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RESEARCH PAPER

Knowledge level of farmers of Dharwad district towards farm waste management

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Abstract: Farm waste is a serious economic, environmental and social problem. There is a need to analyze different types of waste produced in production, processing and management practices for better utilization of agricultural waste materials. Farm waste management helps framers to reduce cost on fertilizers and increasing yield of crops. Farm waste conversion reduces waste flow into air, water and reduces greenhouse gas emissions such as carbon dioxide and nitrous oxide. An exploratory research design was used to know the knowledge level of farmers towards management of farm waste in the selected talukas of Dharwad district. From Dharwad district Dharwad and Kundgol taluka were selected. In total 120 farmers were selected through purposive random sampling technique. The data was analyzed by using suitable statistical tools. The results revealed that majority (90.00%) of the farmers in both Dharwad & Kundgol taluka had fully aware that farm waste includes crop waste, domestic waste and livestock waste followed by more than 75 per cent of the farmers were fully aware about utilizing farm waste and that will increase their crop yield. About 80 per cent of the farmers were aware that the farm waste can be used for production of different products. While very few of the farmers (37.00%) fell in low knowledge category. It could be concluded that, all the crop wastes are placed in the right time and right place for best utilization in order to convert into useful products and control of pollution by proper waste management

Key words: Farm waste, Knowledge level, Utilization of farm waste, Waste management

Introduction

Farm waste is a serious economic, environmental and social problem. There is a need to analyze different types of waste produced in production, processing and management practices for better utilization of agricultural waste materials. By adopting waste management products all the crop wastes are placed in the right time and right place for best utilization in order to convert into useful products and control of pollution. (Omid Minooei and Mokshapathy 2017). Agriculture waste management practices integrate principles of crop production, sustainability of soil and environment quality.

Major practices related to on farm agriculture waste management are,

It is the product of the decomposition process using various species of worms, to create a mixture of decomposing agriculture waste, bedding material and vermicast.

It is organic matter that has been produced by decomposing agri waste in a process called composting. This process recycles various organic materials otherwise regarded as waste products and produces a soil conditioner. Or a mixture of various decaying organic substances, as dead leaves or manure, used for fertilizing soil.

Silage is the material produced by controlled fermentation, under anaerobic conditions by using chopped agriculture waste or forage with high moisture content. Silage is produced by the activities of naturally occurring bacteria that convert some of the plant sugar into organic acids that preserve nutritional qualities.

The harvested crop stalks /stubbles chopped into small pieces and incorporated into the soil with varying efficiencies depending upon the left over crop residue. It improves the soil physical properties and hence, results in increased crop yield.

Farm waste management helps framers to reduce cost on fertilizers and increasing yield of crops. Farm waste conversion reduces waste flow into air and water. It helps in reducing greenhouse gas emissions such as carbon dioxide and nitrous oxide. Keeping this in view, the study was conducted to know the Farm waste management practices and their utilization in agriculture and allied sectors by the farmers of Dharwad district.

Objectives

To explore the Knowledge level of the farmers towards management of farm waste,

To study the Knowledge level of farmers towards utilization practices of farm waste.

Material and methods

The present study was conducted in Dharwad district of Karnataka state during the year of 2022-23. An exploratory research design was used to know the knowledge level of farmers towards management of farm waste in the selected talukas of Dharwad district. From Dharwad districts Dharwad and Kundgol taluka were selected. Purposive random sampling technique was used for selection of sample because multiple cropping systems are practiced in these talukas. From each taluka, 60 farmers were selected randomly. Hence a total of 120 (one hundred twenty) farmers were interviewed for the study. The farmers were interviewed individually using self structured

questionnaire at their residences and fields to collect required data. The answers to the questions were quantified by giving a three score to fully aware and one score to not aware. Based on the scores, the respondents were classified into the three knowledge level categories *viz*., low, medium and high using mean and standard deviation as measure of check (Fig.1). The information collected through the responses of the respondents, were suitably coded, tabulated and analyzed to draw meaningful inferences by using statistical tools such as frequency distribution and percentages.

Results and discussion

Table 1 revealed that, perspective statements were asked to farmers on knowledge level of farm waste and farmers have given their responses to each statement. The choices were fully aware, partially aware and not aware. The results revealed that the majority of farmers in Dharwad taluk were fully aware that farm waste includes crop waste (90%) buying farm waste

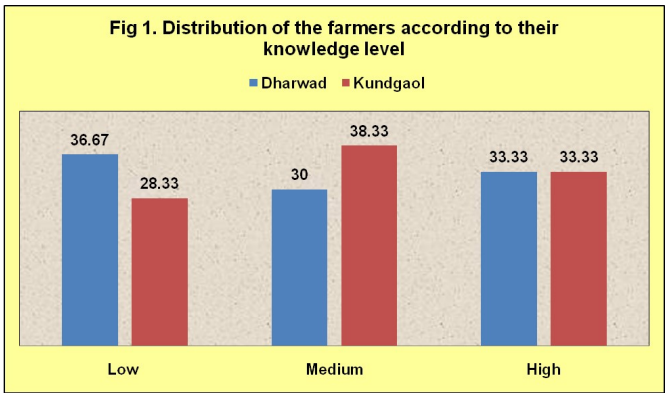

Fig 1. Distribution of the farmers according to different categories of their knowledge level N=120

causes health problems (78.33%), poor impact of improper utilization of farm waste on farmers (53.33%). About more than half of the farmers were partially aware that farm waste leads to soil and water pollution. Same trend can be seen in Kundgol taluk.

Knowledge level of farmers on benefits of proper utilization of farm waste was depicted in Table 2 majority of the farmers were fully aware that utilizing farm waste properly will increase in the crop yield rate (85.00%), reduces environmental pollution. better environment (71.67%), followed by less expenditure on chemical fertilizers (66.67%) and f production of biogas by use of farm waste (65.00%).Similar trend was observed in kundgol taluka farmers about the benefit of proper utilizing farm waste. The results are in line with study conducted by Shweta *et al* (2010) which revealed that better farm waste management increases biological efficiency of environment. The results of the study are in line with the Santhebennur and Jogttappa (2020) who reported that cent percent of the respondents were aware about the causes of water pollution and land degradation from their agricultural activities. More than 75 percent of the farmers were well aware about direct effects caused by chemical pesticides, chemical fertilizers and agro residue on the environment.

Knowledge level of farmers on various products that can be made from farm waste is depicted in Table 3. More than 80.00 percent of farmers in Dharwad taluka were fully aware that farm waste can be used for production of different products such as organic manure (88.33%), compost (85%). Nearly half of the respondents were partially aware that farm waste can be utilized for making poultry litter. Majority of the respondents from both the talukas, were not aware that farm waste can be utilized for making textile fiber and table ware. Less than 50 per cent of the respondents were partially aware that farm waste

Table 1. Knowledge level of farmers on Farm waste N=120

Aspects of knowledge	Dharwad			Kundgol		
	Fully aware	Partially aware	Not aware	Fully aware	Partially aware	Not aware
Knowledge on Farm waste						
Farm waste includes Crop waste, domestic waste and livestock waste	90.00	10.00	0.00	85.00	15.00	0.00
Burning farm waste cause health problems	78.33	20.00	1.67	63.33	33.33	3.33
Farm waste plays a major role in water and soil pollution	40.00	55.00	5.00	35.00	58.33	6.67
Proper farm waste management increase farmers income	55.00	41.67	3.33	50.00	46.67	3.33
Reduced burning of farm waste increases soil fertility and nutrients	46.67	50.00	3.33	45.00	46.67	8.33
Impact of improper utilization of farm waste on farmers	53.33	40.00	6.67	40.00	55.00	5.00

Note: Not aware-1 Partially aware-2, Fully aware-3 Note: Figures in table indicates percentage

Table 2. Knowledge level of farmers on benefits of proper utilization of farm waste N=120

Aspects of knowledge	Dharwad			Kundgol		
	Fully aware	Partially aware	Not aware	Fully aware	Partially aware	Not aware
Increase in Crop yield	85.00	13.33	1.67	78.33	18.33	3.33
Less expenditure on chemical fertilizers	66.67	30.00	3.33	53.33	40.00	6.67
Farm waste can be used for biogas production	65.00	31.67	3.33	53.33	36.67	10.00
Farm waste can be used for vermicomposting	56.67	41.67	1.67	46.67	51.67	1.67
Proper utilization of farm waste reduces environmental pollution	71.67	23.33	5.00	58.33	33.33	8.33

Note: Not aware-1 Partially aware-2, Fully aware-3 Note: Figures in table indicates percentage

Table 3. Knowledge level of farmers about various products that can be made from farm waste N=120

Aspects of knowledge	Dharwad			Kundgol		
	Fully aware	Partially aware	Not aware	Fully aware	Partially aware	Not aware
Production of Organic Manure	88.33	10.00	1.67	81.67	18.33	0.00
Compost	86.67	13.33	0.00	76.67	20.00	3.33
Vermi compost	86.67	11.67	1.67	80.00	16.67	3.33
Handicrafts	35.00	45.00	20.00	28.33	31.67	40.00
Poultry litter	8.33	60.00	31.67	20.00	51.67	28.33
Livestock bedding	85.00	11.67	3.33	83.33	15.00	1.67
Textile fiber	8.33	30.00	61.67	6.67	28.33	65.00
Table ware	6.67	6.67	86.67	6.67	5.00	88.33
Paper products / Cardboard	15.00	48.33	36.67	20.00	31.67	48.33

Note: Not aware-1 Partially aware-2, Fully aware-3 Note: Figures in table indicates percentage

can be used for making handicrafts and paper products. The trend is same in both the talukas. stated that farm waste can be used for developing innovative products.

Data furnished in Figure 1 shows that an almost equal percent of the respondents were fell in all three categories *i.e*. 1/3ed of respondents were fell in low, medium and high categories of knowledge. The results are in line with Harshal (2016) finds lack of awareness among farmers is the major hurdle for better farm waste management.

Conclusion

The knowledge of the farmers on organic farming concepts especially pertaining to the use of chemical insecticides, herbicides and fertilizers is still need to be improved. Most of the farmers in both taluks are still dependent on conventional practices (which include chemicals) for controlling pests and diseases and they do not use organic matters like animal manure, plant manure, and kitchen waste to fertile their plants. Research, development and marketing are also play important role in increasing the production of products through farm waste.

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