

Nutritional Evaluation of Leafy Vegetable Paratha

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ABSTRACT The present investigation was undertaken to determine the nutrient content of different types of leafy vegetable parathas. Green leafy vegetable namely Palak, Chaulai and Bathua were mixed with wheat flour for preparation of parathas. The parathas were analysed for fat, carbohydrate, energy, total sugar, reducing sugar, non reducing sugar, total mineral, lysine and fiber. These recipes were also evaluated organoleptically using nine point scale.

INTRODUCTION

Food is a part of man's culture and is filled with different meanings and symbolisms for individuals of different age groups. The food should be nutritious, attractive in flavor and appearance, to be eaten and enjoyed. Green leaves contain significant amount of iron and leaf concentrates made from fractionating fresh green is one of the richest source of this element. Besides, it also contains large amounts of β carotene, folic acid and protein as well as a considerable amount of pyridoxine, riboflavin and copper. Leaf concentrates can be an excellent dietary factor for the prevention of anemia (Mathur et al., 1989).

In the recent years there is growing concern regarding the nutritive value of foods and to nourish the ever increasing population and the inadequacy of essential nutrients can be improved through fortifications and enrichment of food vehicles. A balance of nutrients may be obtained by including whole cereals, vegetables, pulses and milk and milk products etc. Such a diet provides a large proportion of our need for energy, carbohydrate, protein, dietary fiber, amino acid and minerals. Traditional preparations when modified like paratha when incorporated with leafy vegetables could serve a means of enhancing nutritive value of food. Therefore, the present study was undertaken to know the effect of addition of green leaves on the nutritive value of parathas.

MATERIALS AND METHODS

The materials required for the investigation

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were procured from the local market. The parathas were prepared using green leaves (250g), wheat flour (250g), green chillies (7g), garlic (5g), salt (5g), ginger (5g) and refined oil (30ml). The flour was sieved. Green leaves were washed and chopped. Then chopped leaves, green chillies, garlic, ginger paste and salt were added in the flour and kneaded well using required amount of water. The dough was kept aside for half an hour, then divided into balls, flattened, rolled and shallow fried on hot griddle.

Organoleptic Evaluation: The prepared parathas were presented to a panel of judges and were evaluated organoleptically using Nine-Point Hedonic Scale.

Chemical Analysis: The moisture content of fresh parathas was determined. The parathas were then dried at $70 \pm 2^\circ\text{C}$ in hot air oven, powdered and stored in glass bottle for further studies. The dried samples were then analyzed for true protein (Lowry's, 1951), crude fat (AOAC, 1970), crude fiber (AOAC, 1990), lysine (Cancon, 1975) reducing, non reducing and total sugar (Dubois, 1956), mineral (Piper, 1950), carbohydrate by differences and energy by multiplication method.

RESULTS AND DISCUSSION

The data presented in Table 1 shows the nutritive value of leafy vegetable parathas. Moisture content of different parathas varied significantly and ranged from 30.50 per cent to 39.85 per cent. The parathas prepared from different leaves varied significantly for protein content. Protein content was found to be highest in Bathua paratha (28.36%) followed by palak paratha (24.19%) and chaulai paratha (22.52%). Leafy vegetable snacks have been reported to

Table 1: Nutritional evaluation of leafy vegetable paratha (dry matter basis)

Preparation	*Mois- ture (%)	Carbohy- drate at (%)	True protein (%)	Fat (%)	Energy (K cal)	Total sugar (%)	Redu- cing sugar (%)	Non- reducing sugar (%)	Total mineral (%)	Lysine (%)	Fiber (%)
Bathua paratha	30.50	50.91	28.36	5.80	373	4.19	0.87	4.39	2.69	0.19	1.10
Chaulai paratha	37.40	50.96	22.52	5.92	347	2.16	0.33	2.80	4.22	0.18	1.50
Palak paratha	39.85	52.61	24.19	5.75	359	2.67	0.35	2.82	1.29	0.17	1.00
CD at 5%	2.87	2.23	1.11	0.24	14	0.14	0.03	0.13	0.11	0.007	0.054

*Fresh basis

Table 2: Organoleptic evaluation of leafy vegetable parathas

S. No.	Preparation	Organoleptic score	Quality rating
1.	Bathua Paratha	7	Like moderately
2.	Chaulai Paratha	8	Like very much
3.	Palak Paratha	8	Like very much

contain higher protein value by Mathur et al. (1989). The Khichri and Mathri containing spinach leaf powder have been reported to contain 25.73 per cent and 9.19 per cent protein (Malhotra et al., 2002). The fat content of parathas varied significantly and ranged from 5.75 to 5.92 percent. Sadhna et al. (2001) reported 12.99 per cent protein and 5.7 per cent fat in spinach parathas on dry matter basis. They have also reported protein (13.52%) and fat (5.15%) content of methi paratha. Total mineral content of Bathua paratha, chaulai paratha and palak paratha were found to be 2.69, 4.22 and 1.29 per cent, respectively. The carbohydrate and energy content of bathua, chaulai and palak paratha were found to be 50.91, 50.96, 52.61 and 373, 347 and 359 Kcal, respectively. Methi and spinach paratha have been reported to contain 73.99, 74.90 per cent carbohydrate and 404, 402 Kcal energy (Sadhna et al., 2001). The reducing, non-reducing, total sugar content of different parathas varied significantly. The reducing sugar content ranged from 0.33 to 0.87 per cent and non-reducing sugar values ranged from 2.80 to 4.39 per cent. The total sugar content of bathua, chaulai and palak paratha was 4.19, 2.16, and 2.67 per cent. Crude fiber content of palak, bathua and chaulai parathas were 1.0, 1.1 and 1.5 per cent, respectively. The lysine

content of different leafy vegetable parathas also varied significantly.

The data present in Table 2 shows the organoleptic scores of different leafy vegetable parathas. The bathua paratha were liked moderately scoring 7, whereas, chaulai and palak paratha scores 8 points each and were very much liked by the panelists.

It may be concluded that leafy vegetable paratha being good source of proteins, minerals and energy may be incorporated in the daily diets of vulnerable sections of population.

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