MATERIAL AND METHODS

The present research work, “A study on preparation for physico-chemical sensory and textural characteristics of paneer” will be carried out at Shri Venkatesh Food Laboratory, Approved by Agmark, Ministry of Agriculture Department Agriculture and Co-operation, Nanded.

3.1 Material

3.1.1 The whole, fresh clean buffalo milk, Cow milk, Goat milk and soyabean will be obtained from the Local market Nanded.

3.1.2 Muslin cloth

Fresh and clean muslin cloth will be purchased from local market for the drainage of whey.

3.1.3 Cream separator

Cream separator will be used for standardization of different milk.

3.1.4 Thermometer

Mercury filled glass thermometer with temperature range from 0 to 150 °C will be used for the determination of temperature of milk.

3.1.5 Stirrer

Long handled stirrer with flattened end made up of mild steel will be used for stirring the milk during addition of coagulant.

3.1.6 Paneer blocks

Steel block of size 7 × 6 × 4 inches will be used for paneer preparation.

3.1.7 Muffle furnace

Tempo make muffle furnace will be used to determine the ash content in paneer.

3.1.8 Hot air oven

Lab Hosp Laboratory hot air oven of 45×45×45 cm size will be used to determine the moisture content in paneer.

3.1.9 Centrifugal machine

Centrifugal machine will be used for the determination of fat content in paneer.
3.1.10 Cheese butyrometer

Cheese butyrometer will be used for the determination of fat content in paneer.

3.1.11 Digestion unit

Digestion unit will be used for the digestion of paneer for determination of protein content in paneer.

3.1.12 Distillation unit

Distillation unit will be used for distillation of distillate for determination of protein content in paneer.

3.1.13 Burette

Burette will be used for the titration of mixed solution for the determination of protein content in paneer.

3.1.14 Chemicals

Analytical reagent (AR) grade reagents will be used for chemical analysis

3.2 Methods

3.2.1 Standardization of milk

Fresh buffalo milk will be subjected to cream separator and skim milk and cream will be obtained. For every treatment milk will be standardized to 6 per cent fat by Pearson’s square method.

3.2.2 Production of soyamilk

Soymilk will be produced as per the method described by the Enwere, (1998).

3.2.3 Treatments

For preparation of paneer from buffalo milk blended with goat milk following treatment combination will be studied -

\[ T_0 = \text{parts of buffalo milk (100)} \quad T_1 = \text{parts of buffalo milk (75)} + \text{parts of goat milk (25)} \]

\[ T_2 = \text{parts of buffalo milk (50)} + \text{parts of goat milk (50)} \]

\[ T_3 = \text{parts of buffalo milk (25)} + \text{parts of goat milk (75)} \]
Same proportion will be made for other blends too ie. buffalo milk with cow milk, buffalo milk with skim milk and buffalo milk with soymilk.

3.2.4 Method of preparation of paneer

Paneer will be prepared as per the method described by Bhattacharya et al. (1971) with slight modifications.

3.3 Sensory evaluation of paneer

Sensory evaluation of paneer will be carried out by serving control and experimental samples to a panel of 10 semi trained judges from the staff of College Food Technology, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani. The samples will be evaluated for flavor, color and appearance, body and texture and overall acceptability on a 9-point Hedonic scale.

3.4 Chemical analysis of paneer

Chemical analysis of milk and paneer will be carried out as per the AOAC (1990) method.

3.4.1 Determination of fat

The fat content of paneer will be determined as per the method cited in Bureau of Indian standards (1981).

3.4.2 Determination of total solids

Total solids of milk will be determined by standard gravimetric method cited in Bureau of Indian standards (1981).

3.5 Textural analysis of paneer

The textural properties will be evaluated using the TA.XT plus Texture analyzer of Stable Micro System.

3.6 Microbial examination
The microbial examination of soup samples will be carried out as per the method cited in Indian standard institute (ISI) 1969.

3.6.1 Standard plate count

It will be determined by the method cited in ISI (IS: 5402) 1969 by using tryptone dextrose agar medium.

3.6.2 Yeast and Mould count

Yeast and mould counts will be determined by the method cited in ISI (IS: 5403) 1969 using potato glucose agar.

3.6.3 Coliform count

The presumptive coliform test will be determined by the method recommended by (Chalmers, 1955) by using McConkey’s broth.

3.7 Statistical analysis

The experiment will be subjected in completely randomized design (CRD) method as per Panse and Sukhatme (1985).

3.8 Cost of production of paneer

The various constituents or chemicals required for manufacture of paneer will be rated as per prevailing market price and cost per kg of paneer was worked out.