

Sensory characteristics of some fast foods prepared with buffalo milk paneer & substituted buffalo milk paneer in the ratio of 30:70

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Abstract – In this investigation Specially four types of foods, i.e. cutlet, bread rolls, sandwiches and burgers that we make as for school lunch boxes or fast food corners prepared by incorporating buffalo milk paneer and soy substituted buffalo milk paneer in the ratio of 30:70, (30% buffalo milk and 70% soy milk) were compared for their protein contents and sensory properties. On dry weight basis soy substituted buffalo milk paneer incorporated foods contents high amounts of protein than those incorporated with milk paneer, comparative sensitive evaluation showed that incorporation of soy substituted buffalo milk paneer did not affect sensory characteristics of all the products, except for flavor in bread rolls ,after taste in cutlets and sandwiches. The mean score for all the sensory attribute ranked between 6.6 and 8.6 on a nine point hedonic scale. Addition of mixed spices improved the sensory attributes of soy substituted buffalo milk incorporated foods.

Index Terms – Buffalo milk paneer, soy substituted buffalo milk paneer, sensory qualities, cutlets, bread rolls, sandwiches, burgers, masala paneer.

1 INTRODUCTION

Incorporation of soy paneer in the formulation of the different food products has been investigated by few workers (Vijay Lakshmi & Vaidehi 1982; Vaiddehi et al.1985 a,b; Chakrabarti & Gangopadhyay 1990). Commonly, these foods are otherwise incorporated with milk paneer/cheese (Jain 1985), which are not only costly but, also in short supply during lean periods of milk production (Meenakshi Rani & Verma 1994). During these periods,substituted buffalo milk paneer, which is not only cheap but also very nutritious (Johnson 1989), can serve as paneer analogue in the preparation of some fast foods. Therefore, the present investigation was undertaken to compare the sensory characteristics of some fast food i.e. cutlets, bread rolls, sandwiches , burgers & masala paneer formulated by incorporating soy substituted buffalo milk paneer and buffalo milk paneer.

2 MATERIAL & METHOD

Dry and mature soybean seeds and other ingredients like as potatoes, buns, spices, refined oil etc. were procured from the local market of Kanpur. soy substituted buffalo milk were prepared according to the method suggested by Bhattacharya et al. (1971) and subsequently modified by Suchdeva (1987), Naseem (1986), Mathur (1991), Shinde (2001) was followed with some as per requirements of the project. Four types of fast foods i.e bread rolls, cutlet burgers, sandwiches were prepared by incorporated soy substituted buffalo milk paneer and buffalo milk paneer both with and without the addition of spices and condiments, except for burgers which constituted of deep fat fried masala slice of soy substituted buffalo milk paneer/ buffalo milk paneer and tomato slice stuffed

between two buns halves. The preliminary trails were conducted to optimize the level of soy substitute buffalo milk paneer. The criteria for selecting optimum level of soy substitute buffalo milk paneer was that the incorporated product should not differ perceptibly from the commonly prepared food product. The different food products were prepared according to the recipes presented in the table -1 following the existing processes. All the food products were also analyzed for their moisture and protein contents by using standard method of AOAC (1984).

Soy substitute buffalo milk paneer incorporated products were compared for their sensory attributes by using a trained sensory panel, consisting of 10 members from the food and nutrition department and animal husbandry department. The products were evaluated either during 11.00 hrs to 11.30 hrs OR 3.30 pm to 4.30 pm. The panelists were presented with the samples and requested to record their rating for body and texture, flavor, colour & appearance, after taste and overall acceptability for all the product except for burger on nine point hedonic scale, where 1 represented disliked extremely and 9 represented like extremely. Burger was not evaluated for three sensory attributes i.e. appearance, colour and body & texture, since it would had been impossible to difference between Soy substituted buffalo milk paneer & buffalo milk paneer burgers for these attributes. The data of sensory evaluation were analyzed statistically on CRD using ANOVA technique (Snedecor and Cochran 1968) for significant differences.

3 RESULT AND DISCUSSION

From the result represented in table 2, it can be seen that. On dry weight basis, all soy substituted incorporated products contained higher amounts of proteins, than those incorporated with milk. The results of preliminary trails indicated that soy substituted paneer could replace potato by 50% in the preparation of products without affecting

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their acceptability. Therefore 50% level of soy substituted incorporated paneer was considered for all the products. From the result presented in the Table -2, it can be seen that incorporated of paneer in this study, did not affect their

sensory attributes significantly ($p > 0.05$), except flavor in bread rolls and sandwiches & after taste cutlets. It was interesting to observe that some of the sensory attributed, as compared to buffalo milk paneer incorporated ones. For

TABLE1: Ingredients used for the Preparation of bread rolls, cutlets, Burgers and sandwiches

Oil for frying tea spoon	Product	Bun/Bread No.	Tomato Slice, g	Bread Crumb powdered Slice	Paneer Mashed g	Substituted Paneer Mashed g	Boiled Potato, g	Salt Tea Spoon	Onion g	Ginger, g	Garlic No. of Buds.	Green Chillis No.	Garam Masala in teaspoon
BREADROLLS													
1.0	Paneer Plain	-	-	3	150	-	150	1	-	-	-	-	-
1.0	Substituted Paneer	-	-	3	-	150	150	1	-	-	-	-	-
1.0	Paneer Masala	-	-	3	150	-	150	1	35	8	2	3	1
1.0	Substituted Paneer Masala	-	-	3	-	150	150	1	35	8	2	3	1
CUTLET													
1.75	Paneer Plain	-	-	-	250	-	250	1.5	-	-	-	-	-
1.75	Substituted Paneer	-	-	-	-	250	250	1.5	-	-	-	-	-
1.75	Paneer Masala	-	-	-	250	-	250	1.5	50	10	5	5	-
1.75	Substituted Paneer Masala	-	-	-	-	250	250	1.5	50	10	5	5	-
BURGER													
3.5	Paneer	10	240	-	500	-	500	3	100	20	10	10	-
3.5	Substituted Paneer	10	240	-	-	500	500	3	100	20	10	10	-
SANDWICHES													
-	Paneer	20	240	-	600	-	-	1.5	-	-	-	-	-
-	Substituted Paneer	20	240	-	-	600	-	1.5	-	-	-	-	-

One stuffing mixture was deep fat fried

TABLE2: Moisture, Protein and mean sensory score for Paneer and 30:70 incorporated soy substituted bread rolls, cutlets, Burgers & Sandwiches

Product	Moisture %	Protein %		Appearance	Colour	Body & Texture	Flavor	After Taste	Overall Sensory score
		Wet Wt	Dry Wt.						
BREAD ROLLS									
Paneer Plain	43.2	11.7	20.6	7.42	7.0	7.3	8.6	7.6	7.6
Substituted Paneer Plain	49.0	11.6	22.8	7.7	6.9	7.6	7.6	6.9	6.9
Paneer Masala	48.0	10.7	20.6	7.1	7.3	7.0	8.2	7.6	7.6
Substituted Paneer Masala	54.0	10.5	22.8	7.6	7.3	7.7	8.6	7.1	7.6
CD at 5%	ND	ND	ND	0.69	0.95	0.92	0.98	0.75	0.73
CUTLETS									
Paneer Plain	43.1	12.0	21.1	7.1	7.6	7.0	7.7	7.7	7.4
Substituted Paneer Plain	50.2	11.6	23.1	7.6	7.4	7.2	6.9	6.6	6.7
Paneer Masala	49.2	10.6	20.9	6.7	6.6	6.9	7.7	7.6	7.4
Substituted Paneer Masala	55.2	10.4	22.7	7.2	7.0	7.2	7.5	7.2	7.4
CD at 5%	ND	ND	ND	1.06	1.28	1.02	1.02	1.04	1.10
BURGER									
Paneer	53.6	7.5	16.2	ND	ND	ND	7.4	7.2	7.2
SUBSTITUTED PANEER	57.8	7.4	17.4	ND	ND	ND	7.6	7.5	7.6
CD at 5%	ND	ND	ND	-	-	-	0.55	0.67	0.66
SANDWICHES									
Paneer	49.5	18.8	31.4	ND	ND	ND	7.7	7.4	7.4
Substituted Paneer	54.5	13.9	33.1	ND	ND	ND	6.8	6.7	6.8
CD at 5%	ND	ND	ND	-	-	-	0.78	0.86	0.79

All values are average of Ten Peralist. * ND- Not Determined

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