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## KNOWLEDGE LEVEL ON ORGANIC FARMING TECHNOLOGY PRACTICED BY THE FARMERS OF SEONI DISTRICT (M.P.)

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### ABSTRACT

The study was conducted to find out the knowledge level of organic farmers in Seoni District MP. A total of 150 farmers were selected randomly treated as the sample for this study. A knowledge test was conducted through interview schedule for assessing their knowledge. It was found that majority of them had full knowledge level in significant percentage of organic farming practices like *in situ* incorporation of crop residues, selection of good seed, seed inoculation, application of FYM/Nadep compost, application of vermicompost, use of biogas slurry, use of poultry manure, summer ploughing, hand weeding, use of neem oil, use of light trape/pheromone and trichoderma.

Figure : 00

References : 05

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KEY WORDS : Knowledge level, Organic farming; Organic farming practices.

### Introduction

Agriculture is the most important livelihood strategy in India, with two thirds of the country's workforce depending on farming. Organic farming system in India is not new and is being followed from ancient time. The area under organic farming in India has been increasing steadily since 2000 after launching National Programme for Organic Production. Definition given by two International organizations also verifies this concept. These definitions are :

1. Organic farming is a holistic management system, which enhances agro-ecosystem health, utilizing both traditional & scientific knowledge. Organic agriculture systems rely on ecosystem management rather than external agricultural inputs<sup>4</sup>.
2. Organic agriculture is an environmentally and socially sensitive food supply system. The primary goal of organic agriculture is to optimize the health and productivity of independent communities of soil life, plants, animals and people<sup>3</sup>.

Promotion of organic farming does not mean total replacement of the use of chemical fertilizers and pesticides. In fact, organic manures and fertilizers should be used to supplement chemical fertilizers in increasing crop production and for maintaining health of the soil in total it. The approaches of Integrated Nutrient Management (INM), Integrated Pest Management (IPM) and Integrated Soil and Water Management (ISWM) are advocated for sustainable agriculture production.

Integrated plant nutrient management has an important role to play in maintaining or improving soil health, stabilizing productivity of crop, reducing the dangers of pollution or environment and food material used for human consumption. Integrated pest and disease management aims at controlling the insects to such a level that the economic loss is averted rather than aiming at destroying them completely. For this, the modification in cultural practices, use of tolerant varieties in mixed/inter crops, balanced nutrient supply and management of practices, insects and predaceous birds, use of neem oil, use of neem leaf extract, use of fermented curd milk, use of cow urine, use of light traps, use

of NPV spray and certain innovative / ancient practices are found to be effective in controlling insects and are found efficient in preserving biodiversity and keeping environment free from pollution.

An organic fertilizer is completely safe and does not produce harmful chemical compounds. The consumption of chemical fertilizers in comparison to organic fertilizers is always more, especially in unused cultivable lands. Moreover, chemical fertilizer needs huge quantities of water to activate its molecule whereas, organic fertilizers do not need such conditions. Further, chemical fertilizers almost always have some harmful effects either on the farm produce or on the environment. Furthermore, it can also produce harmful chemical compounds in combination with chemical pesticides, used to ward-off harmful pests. Due to excessive use of synthetic fertilizers the area of fertile land is reducing day by day which is matter of prime concern and to overcome this problem it is very essential to promote organic farming across the globe to retain the fertility of the soil.

According to IFOAM India is the country with the largest number of organic producers. Data<sup>1</sup> for 2010-11 show 4.43 million hectares of certified land under organic farming practice in India. Madhya Pradesh lead the country in term of organic farming area. APEDA place the 2010-11 export of organic produce at 69000 metric tones consisting of over 80 organic farming products to many of the developed countries in the world<sup>1</sup>. Organic crop production of Seoni District under organic farming was 29200 ha in 2010-11.

To get more and more yield, farmers use indiscriminate manner of chemical fertilizers, use of fertilizers by the farmers in the field without information on soil fertility status and nutrient requirement by crop. Use of several approaches including inter-cropping, mulching, crop rotation, integration of crops and live stocks *etc.* in organic farming make it even better and useful for cultivation of various crops without harming the fertility of the soil. Keeping this in view, the study was undertaken with the following objectives.

### Objectives

To study the level of knowledge of farmers about organic farming practices.

### Methodology

The Seoni district of M.P. is comprised of 08

blocks but out of which 05 blocks were selected randomly in which maximum area was covered by the organic farming. The Seoni, Barghat, Kurai, Lakhnadon and Chapara blocks were selected for the study. 10 villages selected randomly from the selected blocks. After that 15 respondents were selected randomly from each selected village. Thus a total 150 respondents had the sample for the research. The data were collected with the help of interview schedule which was prepared on the basis of objectives of the study.

### Result

Practisewise knowledge level of farmers Table 1 regarding recommended organic farming practices (n=120)

The data show in the Table 1 indicate level of knowledge of all respondents about organic farming practices. It is evident from the Table that regarding *in situ* incorporation of crop residues, 50.00 percent had full knowledge, 24.67 percent had partial knowledge and 25.33 percent had no knowledge. Regarding selection of good seed, 47.33 percent had full knowledge. 36.00 percent had partial knowledge and 16.67 percent had no knowledge. Regarding seed inoculation, 52.00 percent had full knowledge 26.67 percent had partial and 21.33 percent had no knowledge.

Regarding application of FYM/Nadep compost, 66.67 percent had full knowledge and 33.33 percent had partial knowledge. Regarding raising green manure and incorporation, 38.67 percent had full knowledge, 42.67 percent had partial knowledge and 18.67 percent had no knowledge. Regarding application of vermi-compost 44.67 percent had full knowledge, 42.00 percent had partial knowledge and 13.33 percent had no knowledge. Regarding use of biogas slurry, 70.00 percent had full knowledge, 28.67 percent had partial knowledge and 1.33 percent had no knowledge. Regarding use of amrit pani, 12.00 percent had full knowledge, 36.00 percent had partial knowledge and 81.00 percent had no knowledge.

Regarding use of amrit sanjivani, 11.33 percent had full knowledge, 48.00 percent had partial and 40.67 percent had no knowledge. Regarding use of matka khad, 27.33 percent had full knowledge, 52.67 percent had partial knowledge and 20.00 percent had no knowledge. Regarding use of litter, 65.33 percent had full knowledge, 32.67 percent had partial knowledge and 2.00 percent had no knowledge. Regarding use of khali khad,

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TABLE - 1 : Management of plant nutrients and pests

Practise	FK	%	PK	%	NK	%	Frequency (n)
<b>A. Integrated Plant Nutrient Management</b>							
In situ incorporation of crop residues	75	50.00	37	24.67	38	25.33	150
Selection of good seed	71	47.33	54	36.00	25	16.67	150
Seed inoculation	78	52.00	40	26.67	32	21.33	150
Application of FYM/Nadep compost	100	66.67	50	33.33	0	0.00	150
Raising green manure and incorporation	58	38.67	64	42.67	28	18.67	150
Application of vermicompost	67	44.67	63	42.00	20	13.33	150
Use of biogas slurry	105	70.00	43	28.67	2	1.33	150
Use of amrit pani	18	12.00	54	36.00	78	81.00	150
Use of amrit sanjivani	17	11.33	72	48.00	61	40.67	150
Use of marka khad	41	27.33	79	52.67	30	20.00	150
Use of litter	98	65.33	49	32.67	3	2.00	150
Use of khali khad	32	21.33	66	44.00	52	34.67	150
Use of press mud	54	36.00	72	48.00	24	16.00	150
Use of poultry manure	66	44.00	60	40.00	24	16.00	150
Use of tank silt	43	28.67	67	44.67	40	26.67	150
Use of sing khad	30	20.00	78	52.00	42	28.00	150
Use of neem khali	32	21.33	67	44.67	51	34.00	150
<b>B. Integrated pest Management</b>							
Summer Ploughing	114	76.00	36	24.00	0	0.00	150
Hand weeding	106	70.67	29	19.33	15	10.00	150
Use of neem oil	87	58.00	52	34.67	11	7.33	150
Use of neem leaf extract	50	33.33	78	52.00	22	14.67	150
Use of tobacco decoction	22	14.67	59	39.33	69	46.00	150
Use of light trap/pheromone	73	48.67	55	36.67	22	14.67	150
Installation of bird perches before flowering	30	20.00	81	54.00	39	26.00	150
Spray of the NPV/Bt at early infestation stage	17	11.33	71	47.33	62	41.33	150
Use of cow urine	49	32.67	69	46.00	32	21.33	150
Use of rotated fermented curd milk	27	18.00	81	54.00	42	28.00	150
Use of ipomiye (beshram)	31	20.67	55	36.67	64	42.67	150
Tricoderma	104	69.33	37	24.67	9	6.00	150
Use of chilli / garlic	33	22.00	53	35.33	64	42.67	150
FK = Full Knowledge, PK = Partial Knowledge, NK = No Knowledge							

21.33 percent had full knowledge, 44.00 percent had partial knowledge and 34.67 percent had no knowledge.

Regarding use of press mud, 36.00 percent had full knowledge, 48.00 percent had partial knowledge and 16.00 percent had no knowledge. Regarding use of poultry manure, 44.00 percent had full knowledge, 40.00 percent had partial knowledge and 16.00 percent had no knowledge. Regarding use of tank silt, 28.67 percent had full knowledge and 26.67 percent had no knowledge. Regarding use of sing khad, 20.00 percent had full knowledge, 52.00 percent had partial knowledge and 28.00 percent had no knowledge. Regarding use of neem khali, 21.33 percent had full knowledge, 44.67 percent had partial knowledge and 34.00 percent had no knowledge.

In summer ploughing, 76.00 percent had full knowledge and 24.00 percent had partial knowledge. Regarding hand weeding, 70.67 percent had full knowledge, 19.33 percent had partial knowledge and 10.00 percent had no knowledge. Regarding use of neem oil, 58.00 percent had full knowledge, 34.67 percent had partial knowledge and 7.33 had no knowledge. Regarding use of neem leaf extract, 33.33 per cent had full knowledge, 52.00 per cent had partial knowledge and 14.67 had no knowledge. Regarding tobacco decoction 14.67 percent had full knowledge 39.33 percent had partial knowledge and 46.00 per cent had no knowledge.

Regarding use of light trap/pheromone trap, 48.67 percent had full knowledge, 36.67 percent had partial knowledge and 14.67 had no knowledge. Regarding installation of bird perches before flowering, 20.00 percent had full knowledge, 54.00 percent had partial knowledge and 26.00 percent had no knowledge. Regarding spray of NPV/ Bt at early infestation stage 11.33 percent had full knowledge, 47.33 percent had partial knowledge and 41.33 percent had no knowledge. Regarding use of cow urine, 32.67 percent had full knowledge,

46.00 percent had partial knowledge and 21.33 percent had no knowledge.

### Discussion

The knowledge of all respondents about organic farming practices were combined together to determine the overall knowledge. It was found that majority of them had full knowledge level in significant percentage of organic farming practices like *in situ* incorporation of crop residues, selection of good seed, seed inoculation, application of FYM/ Nadep compost, application of vermicompost, use of biogas slurry, use of poultry manure, summer ploughing, hand weeding, use of neem oil, use of light trape/pheromone and trichoderma.

It was found that majority of them had partial knowledge in significant percentage of practices like raising green manure and incorporation, use of amrit sanjivani, use of matka khad, use of khali khad, use of press mud, use of tank silt, use of sing khad, use of neem khali, use of neem leaf extract, installation of bird perches before flowering, spray of Ha NPV/Bt at early infestation stage and use of rotated/ fermented curd milk.

It was found that majority of them had no knowledge in significant percentage of practices like use of amrit pani, use of tobacco decoction, use of ipomiya (beshram) and use of chili/garlic.

### Implication

The findings of this investigation are very much useful in creating awareness amongst the farmers to reduce use of chemical materials. Modern agriculture based on the use of chemical fertilizers and pesticides certainly has helped to increase farm productivity however the high cost of these chemical input, their environmental effects and implications to human health have prompted both farmers and agricultural researches to develop alternative farming techniques. Organic farming is the solution to mitigate the above problem, organic farming is becoming increasingly popular in the developing countries.

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