

Research Note :

Numerical scores of sprouted soybean BHEL

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ABSTRACT

The high protein content of soybean (*Glycine max* L.) has made it most widely used replacement for animal proteins. It is used in various food formulations because of its high nutritional values. The study was undertaken to evaluate acceptability of sprouted soybean bhel. Three variations were prepared with incorporation of different levels of sprouted soybean at 12.5, 25 and 37.5 per cent levels and also without incorporation of soybean served as control. All the three variations and the control were served to 20 trained panel members for evaluation of sensory characteristics of the product for appearance, texture, taste, flavour mouthfeel and overall acceptability. The bhel was rated on 100 point numerical score (100 as excellent and 20 as poor). Despite of slight raw taste and chewy mouthfeel, the bhel had sensory scores well within the acceptable limits for all the products. It can be concluded that sprouted soybean can be added at different levels in bhel preparations successfully.

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Soybean (*Glycine max* L.) has been used in various food formulations because of its high nutritional values. As a source of protein, soybean is less expensive compared to meat, milk, fish, eggs and cowpea. For the Chinese gourmet, soya is one of the raw materials out of which the cooks create their delicious works of art. Soybean is a rich source of good quality protein and the cost too is low. Soy products can easily meet the protein requirements of a vegetarian diet. Soybean contains all the three macronutrients required for good nutrition, as well as fibre, vitamins, minerals. The whole dry grain contains about 40% protein (twice as much as in most other pulses) and also up to 20% fat. The proteins of soybean yield all the essential amino acids in adequate amounts except methionine and cystine which are deficient. Soybean is rich in lysine and can be used to supplement a staple rice diet. Soybean oil is also a good source of omega-3 and 6 fatty acids similar to those found in fish oils and is cholesterol free. Soybean is an excellent source of dietary fibre with both soluble and insoluble fibre. Soluble fibre may help lower serum cholesterol and control blood sugar. Soybean has more than two times the amount of most of the minerals, especially calcium, iron, phosphorus and zinc, than any other legume and very low sodium content. Soybean has all the important vitamins and is a very good source for B complex vitamins and Vitamin E.

In addition to containing good quality nutrients, soybean has other beneficial compounds such as,

phytosterols (isoflavones), lecithins, etc. Soy foods have a number of health benefits such as, cancer prevention, cholesterol reduction, combating osteoporosis and menopause regulation.

Therefore, the present study was undertaken with the following objectives : to find out the acceptability of soya bhel prepared with the incorporation of different levels of sprouted soybean and to evaluate organoleptic characteristics of bhel, Improving the quality of protein in food products substantially through blending of cereal component with legumes, to develop a new product utilizing soybean to overcome constraints, such as anti-nutritional factors and beany flavour and Restrict production cost.

The present study was undertaken to evaluate acceptability of sprouted soybean bhel. Three variations were prepared with incorporation of different levels of sprouted soybean at 12.5, 25 and 37.5 per cent level and also without incorporation of soybean served as control. All the three variations and the control were served to 20 trained panel members for evaluation of sensory characteristics of the product for appearance, texture, taste, flavour mouthfeel and overall acceptability. The bhel was rated on 100 point numerical score (100 as excellent and 20 as poor).

The ingredients in bhel were (1) a mixture of sprouted and boiled-green gram, cow pea, rajma, dry peas choli (5 g each) and soybean (as mentioned above); (2) shredded - cabbage, beet, cucumber and carrot; chopped corriander, mint leaves, capsicum, tomato and onion

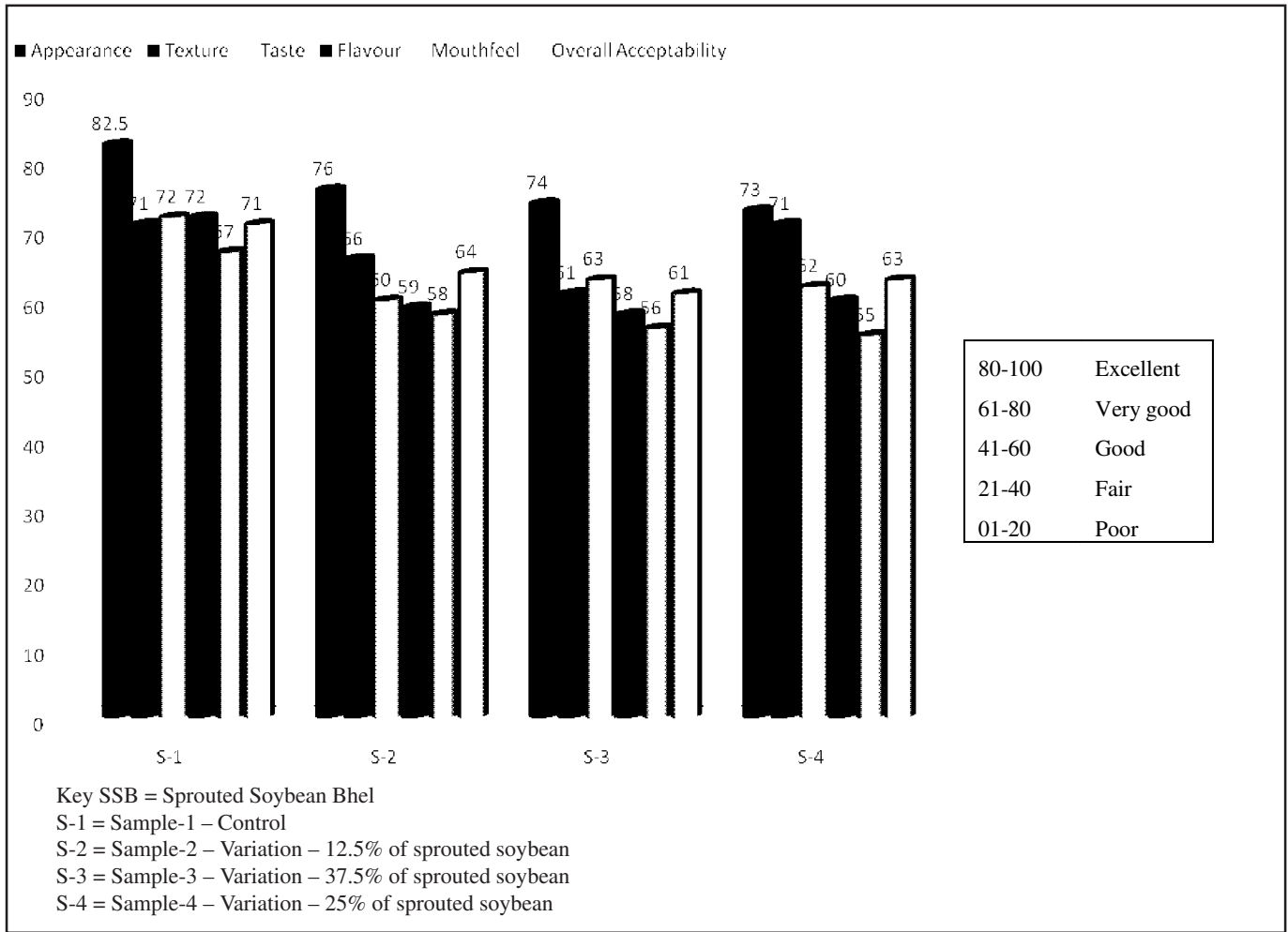


Fig. 1 : Average score of 20 panelists of different characteristics of SSB

pommegrante (5 g each) mashed potatoes; (3) puffed rice, sev, fried peanuts (15 g each) and (4) three chutneys (as per taste). All the ingredients were thoroughly mixed with chutneys just before serving.

Despite of slight raw taste and chewy mouthfeel, the results revealed that the score for all the parameters of sensory evaluation obtained by variations ranged from excellent (100) to good (60). There was no significant difference for scores of all parameters of all the variations (Fig. 1)

Conclusion:

All variations received high and almost equal scores for all sensory properties. It can be concluded that

soybean can be added at different levels *i.e.* 12.5, 25 and 37.5 per cent in bhel preparation successfully (Fig. 1).

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