

KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING VERMICULTURE BIOTECHNOLOGY OF HOSTEL STUDENTS OF RAJASTHAN UNIVERSITY

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ABSTRACT

The study was conducted to find knowledge, attitude and practices of University students with respect to vermiculture biotechnology. Total 300 students were included in this study. Data collected by self administered questionnaire and analyzed, using 't' test. It was found that knowledge, attitude and practices of the University students regarding vermiculture biotechnology was low, less favorable and moderate respectively and correlation between knowledge and attitude, attitude and practices, knowledge and practices was not found.

INTRODUCTION

Vermicomposting is one of all the methods which can be used for management of wastes from agriculture, industries, kitchen and even aquatic weeds (Edwards, 1998). Vermiculture means scientific method of breeding and raising earthworms in controlled conditions. It aims at creating improved conditions artificially so that earthworms multiply in shortest possible time and space and using worms to decompose organic food waste, turning the waste into nutrient rich material.

According to Asokan et al (2007) about 960 million tones of solid waste is being generated in India annually as byproducts during industrial mining municipal, agricultural and other processes. Of this, 350 million tones are organic waste from agricultural sources, 290 million tones are inorganic waste of industrial and mining sectors and 4.5 million tones are hazardous in nature.

It is estimated that per capita waste generation in India is about 0.4 kg/day with the compostable matter approximately 50-60 per cent. The large quantity of organic waste, generated in India is either burned or land filled posing a problem of safe

disposal. To mitigate this problem all the waste can be converted into highly valuable nutrient rich compost through earthworms in environment friendly manner. Vermiculture is best method to dispose off organic waste. It is an easy to operate and eco-friendly technology for handling biodegradable garbage. It is the latest aspect of biotechnology where application of earthworm is made for recycling the waste disposal problems. For minimizing the pollution effects and to get useful products from wastes, it requires no sophisticated machinery to operate vermiculture and do not produce any odour or any other type of pollution. The technology can be practiced in every home for fast recycling of the domestic wastes for vermicompost formation. Vermicompost is capable of supplying necessary nutrients to help sustain plant growth. It saves water, energy, landfills and helps rebuild the soil.

Knowledge develops skills and builds up desirable scientific attitudes required for adoption of the vermiculture biotechnology. Keeping this in view, the present study was planned to analyze the knowledge, attitude and practices of hostel students regarding vermiculture biotechnology.

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RESEARCH METHODOLOGY

This study attempts to identify the knowledge attitude and practices of University hostel students regarding vermiculture biotechnology. Total 807 students were residing in selected girl's hostels out of which, 300 students were selected for study. The selection of the respondents was done by stratified sampling method. Students were divided into strata according to their level of education (PG and UG). 150 students from UG hostels and 150 students from PG hostels were selected by selecting every 3rd number from the list of students. Then each of these strata was further subdivided according to their stream of education viz science and non-science and 75 students from each stratum were selected. The self administered questionnaires were used to identify knowledge, attitude and practices of University students in the study area. Before it was used, the questionnaire was pre tested in the pilot study. Split half method was used to calculate the reliability.

Descriptive statistics i.e. percentage, mean and standard deviation were used to describe studied variables. 't' test and correlation tests were used according to the objective of the study.

RESULTS AND DISCUSSION

Knowledge regarding vermiculture biotechnology

The responses on knowledge were classified into low, medium and high level of knowledge. It was striking to note that only 1(0.33%) respondent had high level of knowledge regarding vermiculture biotechnology and majority of the hostel students 187(62.33%) had low level of knowledge while 112 (37.33%) were found to have medium level of knowledge towards vermiculture biotechnology. Hosamoni, et.al (2009) observed that majority of the respondents belonged to low category (68.52%) followed by high (20.38%) and medium (11.11%) level regarding vermiculture biotechnology. Maraddi, et al. (2007) found that the majority of the farmers had partial knowledge of vermicompost and biofertilizers. It can be said that the level of knowledge was less in farmers.

Attitude regarding vermiculture biotechnology

The responses regarding attitude of the

respondents are shown in Table 1. Those who had most favourable attitude were assumed that they had positive attitude to convert the organic or kitchen waste in nutrient rich compost through the use of earthworms called vermiculture biotechnology. It was found that only 6 (2%) respondents could be classified as having most favourable attitude and majority of the respondents 224 (74.66%) could be classified as having less favourable, while nearly one fourth (23.33%) of the respondents had favourable attitude. This indicates that they need to change their attitude regarding vermiculture biotechnology. Environmental attitude of young people appears to be crucial as they ultimately play a direct role in providing knowledge based solutions to in coming environmental problems. (Bradly et.al. 1999, Eagles and Demare, 1999).

Table 1. Knowledge, Attitude and Practices of respondents regarding vermiculture biotechnology

S. No.	variables	Category	Number	(%)
1.	Knowledge	Low	187	62.33
		Medium	112	37.33
		High	1	0.33
2.	Attitude	Less favourable	224	74.66
		Favourable	70	23.33
		Most favourable	6	2
3.	Practices	Poor	178	59.33
		Moderate	106	35.33
		Good	16	5.33

Practices regarding vermiculture biotechnology

Practices about vermiculture biotechnology were classified as poor, moderate and good level of practices. It was found that more than half 178(59.33%) of the respondents could be classified as possessing poor practices, while 106 (35.33%) students were having moderate level of practices and only 16 (5.33%) respondents had good level of practices regarding vermiculture biotechnology.

Paengkaew, et al (2006) observed that majority of Asian students appeared to have lack of environmental consciousness and attitude needed to protect their environment. Therefore it is important to develop skills, awareness, and attitude and put in to practice.

Factors influencing knowledge, attitude and practices of the respondents

Knowledge, attitude and practices regarding vermiculture biotechnology are affected by educational level like level of education and stream of education. To find out the difference according to their level of education and stream of education 't' test was used. Table 2 depicts that there was significant difference between level of education and knowledge and stream of education and knowledge regarding vermiculture biotechnology. This may be due to the reason that education and knowledge are correlated with each other so higher level of education has higher level of knowledge about vermiculture. Saini, et al (2005) found that the people with higher education have more awareness about the waste management issues. On the other hand, science stream had made impact on knowledge of the respondents regarding vermiculture biotechnology. It means science stream have high knowledge regarding vermiculture biotechnology as compared to non-science stream because science curriculum includes scientific knowledge regarding vermiculture biotechnology which makes them aware about this including biology of earthworms and their support in organic waste management.

Attitude of respondents was not affected by level of education that means UG and PG students had same level of attitude towards vermiculture biotechnology which shows UG and PG students have no positive attitude about any eco friendly technique, in which organic kitchen waste is used for preparing vermicompost. From Table 3 it is observed that significant difference has been found between science and non-science students indicating that stream of education affects the attitude of respondents regarding vermiculture biotechnology.

It can be observed from Table 4 that level of education and stream of education did not show any impact on practices of the respondents regarding vermiculture biotechnology. This may be due to the reason that vermiculture biotechnology is a new concept for students and it is not popular at household level.

Table 2. Factors influencing Knowledge of the respondents

S. No.	Factors	Mean	S.D.	't' value
1.	Level of education			
	UG	6.28	2.36	5.22*
	PG	7.74	2.47	
2.	Stream of education			
	Sc.	7.67	2.36	4.71*
	NonSc	6.35	2.51	

* Significant ** Non Significant

Table 3. Factors influencing Attitude of the respondents

S. No.	Factors	Mean	S.D.	't' value
1.	Level of education			
	UG	46.39	14.16	1.81**
	PG	49.71	17.29	
2.	Stream of education			
	Sc.	50.46	17.59	2.65*
	NonSc	45.65	13.55	

* Significant ** Non Significant

Table 4. Factors influencing Attitude of the respondents

S. No.	Factors	Mean	S.D.	't' value
1.	Level of education			
	UG	10.35	4.86	1.53**
	PG	11.30	5.85	
2.	Stream of education			
	Sc.	11.42	5.60	1.92**
	NonSc	10.23	5.12	

* Significant ** Non Significant

Relationship between knowledge, attitude and practices for vermiculture biotechnology

Pearson 'r' correlation test was used to find out the association between knowledge, attitude and practices regarding vermiculture biotechnology. As shown in Table 5 that there was no significant relationship between knowledge, attitude and practices. Since knowledge found was very low among students thus they had negative attitude and most of them were not practicing vermiculture biotechnology. So no correlation could be established between knowledge, attitude and practices.

Table 5. Relationship between variables

S.No.	Variables	Co-efficient of correlation
1.	Knowledge and Practices	0.08 NS
2.	Knowledge and Attitude	0.03 NS
3.	Attitude and practices	0.03 NS

CONCLUSION

Thus, it can be said that the majority of the respondents have unsatisfactory knowledge, attitude and inadequate practices related to vermiculture biotechnology. This study has shown a need to improve the knowledge about vermiculture biotechnology to protect environment from negative impact of waste. It is recommended to implement the need based training programme for students at their school hostels and work places.

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