysopa (88.00%), use of *Beauvariabassiana* (82.00%), use of *Verticillium sp.*(79.00%) use of *Tricodermaviridi* (76.00%) and use of pheromen traps and light traps (66.00%). The respondents not adopting plant protection practices were use of *bacillus thurenginesis* (49.00%), application of HaNPV microbial insecticides (39.00%), use of traps crop (37.00%), hand picking and destruction larvae / insects (25.00%), use of multiple cropping (22.00%), use of neem base insecticides (10.00%), use of insects, pests and disease free and resistance varieties (07.00%) and use of neem seed kernel extract (03.00%), respectively. The above results gain support from the studies conducted by Gawande (2006).

In case of other practices, majority of the respondents were completely adopted two practices namely, Jivamruit (64.00%), and Amritpani (51.00%). These two practices were not recommended as organic practices by PDKV but farmers were adopting these practices. In case of non-adoption of other practices percentage of respondents not using other practices like Amritpani (34.00%) and Jivamruit (25.00%), respectively. In case of adoption of other practices most of the respondents partially adopted two practices namely Amritpani (15.00%), and Jivamruit (11.00%), respectively.

Table 2
Distribution of respondents according to their overall adoption.

Sr. No.	Adoption	Respondents (n=100)	
		Frequency	Percentage
1	Low	23	23.00
2	Medium	69	69.00
3	High	08	08.00
	Total	100	100.00

It was observed from Table 2 that, majority of respondents (69.00%) had medium level of adoption followed by 23.00 per cent of the respondents had low level of adoption about organic farming practices and only 8.00 per cent of the respondents had high knowledge about adoption of organic farming practices. Thus, it was concluded that majority of the respondents had medium level of adoption about

organic farming practices. The results are similar to Talape and et al, (2011) who stated that; majority of the respondents had medium level of adoption of organic farming practices

3. Correlation analysis : Co-efficient of correlation ('r') was analysed to show the relation of personal characteristics of the vegetables growers with the their adoption of organic farming practices.

Table 3
Correlation co-efficient ('r') analysis of personal characteristics with adoption of organic farming practices.

Sr. No.	Characteristics	Adoption (r' value)
1	Age	-0.1549 ^{NS}
2	Education	0.4238**
3	Training received	0.3611**
4	Experience in farming	0.1659 ^{NS}
5	Land holding	0.3563**
6	Annual income	0.3897**
7	Possession of livestock	0.2965**
8	Extension contact	0.3357**
9	Innovativeness	0.2731**
10	Risk preference	-0.2911**
11	Knowledge	0.3014**

**Significant at 0.01 per cent level probability, NS - Non-significant.

It could be seen from Table 3 , the characteristics of respondents namely, education, training received, land holding, annual income, possession of livestock, extension contact, innovativeness and knowledge were positively and significantly related at 0.01 per cent level of probability with adoption about organic farming practices by vegetable growers. The characteristics of respondents namely, age and experience in farming were non significantly related with adoption of organic farming practices by vegetable growers. Similar findings were also reported by Neware (2011). The characteristics of respondent risk preference was found to be negatively significant relationship with adoption of organic farming practices

The medium level of education and medium number of trainings received by a farmer enhance his capacity to understand the intricacies involved in various organic farming practices and applying them in the field situation hence a positive and significant relationship was observed between adoption of organic farming practices by vegetable growers. Similar findings were also reported by Prashanth (2012).

The correlation coefficient between knowledge and adoption was found to be significant at 0.01% level of probability. Similar findings were also reported by Gawande (2006).

If the size of land holdings is big, than more number of organic farming practices were adopted. Hence a positive and significant relationship was observed between adoption of organic farming practices by vegetable growers and the variable land holding. Similar results were also reported by Neware (2011) and Boruah (2015). The cattle folk are the main source of organic inputs. If the cattle size is more the amount of organic inputs received is high. Subsequently the farmers will apply more of these inputs and organic practices on their fields. This might be the reason of having positive and significant relationship between adoption of organic farming practices by vegetable growers and the variable possession of livestock. Similar findings were also reported by Neware (2011), Prashanth (2012), Borhade (2011) and Boruah (2015). Extension contact enables farmers to attend a number of training conducted by a number of organizations along with their discussion with organic experts, and in training also visit to

successful farmers' fields, group discussion, conduct study tour to other states, etc. were also organized. Therefore extension contact had positive and significant relationship with adoptions of organic farming practices by vegetable growers.

CONCLUSION

The majority of the vegetable growers were mediocre in respect of adoption behavior of organic farming. It again includes a scope for improvement of adoption behaviour of farmers about organic farming through

imparting knowledge and motivating the vegetable growers through demonstrations and other extension programmes. There is need to organize awareness campaigns and training programmes to encourage the vegetable growers for adoption of organic farming practices and more become economically independent. Moreover it will improve nutritional status of farm family, this indirectly is better for their the socio-economic status.

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