

Consumer's preference for pearl millet products

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ABSTRACT

Various types of traditional health foods can be prepared from pearl millet. Data pertained to the year 2008-09 in order to study consumer's preference towards pearl millet processed products in Beed district of Maharashtra state. Cluster analysis was used to analyse the opinion scores given by consumers of pearl millet products. The results revealed that, the consumer was preferring *Bhakari* and *Dashmi* with similarity measures of 0.374 followed by that of *Papads* and *Thalipeeth* with similarity measure of 0.352. It inferred that, consumer could consume the processed products after roasted. Hence, this aggregate cluster is named as a dimension of roasted products. Similarly in regard to medium aggregate similarity measure was 0.297. In next order *Kharvade* and *Usal* showed similarity measure 0.272. It inferred that consumer was preferring these products which were in cooked forms. Hence, this aggregate cluster is designated as a dimension of cooked products. In regard to low aggregate cluster, consumer preferred *Shev* which showed similarity measure 0.258. In next order *Khurdaya* and *Shankarpali* with 0.257 and lastly *Chakali* with 0.230 similarity value. Hence, this aggregate cluster is called as a dimension of fried products.

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INTRODUCTION

Pearl millet (*Pennisetum typhoides*) belongs to the family gramineae. It is most widely grown, under millet group. Pearl millet is a sixth most important cereal crop after the wheat, rice, maize, barley and sorghum in the world as one of the millet crop. India is the largest producer of pearl millet crop. Pearl millet possesses inherent capability to survive under extremely high temperature. In India, major pearl millet growing states are Rajasthan, Maharashtra, Gujarat, Haryana, Karnataka, Madhya Pradesh, Tamil Nadu and Andhra Pradesh. Maharashtra State is second in respect of area under pearl millet. In traditional growing areas in India and many African countries, pearl millet is the basic staple for some of the poorest households. The grain is consumed in the form of leavened and unleavened breads, porridges, boiled or steamed food and beverages. Millet is nutritionally superior to rice and comparable in many respect with wheat. Pearl millet is a rich source of iron. Various types of traditional health foods can be prepared from pearl millet such as *Bhakar*, *Bundiladdu*, *Burti*, *Chakli*, *Chiwada*, *Dive*, *Kharibundi*, *Khichadi*, *Masala papad*, *Thalipeeth* and *Vade*. Also the major types of foods are porridges which are common in Africa. Next is the flat bread either fermented or unfermented. *Idli* is steamed product made in India, usually for

breakfast. On the basis of consumer's preference, the different pearl millet products may be sold by the processor. Keeping in view the above aspect, the study of consumer's preference towards different pearl millet products was undertaken. Different types of food products can be prepared from pearl millet flour such as *Roti*, porridge from grits, non fatty, crisp noodles and puffs etc.

METHODOLOGY

The method of maximum similarity measures of cluster analysis was used to analyse the opinion scores given by consumer of pearl millet products. For the investigation, data were collected from randomly selected consumers from Beed district with the help of pretested schedule by personal interview method. Data pertained to the year 2008-09. Each of consumers was interviewed in regard to preference for pearl millet products that were in terms of five quantum scale. Consumers preference was measured as excellent, best, better, good and notbad with assigned weightages, 5, 4, 3, 2 and 1, respectively. Opinion scores of the consumer of pearl millet products were obtained on twelve variables. These are namely *Bhakar*, *Chakli*, *Dashmi*, *Kharvadi*, *Khichadi*, *Kurdaya*, *Nagdive*, *Papadi*, *Shankarpali*, *Shev*, *Thalipeeth* and *Usal*. A correlation matrix of 12x12 was developed for identifying maximum similarity

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values of variables or indicators. The indicators which had the similarity value greater than or equal to $\bar{X} + (0.425 \text{ S.D.})$ were considered as high aggregate cluster. The indicators which similarity values in between less than $\bar{X} + (0.425 \text{ S.D.})$ and greater than or equal to $\bar{X} - (0.425 \text{ S.D.})$ were considered as medium aggregate cluster. The indicators which had similarity values less than $\bar{X} - (0.425 \text{ S.D.})$ were considered as low aggregate cluster.

RESULTS AND DISCUSSION

The findings of the present study as well as relevant discussion have been presented under following heads:

Clustering of pearl millet products:

Consumer preference with respect to different pearl millet products in the form of similarity measures were calculated and are presented in Table 1. The results revealed that on the basis of preference, the products, were grouped into high, medium and low aggregate clusters. In regard to high aggregate cluster, similarity measures were restricting greater than or equal to 0.310. In this cluster, consumer was preferring *Bhakari* and *Dashmi* with similarity measure of 0.374 followed by that of *Papadi* and *Thalipeeth* with similarity value of 0.352. It inferred that, consumer could consume the products after roasted. Hence, this aggregate cluster is named as *a dimension of roasted products*. Anu and Kawatra (2004) reported that incorporation of pearl millet flour in preparation of baked products, results in nutritionally superior and acceptable baked products.

Similarly, in regard to medium aggregate cluster, similarity measures were restricting less than 0.310 and greater than or equal to 0.272. In this cluster consumer was preferring *Khichadi* and *Nagdive* which showed similarity measure 0.297. In next order *Kharvade* and *Usal* showed similarity measure 0.272. It inferred that consumer was preferring these product which were in cooked forms. Hence, this aggregate cluster is designated as *a dimension of cooked products*. Sethi and Grewal

(2004) showed cooked product of pearl millet as *Khichari*. The *Khichari* was found to be moderately desirable in terms of overall acceptability.

In regard to low aggregate cluster, similarity measures were restricting less than 0.272. In this cluster consumer preferred to *Shev* which showed similarity value 0.258. In next order consumer was preferring *Kurdaya* and *Shankarpali* which showed similarity measure 0.257. Lastly *Chakali* was preferred by consumer with similarity value of 0.230. In short the above products were in fried form. Hence, this aggregate cluster is called as *a dimension of fried products*. The results are conformity with the results obtained by Chaudhary *et al.* (2004).

Effect of pearl millet products on consumer's satisfaction:

Regression coefficients with respect to different *Bajra* products in relation to consumer's total satisfaction were calculated and are presented in Table 2. The results revealed that coefficient of multiple determination (R^2) was 0.956 which indicated that 95.60 per cent variation in consumers total satisfaction was explained due to variation in all independent variables. 'F'-value was highly significant variables as its own was not very important but together they explained significant part of variation in consumer's total satisfaction. The mean value of consumer's total satisfaction was found to be 35.93 scores which could lie in between minimum twelve and maximum sixty. In regard to individual products, regression coefficient with respect to *Bhakari* was 1.810 which was highly significant. It inferred that if one score increased in consumer's preference for *Bhakari*, it would lead to increase total satisfaction by 1.310 scores. In the next order regression coefficient with respect to *Shev* was 1.221 which was also highly significant. When 1 score of *Shev* consumption increased, it would lead to increase total satisfaction by 1.221 scores. Similarly, regression coefficients with respect to *Kurdaya*, *Kharvade*, *Usal*, *Khichadi* and *Nagdive* showed more than 1 which were

Table 1 : Aggregate clusters of different pearl millet products with respect to consumer's preference

Aggregate cluster	Variable code No.	Name of pearl millet product	Similarity measure
High (≥ 0.310)	1, 3	<i>Bhakari, Dashmi</i>	0.374
	8, 11	<i>Papadi, Thalipeeth</i>	0.352
Medium (< 0.310 and ≥ 0.272)	5, 7	<i>Khichadi, Nagdive</i>	0.297
	4, 12	<i>Kharvade, Usal</i>	0.272
Low (< 0.272)	10	<i>Shev</i>	0.258
	6, 9	<i>Khurdaya, Shankarpali</i>	0.257
	7	<i>Chakali</i>	0.230

Arithmetic mean (\bar{X}) 0.291

Standard deviation (SD) 0.045

Table 2 : Effect of different *Bajra* products on total satisfaction of consumer

Particulars	Regression coefficient	Standard Error	't' value	Mean (Score)
1. <i>Bhakari</i>	1.310	0.218	5.990**	4.667
2. <i>Dashmi</i>	0.736	0.137	5.353**	3.533
3. <i>Talipeeth</i>	0.552	0.145	3.796**	3.400
4. <i>Papadi</i>	0.949	0.156	6.081**	4.400
5. <i>Kharvadi</i>	1.090	0.455	2.345*	4.050
6. <i>Kurdaya</i>	1.143	0.139	8.223**	2.666
7. <i>Chakali</i>	0.931	0.527	1.766	2.783
8. <i>Shev</i>	1.221	0.164	7.445**	2.133
9. <i>Shankarpali</i>	0.668	0.459	1.455**	3.533
10. <i>Nagdive</i>	1.055	0.161	6.546**	4.317
11. <i>Khichadi</i>	1.069	0.463	2.308*	1.983
12. <i>Usal</i>	1.074	0.199	5.399**	1.417

Intercept a 0.848 * and ** indicate significance of values at P=0.05 and 0.01, respectively
 F-value 6.263**
 R² 0.956
 n 96
 Y 39.53

positive and significant. Marginal satisfaction derived from other products were less than one.

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REFERENCES

Anu, S. S. and Kawatra, A. (2004). Development and nutritional composition of pearl millet based cakes, pp.53. In : 3rd National Seminar on millets research and development future policy options in India.

Chaudhary, M., Grewal, R.B. and Garg, M. (2004). Extrusion cooking. A potential method to develop value added extruded snacks from pearl millet and soybean, pp.57. In : 3rd National Seminar on millets research and development future policy options in India,

Sethi, S. and Grewal, R. (2004). Processing and utilization of pearl millet for development of value added convenient *Khichari* mix, pp.54. In : 3rd National Seminar on millets research and development future policy options in India.

