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Short Communication

Role of NHM trainings to rural masses in value addition of underutilized fruits and vegetables

D. K. Singh, S. K. Trivedi, M. M. Achrya, A. Gunjan and S. Aswal
Krishi Vigyan Kendra, Anta, Baran, Rajasthan- 325202
Maharana Pratap University of Agriculture & Technology, Udaipur
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Horticultural produces grown in Rajasthan are of explicit quality with great nutritional, meditational and economic importance. Some of the fruit like aonla, jamun, tamarind, phalsa, custard apple, karonda, kainth and bael etc. and vegetables such as kachri, beans, bakla, kakora, guar and moringa etc. are successfully grown with minimum care on waste land and provide food and nutritional security to the rural masses.

Most of the horticultural crops are available in plenty during particular season, but all cannot be utilized to the fullest extent due to many reasons. Thus people residing in remote areas hardly get on considerable advantage from the abundantly available resources. Rural masses consume these food resources as such available to them in the form of simple vegetable or by simply in the form of dehydrated product or fruits are consumed in raw (Sareen and Chandra, 2008). Various standardized techniques are practiced commercially for processing of underutilized fruits and vegetables (Table1). However, there is much scope in evolving the techniques of value addition and providing market to such underutilized commodities for more net returns.

The study was conducted at Krishi Vigyan Kendra, Anta during the year 2005 to 2009 on 30 practicing farmers under National Horticulture Mission started during 2005 in Baran district of Rajasthan. Pre and post test experimental design was used to study gain in knowledge by the trainees in different aspects of value addition products. For the purpose of data collection a schedule was developed with the help of horticulturist of Agriculture Research station, Kota and K.V.K., Rajsamand. Questionnaire technique was used for collection of requisite information as all of them were up to secondary class education.

The maximum possible score was 40 for the knowledge test (Table 2). The responses of the respondents were checked with the recommendations of scientists. The responses were converted into mean percent score (MPS) for the purpose of analysis and comparison. Paired t' test was used to analyse data statistically. Rural youth farmers were selected on the basis of the availability of land, owner of orchards, tube well and boundary wall etc for the cultivation of vegetables and plantation of orchards.

Knowledge input forms the foundation of any training programme, which needs to be measured in terms of overall gain in knowledge level. In the present study, knowledge of the trainees was judged before and after their exposure to the training programme in order to know the enhancement in knowledge due to their participation and exposure to the training courses. Data in table 3 clearly reveal the improvement in knowledge of the trainees as their mean percent score increased from 18.74 to 31.89 with overall gain of 13.05 MPS.

Appraisal of data in table 4 highlights that there was significant difference in the before and after exposure score of the participants in all the aspects of making of value addition products of fruits and vegetables as the calculated 't' value was found to be significant at 0.01 per cent level. The aspect wise gain in knowledge by the trainees indicates that they gained maximum knowledge in aspect of labelling of products (38.25 MPS). This might be due to the reason that trainees were very much interested in this aspect and they actively participated in practical session of the training programme. Similar observations were reported by Singh, (2001) in training of plant propagation of fruits and vegetables. Respondents also gained knowledge in the aspect like cleaning of utensil, storage of product and grading of fruits and vegetables (30.30, 30.24 and 27.85 respectively). Least gain in knowledge of the trainees was observed in the price of commodities i.e. 10.32 MPS. This was because of the reason that price of the commodities was not controlled by producers of fruits and vegetables. In rest of the aspects, the gain in knowledge ranged from 17.70 to 24.21 per cent. Thus, the after exposure score of the trainees clearly depicts that the training was beneficial to acquire knowledge. The informal discussion with participants during the concluding session also indicated that they acquired practical knowledge and skill in different aspects of making of value addition products and were confident enough to perform these skills back at their village. The results are in line with the study conducted by Verma *et.al.* (1989) who concluded that there was significant gain in knowledge by the farmwomen in various home science aspects. Intodia *et .al.* (1998) also found significant increase in knowledge of the trainees in various aspects of

ornamental gardening as the result of their participation in the training course.

Negligible quantities of value added products from underutilized fruits and vegetables compared to their production are available in the market. Thus rural masses can choose this enterprise for their employment and income generation. It requires proper technical knowledge and skill for preparing these value added products. Trainings can be helpful in creating awareness among the rural masses as well as can provide technical knowledge and skill in specific aspect. Krishi Vigyan Kendra, Anta organizes various types of trainings as 2 vocational, 16 on campus and 30 off campus trainings in which 1738 farmers are benefited (Table 5).

References

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Table 1. Value added processed products of underutilized fruits and vegetables.

S.No.	Crops	Value added products
1.	Aonla	Preserve, candy, shreds, powder, squash, RTS, jam, chutney, pickle, chyawanprash
2.	Jamun	RTS, squash, vinegar
3.	Tamarind	Chutney
4.	Phalsa	RTS, squash
5.	Custard apple	RTS, jam
6.	Karonda	Jelly, jam, murabba, pickle
7.	Bael	Squash, murabba
8.	Kainth	Jelly, jam, chutney, sherbet, dried product
8.	Kachri	Dried vegetable, pickle, chutney
9.	Beans	Seed used in vegetable as well as pulse
10.	Guar	Gum, Dried vegetable
11.	Kakora	Dried vegetable
12.	Moringa	Dried vegetable

Table 2. Scoring patterns of value addition products

S.No.	Aspects	Max. Score
1.	Cleaning of utensil	4
2.	Grading of fruits and vegetables	5
3.	Preparation techniques	10
4.	Knowledge of preservatives	6
5.	Price of commodities	1
6.	Packing of products	4
7.	Labelling of products	2
8.	Blanching of vegetables	3
9.	Storage of product	1
10.	Marketing of product	4
	Total	40

Table 3. Overall gain in knowledge by the trainees in plant propagation

S.No.	Particulars	MPS	t value
1.	Before exposure knowledge	18.84	
2.	After exposure knowledge	31.89	10.41
3.	Gain	13.05	

Table 4. Knowledge gain in different aspects of value added products by the trainees

S.No.	Aspects	Mean percent Score			t value
		Before exposure	After exposure	gain	
1.	Cleaning of utensil	64.00	94.30	30.30	8.76**
2.	Grading of fruits/ vegetables	28.35	56.20	27.85	5.47**
3.	Preparation techniques	25.20	48.10	22.90	4.78**
4.	Knowledge of preservatives	71.23	91.02	19.79	5.61**
5.	Price of commodities	40.11	50.43	10.32	6.04**
6.	Packing of products	26.41	44.11	17.70	5.14 **
7.	Labelling of products	10.22	48.47	38.25	5.27**
8.	Blanching of vegetables	44.38	68.59	24.21	6.09**
9.	Storage of product	31.47	61.71	30.24	5.71**
10.	Marketing of product	14.15	36.15	22.00	4.16**

** Significant at 1 per cent level

Table 5. Type of number of trainings on preparation of value added products organized by K.V.K., Anta (Baran) during 2005 to 2009.

S.No	Type of training	Duration(Days)	No. Of trainings	No. of participants
1.	On campus	3	30	1328
2.	Vocational training	15	2	30
3.	Off campus	1	16	480

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