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KNOWLEDGE OF VERMICOMPOST TECHNOLOGY AMONG THE TRIBAL BENEFICIARIES OF NATIONAL AGRICULTURAL INNOVATION PROJECT UNDER COMPONENT- III IN BANASKANTHA DISTRICT, GUJARAT

Ila .B. Parmar, David P.Vihol, Mayur Prajapati
Department of Home science Extension and Communication Management, Aspee College of Homescience & Nutrition, S.D. Agricultural University, Sardarkrushinagar Gujarat India.

A B S T R A C T

Vermicomposting is the term given to the process of conversion of biodegradable matter by earthworms into vermicast. In the process, the nutrients contained in the organic matter are partly converted to bioavailable forms. The hormones and enzymes are believed to stimulate plant growth and discourage plant pathogens. Further the objectives for the study 1. To Measure the knowledge level about the package of practices of vermicompost of the tribal beneficiaries of NAIP –III. 2. To assess the association between the personal, social, economic, communication and situational attributes of the tribal beneficiaries and their level of the knowledge about the vermicompost practices. The present study was undertaken in one district viz., Bansakantha, of North Gujarat state. The district was purposively selected for the study being the more number of vermicompost making framers under NAIP-III. For selection of taluka, villages and respondents, three stage random sampling technique with purposive selection was employed. All beneficiaries' farmers of vermicompost farmers were selected from each village. A total of 120 vermicompost farmers were selected from 6 villages of 2 talukas. Thus final sample constituted of 120 farmers. Majority (71.67 per cent) of the respondents were having medium level of knowledge followed by 15.83 per cent of them had low level of knowledge and 12.50 per cent of the respondents had high level of knowledge.

Keywords: Knowledge, Innovation, Tribal, Vermicompost.

INTRODUCTION:

Increased usage of chemical fertilizers without adequate organic recycling has not only aggravated multi-nutrient deficiencies in soil plant system but also deteriorated soil health and created environment pollution. Moreover, chemical fertilizers are becoming costlier input in agriculture because of increasing oil prices. Therefore, it is right time to evaluate the feasibility and efficiency of organic manures but also increasing the efficiency of chemical fertilizers. Organic Farming is giving back to the nature what is taken from it. It is not mere non-chemicalism in agriculture, it is a system of farming based on integral relationship. Therefore, one should know the relationship among soil, water, plant and microflora and overall relationship between plant and animal kingdom. It is the totality of these relationships, which is the backbone of the organic Farming (Funtilana, 1990). The basic concepts behind vermicompost are: It concentrates on building up the biological fertility of the soil so that the crops take the nutrients they need from the steady turnover within the soil nutrients produced in this way and are released in harmony with the needs of the plants. Control of pests, diseases, and weeds is achieved largely by the development of an ecological balance within the system and by the use of bio-pesticides and various cultural techniques such as crop rotation, mixed cropping, and cultivation (Caporali, 2003).

Vermicompost farmers recycle all wastes and manures within a farm but the export of the products from the farm results in a steady drain of nutrients. Vermicomposting is the process by which worms are used to convert organic materials (usually wastes) into a

* Corresponding Author:
Email: ilaparmar88@gmail.com

humus-like material known as vermicompost. The goal is to process the material as quickly and efficiently as possible. Vermiculture is the culture of earthworms. The goal is continually increase the number of worms in order to obtain a sustainable harvest. Earthworms have always been regarded as friends of the farmers. Earthworms have a very positive effect on the physical, chemical and biological parameters of the soils. The earthworm is a soil biotechnologist and a solid waste manager. Earthworms are known to consume large quantities of organic litter or waste and convert them into manure, which is used compost, known as 'vermicompost' (Gupta, 2005). All-in-all, the vermicast is believed to be very good organic fertilizer and soil conditioner (Satya and Dibyanshu, 2012). Vermicompost is a finally divided peat like mineral with excellent structure, porosity, aeration, drainage and moisture holding capacity. To fulfil the Government of India's objectives as expressed in India's National Policy on Agriculture (NPA), the ICAR has initiated National Agricultural Innovation Project (NAIP), which accords high priority to generation and transfer of agricultural technologies, and suggests innovations in the technology system. The R&D priorities of the NAIP are in agreement with the broad objectives of the project and have been designed to match the national and sectoral thrusts also. However, the NAIP was encouraged creative local level needs with need identification on the basis of systematic need assessments within the broad priorities outlined for the NAIP. In fact, the sub-projects supported by the NAIP was integrated the various priority areas in a systems mode to meet the local-level requirements. In Component 3 is, emphasised on improving the sustainability of the farming systems and natural resource management in the less-favourable environments. Higher attention was given to rain-fed, hilly and mountainous, coastal and island eco-regions.

Different interventions are carried out in both the clusters of Banaskantha district viz. Seed village concept (Green gram, Wheat, Fennel), Vegetable farming including off season cultivation in low cost green house, Promotion of Vermicompost, Promotion of Micro irrigation, Water harvesting (Improvement of existing conservation structure), Backyard poultry and goatry. Among these promotion of vermicompost is one important intervention. vermicompost unit have been given to 120 farmers but for continuous or full adoption of vermicompost practices it is necessary to provide license with fact knowledge of create positive attitude it is also necessary to know the suggestions to overcome the contrarian in running the vermicompost unit.

OBJECTIVES

To Measure the knowledge level about the package of practices of vermicompost of the tribal beneficiaries of NAIP –III.

To assess the association between the personal, social, economic, communication and situational attributes of the tribal beneficiaries and their level of the knowledge about the vermicompost practices.

METHODOLGY

The present study was undertaken in Banaskantha district of North Gujarat region of Gujarat state as the NAIP-III project area has been restricted to Banaskantha district, under the jurisdiction of Sardar krushinagar Dantiwada Agricultural University. This study was under taken in Vagdadi (Amirgadh) and Sanali (Danta) cluster of the project. Under "NAIP–III" promotion the activities of vermicompost was one of the important innovations implemented in the operational villages jointly by SDAU and ANaRDe (Acil Navsargan Rural Development) foundation. The vermicompost movement has been continued for last five years. Hence, North Gujarat region was selected purposively for the study. The region covers one districts viz., Banaskantha. "Ex-post facto" research design was used for the study. Kerlinger (1976) stated that ex post research design is worthy to apply when independent variables have already acted upon.

Banaskantha district was selected purposively, because the NAIP- III was undertaken in Bnaskantha district of North Gujarat under the jurisdiction of sardarkrushinagar Dantiwada Agricultural University. In the Banaskantha district the NAIP-III was implemented in Amirgadh and Danta taluka. There were two such talukas in Banaskantha district. Thus, two talukas namely Amirgadh and Danta from the districts were selected purposively. From both the selected talukas (Amirgadh and Danta), six villages namely Khemrajiya, Vagdadi, Mandaliya, Sanali, Hathipagla, Chhotabamodara come under the project NAIP component-III were selected purposively. Total one hundred twenty beneficiaries have been given vermicompost units by the NAIP-III, all these beneficiaries (120) were selected purposively, for the study. Knowledge was operationally defined as the extent to which the vermicompost techniques were known by the respondents. The farmers were grouped in to three levels of knowledge on the basis of their knowledge index.

RESULTS AND DISCUSSION

Knowledge level about the package of practices of Vermicompost farmers: At attempt has also been made to assess the knowledge level about package of practices of vermicompost farmers. Total no. of items was prepared to assess the knowledge level of the farmers. A score of one was assigned to correct answer and 'zero' for incorrect answer. On the basis of the score obtained, the respondents were categorized into three categories.

Table 1. Knowledge level about the Package of Practices of Vermicompost farmers. (n = 120).

Sr. No.	Category	Vermicompost farmers	
		Number	Per cent
1.	Low (0 to 44)	19	15.83
2.	Medium (45 to-66)	86	71.67
3.	High (above 66)	15	12.50
	Total	120	100.00

The result in Table 1 postulated that majority of the respondents (71.67 per cent) were having medium level of knowledge followed by 15.83 per cent of them who had low level of knowledge and 12.50 per cent of the respondents had high level of knowledge. It is evident from the above data that majority of the respondents had medium level of knowledge. The probable reason might be that the respondents might have not acquired the perception in use of new technology. This might be due to traditional thinking of farmers in cultivation of crops.

Association between the personal, social, economic, communication and situational attributes and their level of the knowledge about the vermicompost practices: The action of individual farmers is governed by personal social, economic, psychological and cultural factors involved in situation some farmers manage vermicompost technologies more quickly than others because of the difference in personal characteristics. Similarly if there is difference in economic factors, process of action is changed there by changing the pattern of knowledge level. Thus in nutshell, may be stated that knowledge level differ when there are difference in personal, socio-economic, communication and psychological characteristics and review of post research studies, an attempt has been made in this investigation to ascertain the association if any, between personal, socio-economic attributes and their level of knowledge about the vermicompost practices. This was determined and tested with the help of Karl person's coefficient correlation test and result obtained is presented in Table 2.

Table 2: Association between the personal, socio –economic attributes and their level of the knowledge about the vermicomposting practices.

Sr. No.	Independent Variables	Correlation coefficient ('r' value)
	Personal characteristic	
1	Age	- 0.1926 (NS)
2	Education	0.3482**
	Social characteristic	
1	Family type	0.0912(NS)
2	Family size	-0.0322 (NS)
3	Social participation	0.3553 **
III	Economic characteristic	
1	Land holding	0.2812**
2	Annual income	0.3065**
3	Herd size	0.2519*
	Communication characteristic	
1	Extension contact	0.3568**
	Situational characteristic	
1	Source of water	0.5020**

* Significant at 5% level NS = Non significant ** Significant at 1% level.

The result in Table 2 revealed that the independent variables like, education (0.3482**), social participation(0.3553 **), land holding(0.2812**), annual income(0.3065**), source of water(0.5020**), and extension contact(0.3568**) knowledge had positive and highly significant correlation with management efficiency of vermicompost producer. The variables like age- (0.1926 (NS)), family type(0.0912(NS)), family size(-0.0322 (NS)) showed non- significant relationship with management efficiency of vermicompost producers. Negative correlation was found in case of age and knowledge about vermicompost practices might be due to that the old aged farmers were traditionally they did not want to change and not taking any risk. Which indicate that education play an important role in influencing the management of vermicompost practices. This might be due to that in large size family; decision for vermicompost practices was taken joint and tooks some time. This shows that size of family is not an important variable which influence knowledge level of vermicompost practices of tribal beneficiaries of NAIP project under component-III. This indicates that social participation influence the tribal beneficiaries knowledge level about vermicompost practices as it provide an opportunity to an individual to interact in a organizational way which resulted in acquisition of knowledge and are lively to receive clues from other people that would serve as further, reinforce supporting the concept of raise knowledge vermicompost practices. Thus, the study established the fact that size of land holding had influence knowledge level about vermicompost practices of tribal beneficiaries. The probable reason for positive and highly significant association between extension contact and knowledge level about vermicompost practices may be due to interaction between extension personnel with trible beneficiaries pertainine to improved vermicompost technology which can have cleared their doubts about improved technology. The probable reason for positive and highly significant association between sources of water and knowledge level about vermicompost practices may be due to more utilization of vermicompost due to intensive farming.

CONCLUSION

From the research study it can be concluded that majority (71.67 per cent) of the respondents were having medium level of knowledge followed by 15.83 per cent of them who had low level of knowledge and (12.50 per cent) of the respondents had high level of knowledge. The independent variables like, education, social participation, land holding, annual income, source of water, and extension contact knowledge had positive and highly significant correlation with management efficiency of vermicompost producer. The variables like age, family type, family size showed non- significant relationship with management efficiency of vermicompost producers. In future increase the use of vermicompost use by the farmers. The use of vermicompost also beneficial for soil loss & degradation.

REFERENCES

Caporali F. (2003). Agro ecological aspects of crop production in organic farming, Informatore, Fitopatologico, 53(9), 4-9.

Funtilana S. (1990). Safe, in expensive, profitable and sensible. International Agricultural Development. Vol XI, March-April, p:24.

Gupta, R. D. (2005). Organic farming – Need, concepts and merits: A review. Farmers forum, Sept., 2005. p, 6-9.

Kerlinger, F. N. (1976). "Foundation of Behavioral Research, " Surjit Pub., New Delhi, 198-224.

Satya, P. and Dibyanshu, S. (2012). Benefits of organic manure and their preparation techniques. An International Conference on Extension Education in the Perspectives of Advances in Natural Resource Management in Agriculture (NaRMA – IV), Bikaner: proceedings. p.35.