Constraints Perceived by the Farmers in Preparation of Vermicompost

A.C.Vaidya[1], A.R.Macwan[2] and D. D. Patel[3]

1 Associate Professor, College of Veterinary Science and A.H., AAU, Anand - 388110
2 Assistant Professor, Polytechnic in Agriculture, AAU, Vaso, Dist. Kheda
2 Technical Officer to V.C., Office of Vice Chancellor, AAU, Anand-388110
Email : acvaidya@aau.in

ABSTRACT

The study was undertaken in Anand district of Gujarat state to know the constraints perceived by the farmers in preparation of vermicompost regarding various aspects of vermicomposting. All the vermicompost making farmers of 24 villages of eight taluka of Anand district were covered. The important technological constraints perceived by the farmers were, pH of vermibed, ill effect of micro organism in vermibed and temperature of vermibed.

Keywords: *Vermicompost, Vermibed*

INTRODUCTION

Earthworms have been called 'nature's ploughman'. Charles Darwin was the first Scientist to study them. He also called them a 'barometer of soil fertility'. Earthworms are one of the most useful and active agency in increasing suitable chemical, physical and microbiological changes in the soil and thereby directly increasing the fertility and crop producing power of the soil, provided suitable condition exit for their life activities

Vermicomposting is derived from the Latin terms, meaning worms. Vermicomposting is essentially the consumption of organic material by earthworms. This speed up the process of decomposition and provides a nutrient-rich end product, call vermicompost, in the form of worm castings.

Over 4,400 species of earthworms have been identified and named by researchers. The efficient species of earth worm are : (1) *Eisenia foetida*, (2) *Amyanthes diffrigens* and (3) *Eudrillus engineac*

Nutrient content of vermicompost

Sr. No.	Nutrient	Per cent
1	Nitrogen	1.6 – 2.2 %
2	Phosphorus	0.7 – 1.0 %
3	Potash	1.2 – 1.5 %
4	Calcium	0.5 – 0.7 %
5	Magnesium	0.3 – 0.5 %
6	Sulphur	0.25 - 0.5 %

OBJECTIVES

(i) To study the profile of the farmers.

(ii) To analyze the constraints perceived by the farmers in preparation of vermicompost.

(iii) To obtained suggestions of the farmers to overcome the constraints in preparation of vermicompost.

METHODOLOGY

Interview schedule was developed according to the objectives of research study. The data were collected through the personal interview schedule from all the vermicompost making farmers of 24 villages of eight taluka of Anand district. Hence study was conducted on 34 farmers. The data were tabulated and analysis on the basis of frequencey and percentage.

RESULTS AND DISCUSSION

The data presented in Table 1 indicate that half of the respondents were from middle age group followed by 29.41 per cent of the farmers were from old age group (above 50 yrs.). 38.24 per cent of farmers had up to secondary level of education followed by 35.29 per cent had education up to graduate level. More than half (58.82 per cent) of the farmers possess up to five members in their family. More than half (55.88 per cent) of the farmers had income ₹ 1,00,000 to 5,00,000 where as 32.35 per cent of the farmers has income up to ₹ 1,00,000. More than half (55.88 per cent) of the farmers had above two hector of land followed by 26.47 per cent of the farmers had up to 1 hectors of land. Slightly less

Profile of the farmers

Table 1 : Distribution of the farmers according to their profile N=34

No	Characteristic	Category	No.	Per cent
1	Age	Young age(Up to 35 year)	07	20.59
		Middle age (35 to 50 year)	17	50.00
		Old age(Above 50 year)	10	29.41
2	Education	Illiterate	01	2.94
		Up to Primary level	01	2.94
		Up to Secondary level	13	38.24
		Up to HSC level	06	17.65
		Graduate	12	35.29
		Post Graduate	01	2.94
3	No. of Family member	Up to five	20	58.82
		Above five	14	41.18
4	Annual Income	Up to ₹.1,00,000	11	32.35
		₹ 1,00,000 to 5,00,000	19	55.88
		Above ₹ 5,00,000	04	11.76
5	Land holding	Up to 1 ha	09	26.47
		1 to 2 ha	06	17.65
		Above 2 ha	19	55.88
6	No. of Animal	Up to 5	08	23.53
		5 to 10	16	47.06
		Above 10	10	29.41
7	Sources of information	Village level workers	10	29.41
		Relatives	07	20.59
		Friends	17	50.00
		Scientist of AAU	19	55.88
		Government officers	07	20.59
		Progressive farmers	08	23.53
8	Mass media contact	Newspaper reading	28	82.35
		Agricultural magazine reading	26	76.47
		Watching agricultural T.V. programme	17	50.00

than half (47.06 per cent) of the farmers had five to ten animals where as 29.41 per cent has more than ten animals. Data presented in Table 1 indicated that more than half (55.88 per cent) of the farmers were in the contact of scientist of Anand Agricultural University to obtain information. Half of the respondents were obtaining information from their friends. 82.35 per cent of the farmers had habit of reading of daily news paper. 76.47 per cent of the farmers were using agricultural magazine for reading and half of them had habit of watching Agricultural Programme on T.V.

(a) Technological constraints

The data presented in Table 2 indicate that 73.53 per cent of farmers perceived pH of verminbed as important technological constraints. Slightly more than half (52.94 per cent) of farmers perceived ill effect of micro organism in vermibed as another important technological constraints and slightly more than two fifth (41.18 per cent) of farmers perceived as temperature of vermibed was also another important technological constraint in vermicomposting. Technological constraints like Selection of location for vermicompost unit and Information pertaining to use of other sources for vermicompost besides FYM were up to somewhat important constraints

Contraints perceived by farmers

Table 2 : Technological constraints perceived by farmers in preparation of vermicompost N=34

No.	Constraints	Important constraints (%)	Some What important constraints (%)	Less important constraints (%)
1	Lack of information pertaining to useful strains of worm	11.76	38.24	50.00
2	Available sources of worms	05.88	32.35	61.76
3	Selection of location for vermicompost unit	11.76	50.00	38.24
4	Ideal measurement of vermibed	08.82	38.24	52.94
5	Optimum length, width and height of vermicompost shed	08.82	38.24	52.94
6	Information pertaining to use of other sources for vermicompost besides FYM	35.29	35.29	29.41
7	Availability of experienced labour for vermicompost preparation	23.53	14.71	61.76
8	Inoculation rate of worms per square meter of vermibed	20.59	29.41	50.00
9	Moisture percent of vermibed	05.88	32.35	61.76
10	pH of vermibed	73.53	14.71	11.76
11	Temperature of vermibed	41.18	35.29	23.53
12	Incubation period of one batch of vermicompost	05.88	08.82	85.29
13	Separation of worms from the vermicompost manure	08.82	23.53	67.65
14	Ill effect of microorganism in vermibed	52.94	23.53	23.53

Farmers perceived remaining all the technological constraints as less important like Lack of information pertaining to useful strains of wormicompost, Available sources of worms, Ideal measurement of vermibed, Optimum length, width and height of vermicompost shed, Availability of experienced labour for vermicompost preparation, Inoculation rate of worms per square meter of vermibed, Moisture percent of vermibed, Incubation period of one batch of vermicompost, Separation of worms from the vermicompost manure.

It is evident from the data presented in Table 3 that farmers perceived all financial constraints as important. More than 71 per cent of the farmers were perceived important financial constrains like Construction cost of vermicompost shed, Labour cost of vermicompost and Price of FYM for vermicompost.

More than two third (67.86 per cent) farmers perceived as Price of worms and Availability of FYM was an important financial constraints. More than two fifth of the farmers perceived remaining all the financial constraints as an important constraints.

(b) Financial constraints

Table: 3 Financial constraint perceived by farmers in preparation of vermicompost N=34

No.	Constraints	Important Constraints (%)	Some What important (%)	Less important (%)
1	Construction cost of vermicompost shed	71.43	25.00	3.57
2	Economical viability of vermicompost for small and marginal farmers	50.00	35.71	14.29
3	Labour cost of vermicompost	75.00	17.86	7.14
4	Availability of FYM	67.86	25.00	7.14
5	Price of FYM for vermicompost	71.43	25.00	3.57
6	Price of worms	67.86	21.43	10.71
7	Awareness regarding Government schemes for vermicompost	46.43	21.43	32.14
8	Marketing of vermicompost	46.43	25.00	28.57
9	Storage facilities of vermicompost	42.86	28.57	28.57

Suggestions of farmers to overcome constraints faced in preparation of vermicopost

It is observed from the Table 4 that major suggestions given by the farmers to overcome constraint perceived by them in the preparation of vermicompost in descending order of rank were; To increase the awareness of farmers regarding advantages of vermicompost, Training programmes should be conducted by State Government / SAUs regarding ideal vermicompost preparation, Free of cost provision of literature pertaining to preparation of vermicompost to needy farmers, Provision of excellent stains of worms at reasonable rate to needy farmers, Farmer's training and visits of successful vermicompost units, Development of market infrastructure for vermicompost and Financial support by Government for creation vermicompost sheds to small and marginal farmers.

Table 4 : Major suggestions given by the farmers to overcome constraints perceived by them in the preparation of vermicompost. N=34

No.	Suggestions	Mean Score	Rank
1	To increase the awareness of farmers regarding advantages of vermicompost	4.29	I
2	Training programmes should be conducted by State Government / SAUs regarding ideal vermicompost preparation	4.18	II
3	Financial support by Government for creation vermicompost sheds to small and marginal farmers	3.65	X
4	Farmer's training and visits of successful vermicompost units	3.85	V
5	Provision of excellent stains of worms at reasonable rate to needy farmers	4.03	IV
6	Development of market infrastructure for vermicompost	3.85	V
7	Free of cost provision of literature pertaining to preparation of vermicompost to needy farmers.	4.09	III

CONCLUSION

The important technological constraints perceived by the farmers were, pH of vermibed, ill effect of micro organism in vermibed and temperature of vermibed. Technological constraints like selection of location for vermicompost unit and information pertaining to use of other sources for vermicompost besides FYM were up to somewhat important constraints.

The major suggestions given by the farmers to overcome constraints were, to increase the awareness of farmers regarding advantages of vermicompost, training programmes should be conducted by State Government / SAUs regarding ideal vermicompost preparation, free of cost provision of literature pertaining to preparation of vermicompost to needy farmers, provision of excellent stains of worms at reasonable rate to needy farmers, farmer's training and visits of successful vermicompost units, development of market infrastructure for vermicompost and financial support by Government for creation vermicompost sheds to small and marginal farmers.

REFERENCE

Patel , R. H. Patel, B.G. and Meishari, T.G. (2004), "Vermicompost : Biotechnology dawara utpadit khater" Published by Publication Department, AAU, Ananad

Received : July 2014 : Accepted : November 2014