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RSEARCH PAPER

Studies on quality evaluation of market paneer

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ABSTRACT

An Attempt was made to evaluate the chemical and microbiological quality of paneer marketed in Ahmednagar city of Maharashtra state. The quality of paneer was assessed in terms of physical, chemical and microbiological attributes. The samples were collected from the various locations of the Ahmednagar city and grouped in to seven different categories (A to G). The moisture content was ranged from 42.62 to 60.39 per cent. While for fat content from 16 to 28 per cent and for protein content ranged from 15.06 to 20.33 per cent. The average standard plate count per gram of market samples of paneer ranged from 1 x 10^4 to 224 x 10^5 cfu/g. The average number of coliform per gram of paneer samples in the range of 12.6 x 10^3 to 23.2 x 10^3 cfu/g. The yeast and mould count per gram of paneer ranged between 1 x 10^2 and 99 x 10^2 cfu/g.

Key words : Paneer, Standard plate count, Chemical analysis, Yeast and mould count

Paneer is an acid and heat coagulated indigenous milk product, which forms base for a variety of culinary dishes, stuffing materials for various vegetable dishes. Paneer contains entire milk casein, part of denaturized whey proteins, almost all fat, colloidal salts and soluble milk solids in proportion to the moisture retained.

Paneer contains about 40 per cent total solids which include 17.5 per cent proteins, 25 per cent fat, 2 per cent carbohydrates and 1.5 per cent minerals, which is one of the major sources of animal protein for vegetarian people (Sachdeva, 1998). Standard serving size (50g) of paneer contains 156 calories, of which 108 calories from fat. It also contains minerals on an average 10mg sodium, 16 mg potassium, 138 mg calcium, 102 mg phosphorous and 1 mg iron (Aneja *et al.*, 2002).

The shelf-life of paneer is a major handicap in the commercial adoption of paneer manufacture. The shelf-life of paneer reported to be only six days under refrigerated condition (Bhattacharya *et al.*, 1971).Due to high moisture content, as well as nutrients in paneer, it is very prone to microbial attack and subsequent microbial deterioration. The spoilage of paneer occurs mainly due to growth of microorganisms.

An attempt was made to evaluate chemical and microbiological quality of paneer sold in the Ahmednagar city.

MATERIALS AND METHODS

Fresh samples of paneer were collected from various shops of Ahmednagar city, in the polythene bags sterilized with sodium hypo chloride solution. These samples were carried in icebox. The microbiological examination was completed within 4 hours of collection of samples. After completion of above work, the chemical analysis of the sample was carried out.

Analysis of samples:

The microbiological examination of paneer envisaged the standard plate count (IS: 5402, 1969), coliform count and yeast and mould count (IS: 5403, 1969), while chemical analysis included the estimation of moisture, fat and protein content. The research findings were compared with BIS specifications.

RESULTS AND DISCUSSION

Moisture content:

The moisture content in paneer samples collected from different shops of Ahmednagar city ranged from 42.62 to 60.39 per cent with an average of 52.90 per cent. The paneer samples from different shops showed significantly lower moisture content except one when compared with BIS specifications (Table 1).

Fat content:

The fat content of paneer samples collected from different shops of Ahmednagar city ranged from 16 to 28 per cent. (Table 1).

Protein content:

The protein content of paneer samples from Ahmednagar ranged from 15.06 to 20.33 per cent with an average of 18.06 per cent. There were no significant differences were observed in respect of protein content between market samples from different shops. They