

# Extent of adoption of vermicompost practices by the KVK trained farmers

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## ABSTRACT

The research study was conducted in Gadag and Haveri districts of Karnataka with sample size of 60 respondents. The findings revealed that, 50.00 per cent of respondents of KVK Hulakoti belonged to high adoption category with respect to vermicompost practices, where as 30.00 per cent of respondents of KVK Hanumanamatti were belonged to high adoption category. The respondents had fully adopted the practices of raw materials, used for filling the pit (70.00% and 63.33%), selection of site (66.66% and 26.67%), time of harvesting (56.66% and 50.00%), materials used for pit construction (53.33% and 40.00%) in case of Hulakoti and Hanumanamatti, respectively. Further, it was found that relatively high percentage of KVK, Hanumanamatti respondents had partially adopted the practices like pit size (96.67%), placement of worms in to the pit (93.33%), method of watering (86.67%), filling the pit (76.67%) and selection of site (73.33%).

**Key words :** Vermicompost, Pit size, Method of harvesting, Sequential method of filling the pit

## INTRODUCTION

Indian agriculture has experienced several revolutions *viz.*, green, yellow, blue, brown, etc., but the most important is green revolution which made us self sufficient or even with surplus food to feed the burgeoning human population. Green revolution is the result of increased use of high yielding varieties, fertilizers, pesticides and mechanization but led to some fatigues to our natural resource base (soil and environment). Though by virtue of chemical fertilizers the production and productivity of crops have increased, it also created many hazards like decreased soil flora and fauna. Decreased porosity, increased nutrients mining soil salinity, increased ground water pollution and increased use of pesticides have posed many environmental and health problems.

Agriculture accounts for 26 per cent of India's economy and 64 per cent of labour force. In some states, it accounts for 40 per cent of the domestic product. Agriculture also accounts for 18 per cent of India's exports. Agriculture growth has an impact on poverty eradication. Their developments also help in containing inflation, raising agricultural wages and increasing employment generation.

Agricultural research and education has been considerably advanced in our country. Research contributions in preceding decade had been enormous in all the areas of agricultural production, processing and marketing. The extension machinery however has not been able to cope up with the scientific advances. A gap still exists between the production technologies available

and their rapid transfer to the farmers. Unless this gap is filled, the production technologies now available in agriculture and allied fields cannot be properly harnessed for accelerated production. This is a matter of great concern to all departmental and Non-Governmental Organizations committed to agricultural development in the country.

The training of farmers is a critical input for the rapid transfer of agricultural technologies. The present rate of agricultural production can be doubled if the available technologies are brought to bear with the production process and programmes focusing more and more on transferring our new technologies away from the confines of laboratories and research institutions to the farmers and make them more result and work oriented. In this context, training plays an important role to the farming community in boosting their farm production. Vocational training for the farmer proved to be a significant input in accelerating our farm production. Information regarding agriculture inputs like improved seeds, suitable manures and fertilizers, plant protection measures, credit requirements etc. need urgent attention for fulfilling these tasks.

ICAR had launched the scheme after finding the fact that the training institutes in the country were not sufficient to meet the training needs of the farmers and consequently the process of transfer of technology had been slowed down. Based on the recommendations of the Education Commission (1964-66) and the Inter Ministerial Committee (1973), the ICAR decided to establish Krishi Vigyan Kendras in the country, as they observed the KVKs are of national importance and would

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help in accelerating the agricultural production and also in improving the socio-economic conditions of the farming community. On the basis of Education Commission Report the first KVK was established at Pondicherry under the management of Tamil Nadu Agricultural University, Coimbatore in 1974.

Production of NPK fertilizers in India is less than the required amount and it is estimated that about 5 to 7 million metric tonnes of NPK fertilizer would be the shortfall in the next two decades (Bagyaraj, 2004). Organic manures such as vermicompost, compost, green manure and biofertilisers would found the source to bridge this gap. Besides, the limitations of conventional agriculture have driven the Indian farmer to adopt alternate agricultural systems that are sustainable. It is in this context vermicomposting manure assumes greater practical significance. Therefore it is indeed necessary to educate the farmers to adopt Vermicompost production technology through trainings. Training is an important input which will help farmers to practice techniques scientifically.

Looking at KVKs growth and their increasing demand and utility, it was felt necessary to undertake a study on extent of adoption of vermicompost practices by the KVK trained farmers. The findings of the study will be useful for making modifications in the KVKs programmes and their activities. The findings of the study would also help to understand the adoption behaviour of the trained farmer's about vermicompost practices. Keeping these things in view, the present study was undertaken to study the extent of adoption of improved vermicompost practices by the trained farmers.

## MATERIALS AND METHODS

The present study was conducted in two KVKs, one

managed by University of Agricultural Sciences, Dharwad and the other by NGO. KVK Hanumanamatti and KVK Hulakoti were selected, to represent University of Agricultural Sciences, Dharwad and NGO managed KVKs, respectively, as both of them were the oldest KVKs established in North Karnataka. During the year 2005 and 2006, KVKs had conducted 250 training programmes in the disciplines of Crop Science, Animal Science, Horticulture, Vermicompost, Plant Protection and Home Science. Among these courses, the important course *viz.*, vermicompost practices was considered for the study based on the highest numbers of training programmes conducted by both the KVKs. The list of respondents, who had undergone training programmes during 2005 and 2006 in the areas of vermicompost practices were obtained from the respective KVKs. Thirty respondents from each KVK were selected randomly for the study, thus constituting the total sample size of 60 respondents. In the light of the objectives set for the study, the variables *viz.*, adoption on vermicompost practices was the main items of investigation. In order to measure the adoption quantitatively, important improved practices recommended for vermicompost practices were considered. There were fourteen practices for the adoption of vermicompost practices by the respondents.

To measure level of adoption, recommended important practices were listed and responses for the adoption of each practice were obtained. A numerical score of 2 was assigned for full adoption, while a score 1 was assigned for partial adoption and 0 was assigned for non adoption. Scores of all identified practices were summed up. This sum total was indicative of adoption level of that particular individual respondent. The maximum and minimum adoption score that could be obtained by individual was 28 and 0 for vermicompost practices, respectively. A pre-tested interview schedule

Table 1 : Adoption index of the respondents about vermicompost enterprises (n=60)				
Category	KVK, Hulakoti vermicompost (n <sub>1</sub> =30)		KVK, Hanumanamatti vermicompost (n <sub>2</sub> =30)	
	Adoption index			
	F	%	F	%
Low	8	26.67	12	40.00
Medium	7	23.33	9	30.00
High	15	50.00	9	30.00
Total	30	100	30	100
Mean	58.80		40.95	

Table 2 : Comparison of adoption level of KVK, Hulakoti and Hanumanamatti respondents about vermicompost (n=60)			
Enterprise	Mean adoption score		"t" value
	KVK, Hulakoti	KVK, Hanumanamatti	
Vermicompost	58.80	40.95	3.15**

\* and \*\* indicate significance of values at P=0.05 and 0.01, respectively

was used to collect the data through personal interview method. The data collected were tabulated and analyzed by using suitable statistical measures.

## RESULTS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

### Adoption level of the respondents about vermicompost practices :

#### *Adoption index of the respondents about vermicompost practices :*

The distribution of respondents based on adoption index is presented in Table 1. It can be observed that, 50.00 per cent of respondents of KVK Hulakoti belonged to high adoption category with respect to vermicompost practices, where as 30.00 per cent of respondents of KVK Hanumanamatti were belonged to high adoption category.

#### *Comparison of adoption level of KVK, Hulakoti and Hanumanamatti :*

The data presented in Table 2 illustrates comparison of mean adoption scores of respondents of KVK, Hulakoti and Hanumanamatti about vermicompost practices also their analysis for significance of difference using 't' test. The results shown that the respondents of Hulakoti KVK registered significantly higher adoption scores in vermicompost practices compared to their counterparts in other KVK. The computed 't' values were tested for significance at 1 and 5 per cent.

This was mainly due to more number of respondents had adopted the practices learnt during training. In general the respondents of Hulakoti were found to have more knowledge and also adoption. This was mainly due to timely follow up visits by the scientists to the farmers

fields to provide guidance. A comparison of mean adoption scores of the respondents of training programmes studied supported above findings. The respondents of KVK, Hulakoti had significantly higher mean adoption scores than those of KVK, Hanumanamatti (Table 2). Similar findings were observed by Kharatmol (2006); Ramulu and Rao (1972) and Gangappa (1975).

#### *Adoption of vermicompost practices :*

Data from Table 3 revealed that, adoption pattern of vermicompost by the respondents of Hulakoti and Hanumanamatti.

Respondents had fully adopted the practices like raw materials used for filling the pit (70.00% and 63.33%), selection of site (66.66% and 26.67%), time of harvesting (56.66% and 50.00%), materials used for pit construction (53.33% and 40.00%) in case of Hulakoti and Hanumanamatti, respectively. Further, it was found that relatively high percentage of KVK, Hanumanamatti respondents had partially adopted the practices like pit size (96.67%), placement of worms in to the pit (93.33%), method of watering (86.67%), filling the pit (76.67%) and selection of site (73.33%).

The higher level of adoption by the respondents of KVK Hulakoti might be because of the resource availability and larger holdings. As already seen farmers trained by KVK Hulakoti had significantly higher knowledge than farmers trained by KVK Hanumanamatti could have contributed for overall better adoption and performance by farmers trained by KVK Hulakoti. Higher adoption was mainly due to community organizers at village level helped in motivating farmers to adopt the technologies. The partial adoption of the practices was relatively high in KVK Hanumanamatti. This might be due to lack of proper knowledge of the practices. The non adoption of the practices might be due to lack of knowledge and non-availability of inputs and credit at right time. The results were in agreement with the findings of

**Table 3: Adoption pattern of improved practices of vermicompost by the respondents**

(n=60)

Sr. No.	Practice	Trainees of KVK Hulakoti						Trainees of KVK Hanumanamatti (n=30)					
		Full adoption		Partial adoption		Non adoption		Full adoption		Partial adoption		Non adoption	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1.	Selection of site	20	66.66	10	33.34	0	0.00	8	26.67	22	73.33	0	0.00
2.	Pit size (10×1×3 mts)	3	10.00	27	90.00	0	0.00	1	03.33	29	96.67	0	0.00
3.	Materials used for pit construction	16	53.33	14	46.67	0	0.00	12	40.00	18	60.00	0	0.00
4.	Raw materials used for filling pit	21	70.00	9	30.00	0	0.00	19	63.33	11	36.67	0	0.00
5.	Sequential method of filling pits	11	36.67	19	63.33	0	0.00	7	23.33	23	76.67	0	0.00
6.	Placement of worms to pit	11	36.67	19	63.33	0	0.00	2	06.67	28	93.33	00	0.00
7.	Method of watering	11	36.67	19	63.33	0	0.00	4	13.33	26	86.67	0	0.00
8.	Time of harvesting	17	56.66	13	43.34	0	0.00	15	50.00	15	50.00	0	0.00
9.	Method of harvesting	10	33.33	20	66.67	0	0.00	10	33.33	20	66.67	0	0.00

Kharatamol (2006) who reported that high majority of vermicompost trained farmers had adopted the practices like material used for pit construction, material used for filling the pit and harvesting of the vermicompost. The similar results were also observed by Sathiadas *et al.* (2003), Raghunandan (2004), Sunil Kumar (2004) Khin Mar Oo (2005), Chaudhari (2006) and Venkatesh Reddy (2006), Pamadi (1980), Rotti (1983), Jagadal (1989), Sakharkar *et al.* (1992) and Channal (1995), and Nagaraj (2002).

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