

PERCEPTION OF PESTICIDE SELLERS TOWARDS USE OF PESTICIDES ON FOOD COMMODITIES.

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Abstract

Pesticide residues in or on food commodities is the major concern towards the food safety. Today's era characterized by the tremendous application of chemical pesticides in agricultural field. Present study were conducted in Jalgaon district to assess the overall use of pesticide for agriculture purposes. This study includes the survey of pesticide sellers by considering different aspects in questionnaire regarding the use and sell of pesticides throughout the district. Total 40 pesticide sellers were interviewed to evaluate the awareness level and knowledge about safe use of pesticides. The study has found that 59% of sellers did not receive any type of training regarding safe use of pesticides. 63% of sellers were aware about required dose of pesticide and its preparation for spraying on crops.

Key words: Pesticide seller, residue, questionnaire, safe use and handlings

Introduction:

Use of pesticides is the need of present era to increase the crop production and to meet the increasing world food demand. The superfluous use of chemical pesticides in agricultural fields results in residual contents of pesticides on food commodities. Many previous studies in worldwide shows the insufficient management and lack of awareness towards the use of pesticide¹. Usually the farmers are new to vegetable production and they used synthetic chemical pesticides for management of insect, pest and diseases. Farmers are primarily depends on pesticide sellers to get information on use of pesticides².

India is the largest producer of fruits and vegetables. As compared to others, fruits and vegetables crop received significant high quantity of pesticides and consumption is 13 per cent of the total pesticides in the country³ (Nigam and Murthy, 2000). Residual content of pesticides on vegetables, exceeding than the permissible limits is widely raised food safety issue. Different studies reported the unsystematic and excessive use of pesticides and residues are beyond the safe limits in India and other developing countries⁴. The pesticide residues beyond the permissible limits has been reported in processed and preserved food also⁵. Long term and low dose exposure affects to human health by hormone disruption, reproductive abnormalities and increased cases of cancer⁶. Toxicity also depends on the route of exposure and its function¹⁰. Indiscriminate use of pesticides causes ecological disturbance by existing pesticide residues in food chain including cereals, pulses and milk products⁷. Many health issues related to handling and use of pesticides are more in developing countries due to lack of awareness among farmers⁸. Farmers use chemical pesticides due to their effectiveness but it causes loss of natural pest enemies' also⁹.

Pesticide sellers are the chief character in decision making for the pesticide application in field. Many farmers are dependent on pesticide sellers for proper selection of pesticide, their quantity of application and way of application. Pesticide sellers were also contributing to pollution caused by pesticides because most of them are own unaware about safe handling of pesticides and correct recommendation of pesticide for proper identified pest and diseases. The misguidance of pesticide sellers to farmers resulted in inappropriate use of pesticides.

Methodology:

The present study was conducted to assess the awareness level among pesticide sellers in Jalgaon city and nearby villages. Jalgaon District is located in North West region of Maharashtra State and bounded by the Satpuda mountain ranges having the geographical area of 11639 sq. km. The cultivable land in this region falls under two main categories, namely *jirayati* (dry crop land) and *bagayati* (irrigated land).

Total 40 pesticide sellers were interviewed from selected study area. The questionnaire was formulated which mainly focus on the aspects such as - the literacy level of pesticide seller, experience in selling of pesticides, most demanded pesticides in study area, provision of pesticide, recommendation by farmers, any training course on safe use and sale of pesticide, required dose and disposal of expired material. The responses from pesticide sellers were collected in their own shop for their convenience.

Result and Discussion:

Pesticide sellers were showed active participation and responses during data collection. Most of the farmers take advice of sellers for selection of pesticide and its effectiveness against insects and pests. Table 1 and figure 1 shows the responses of pesticide sellers during the study.

Table 1. Responses of pesticide sellers towards the questionnaire

Sr No.	Interviewed questionnaire		Responses(%)
1.	Literacy level	Higher secondary Education	11
		Graduation	68
		Post-graduation	21
2.	Experience in selling of pesticides	Less than 5 years	14
		Between 5 to 10 years	39
		Greater than 10 years	47
3.	Provision of Pesticides	By reading label on Containers	17
		By watching T.V., media advertisement	4
		Information through company representatives	79
4.	Any training course on use and safety about pesticides	Yes	41
		No	59
5.	Are farmers brought recommendation for use of pesticides?	Yes	22
		No	78
6.	Any knowledge about required dose and preparation of pesticides for spray	Yes	63
		No	37
7.	Disposal of expired material	Throw	37
		Return to company	63
8.	Most sold pesticide to farmers	Insecticides	74
		Fungicides	19
		Herbicides	7

Literacy level and experience

The study reveals that, most of the sellers (68%) were graduate. 21 % were post graduate followed by 11 % of sellers were receiving higher secondary education. About 14 % of pesticide sellers have very less experience i.e. less than 5 years and 47 % were experienced higher than 10 years in selling of pesticides.

Provision of pesticides

Pesticide sellers suggested pesticides to farmers to spray on crops. 79% sellers get information through company representatives and provide chemical pesticides to farmers. 17 % sellers were read label on pesticide containers and 4 % were get information by watching T.V. or by Media advertisements for provision of pesticides to farmers.

Training course on use and safety about pesticides

The study conducted shows that, 59 % sellers were not received any type of training for safe pesticide use followed by 41 % of sellers were received training or attended the conference on use and safety about pesticide handling.

According to pesticide sellers, only 22 % farmers were brought recommendation for specific pesticide compound and 78 % farmers were dependent on other sources or their own decision.

It is very important to have a knowledge about required dose of particular pesticide compound and its preparation for spraying in agricultural field. Therefore, about 63 % sellers have knowledge about required dose of pesticide and how to prepare the solution for spraying and 37 % sellers would not have knowledge about it.

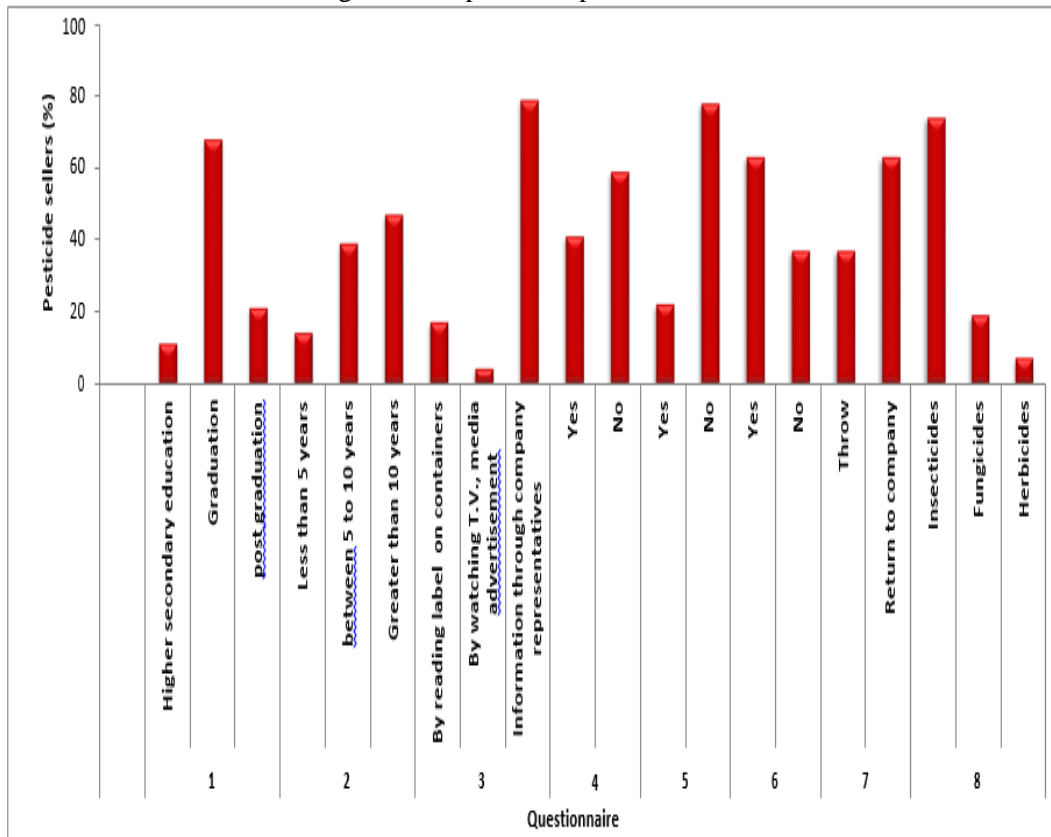
Disposal of expired material

The expired material was returned to company by 63 % pesticide sellers and 37 % sellers were throwing or buried the expired material.

Most sold pesticides

The data from survey of sellers shows that the insecticides were highly demanded by farmers (74 %) followed by fungicides (19 %) and herbicides (7%).

Figure 1. Responses of pesticide sellers



Note: Questionnaire- 1) Literacy level 2) Experience in selling of pesticides 3) Provision of pesticide 4) Training course on use and safety about pesticides 5) Are farmers brought recommendation for use of pesticides? 6) Knowledge about required dose and preparation of pesticides for spray 7) Disposal of expired material 8) Most sold pesticides to farmers

Conclusion

The present study shows the perception and awareness level of pesticide sellers towards the safe use and handling of pesticides. Along with this, focus on the literacy level of sellers, their experience and knowledge about correct required dose of pesticide and its preparation for use in field. Literacy level and experience can help pesticide sellers for effective suggestion of pesticide to farmers. Continuous training programme by governments and NGO's for pesticide sellers will be helpful to increase their perception towards the use and handling of pesticides. Awareness regarding integrated pest management and use of organic fertilizers should be increased among farmers and pesticide sellers to avoid harmful impacts of chemical pesticides on human health and ecosystem. Throwing of expired chemical pesticides, causes the health hazards to livestock and pollutes aquatic bodies, disturbs soil quality. Educating the pesticide sellers on good management practices for pesticides can minimize the health risk to consumers.

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