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## Physico chemical analysis of Kandi Peda sold in Satara city

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### Abstract

The Present Investigation entitled “Quality Analysis of Kandi Peda Sold in Satara City” was undertaken during the year 2020-2021. The objective of present investigation was to study the physico-chemical quality, to study sensory evaluation and to know the sale price of paneer sold in Satara city. In all 75 samples of Kandi peda were examined during the course of investigation which were collected from different regions viz., central, east, west, north and south region. From each region, 15 samples were collected and analysed during three fortnight. So, 5 samples of each regions were analysed each fortnight. These kandi peda samples were collected by adopting stratified randomization technique. Central, east, west, north and south region kandi peda samples contained on an average moisture 18.24, 13.77, 12.05, 14.42, and 12.59 per cent, fat 13.71, 19.97, 21.13, 20.68 and 21.66 per cent, protein 14.36, 16.66, 17.93, 16.53 and 18.46 per cent, ash 2.21, 2.49, 2.66, 2.36 and 2.74 per cent, total solids 81.75, 86.22, 87.95, 85.57 and 87.40 per cent, pH 5.81, 5.91, 5.79, 5.82 and 5.91, acidity 0.17, 0.21, 0.23, 0.23 and 0.24, respectively.

**Keywords:** Milk, milk product, Kandi Peda, physico-Chemical analysis

### Introduction

Milk is an almost ideal food. It has high nutritive value. It supplies body-building protein, bone formation minerals and health giving vitamins and furnishes energy giving lactose and milk fat. Beside, supplying certain essential fatty acid, it contains the above nutrients in an easily digestible and assimilated form. All these properties make milk an important food for pregnant mother, growing children, adolescents, adults, invalids, convalescents and patients alike. A single glass of milk is loaded with 15 essential vitamins and nutrients it contain as much as protein as an egg, as many as carbohydrate as a quarter cup of rice and the same calcium as 16 cup of spinach.

Peda is a popular indigenous, khoa based, heat desiccated milk product, which is prepared from cow milk, buffalo milk or a combination. It has been reported that the quantity of Peda produced in India exceeds than any other indigenous khoa based sweets (Mahadevan, 1991). Peda is one of the important milk product in the market, because it is liked by all classes of people. It has an economic importance especially in rural parts of India, as it provides good means of utilizing small quantity of surplus milk. Peda has special importance in various celebrations like inaugural functions, to celebrate success in examinations, wedding etc. The Indian people mostly offer Peda to God as a prasad, Therefore, the demand for this product is constant throughout the year.

As Peda contains almost all milk solids in addition with sugar and other additives, it is highly nutritious. It is prepared by heating a mixture of khoa and sugar until the desired granular and hard texture and good flavour develops. Several varieties of Peda are famous in India with their typical characteristics. In Uttar Pradesh, Mathura Peda is famous. Certain other varieties of Peda like Elaichi Peda, Malai Peda, Keshar Peda, Rajkot Peda etc. are also found in the markets of different parts of the India. In Maharashtra state certain brands of Peda are famous. Few examples are Chitale Peda, Kaka Halwai Peda, Ghodake Peda from Pune city, Kandi Peda from Satara is famous for its brown colour and caramelized flavour. In Ahmednagar district, Rajur Peda, Mahendra Peda are famous. This indicates that there are different types of Peda are available in the market. All the types of Peda have distinct characteristics and method of manufacture vary from region to region.

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## Material and Methods

The present investigation on evaluating physico-chemical and sensory qualities of Kandi peda samples were carried out in the laboratory of Animal Husbandry and Dairying Science, College of Agriculture Nagpur.

### Material

Kandi peda sample collected from various sources of different localities, Vegetable parchment paper bag.

### Chemical used for analysis

1. Dilute sulphuric acid (0.1 N)
2. Concentrated sulphuric acid (98.08%)
3. Concentrated hydrochloric acid (98%)
4. Copper Sulphate
5. Potassium Sulphate
6. 0.1N Sodium hydroxide
7. Boric acid Solution
8. Methyl red indicator
9. Methyl blue indicator
10. Ether
11. 1% Iodine solution
12. Analytical grade chemical were used for analysis.

### Instrument and equipments used

1. Micro Kjeldhal Digestion assembly
  2. Muffle furnace
  3. Soxhlet's apparatus
  4. Desiccator
  5. Hot air oven
  6. Silica crucible
  7. Petri plate
  8. Test Tube
  9. Burette
  10. Pipette
  11. Digital weight balance
  12. Glass rod
  13. Petri plate
- Above equipment and instruments were used for analysis as per standard.

### Method adopted

#### Determination of moisture

Moisture content of kandi peda samples were determine as per procedure prescribed in ISI Hand book of SP: 18 (Part XI):1981<sup>[4]</sup>

#### Determination of fat

Fat content of kandi peda was determine by the Soxhlet's extraction method as per procedure describe in A.O.A.C. (1975)<sup>[1]</sup>.

#### Determination of protein

Protein content of kandi peda samples were determined by micro Kjeldahal method as recommended in IS: 1165 (1967)<sup>[2]</sup>.

#### Determination of ash

The ash per cent was determined by the method recommended in B. I. S. Handbook of food analysis IS: 1165 (1967)<sup>[2]</sup>.

### Determination of total solids

Total solids content of peda samples were determine by subtracting the moisture content in the samples as per the procedure given by SP: 18 (Part XI): 1981<sup>[4]</sup>.

Total solids (%) = 100 - moisture (%)

### Acidity

Titrateable acidity was determined by the method described in BIS-1960; IS-1479, part I.

### Determination of pH

pH of kandi peda sample was determined by using digital pH mete

## Result and Discussion

### Moisture content

Moisture content of kandi peda samples sold in Satara city showed significant differences. The average moisture content of kandi peda sold in Satara city ranged from to 12.05 to 18.24 per cent. The average values of moisture content of kandi peda samples sold in central, east, west, north and south region recorded as 18.24, 13.77, 12.05, 14.42, and 12.59 per cent, respectively. However, the maximum average moisture content recorded in central kandi peda and minimum in westkandi peda. Central kandi peda was significantly superior over east, west, south and north in respect of moisture content.

### Fat content

Fat content of kandi peda samples sold in Satara city showed significant differences. The average fat percentage of kandi peda sold in Satara city ranged from 13.71 to 21.66per cent in which mean values of fat content of central, east, west, north and south region kandi peda recorded as 13.71, 19.97, 21.13, 20.68, and 21.66 per cent, respectively for this attributes. However, the maximum fat content recorded in south kandi peda samples followed by west, north, east and central kandi peda. The fat content of south kandi peda was significantly superior over east, north, west and central kandi peda.

### Protein content

Protein content of kandi peda samples sold in Satara city showed significant differences. The average protein content of kandi peda sold in Satara city ranged from 14.36 to 18.46 per cent. However, the mean values of protein content of kandi peda samples sold in central, east, west, north and south region were recorded as 14.36, 16.66, 17.93, 16.53 and 18.46 per cent, respectively. The maximum average protein content of market kandi peda recorded by south kandi peda followed by west, east, central and north kandi peda. Southkandi peda samples were significantly superior over west, east, central and north in respect of protein content.

### Ash content

Ash content of kandi peda samples not showed significant differences. The average ash content of kandi peda sold in Satara city ranged from 2.20 to 2.70 per cent. However, the average values of ash content of central, east, west, north and south region kandi peda contributed 2.20, 2.46, 2.60, 2.36 and 2.70 per cent, respectively. The maximum percentage of ash was recorded by south kandi peda

collected sample while, minimum ash content obtained in central central kandi peda.

### **Total solids content**

Total solids content of kandi peda samples showed significant differences. The average total solids content of kandi peda sold in Satara city ranged from 81.75 to 87.95 per cent in which mean values of central, east, west, north and south region kandi peda contributed 81.75, 86.22, 87.95, 85.57 and 87.40 per cent, respectively for total solids content. It was noticed that, westkandi peda recorded maximum percentage of total solids followed by east, north, south and central kandi peda. West kandi peda samples were significantly superior over and east, north, south and central kandi peda in respect of total solids contents.

### **pH**

pH content of kandi peda samples showed significant differences. The average pH content of kandi peda sold in Satara city ranged from 5.7 to 5.9 per cent in which mean values of central, east, west, north and south region kandi peda contributed 5.8, 5.9, 5.7, 5.8 and 5.9 per cent, respectively for pH content. It was noticed that, east and south kandi peda recorded maximum percentage of pH followed by north, central, and west kandi peda.

### **Acidity**

Acidity content of kandi peda samples sold in Satara city showed significant differences. The average acidity content of kandi peda sold in Satara city ranged from 0.17 to 0.24 per cent. However, the mean values of acidity content of kandi peda samples sold in central, east, west, north and south region were recorded as 0.17, 0.21, 0.23, 0.23, and 0.24 per cent, respectively. The maximum average acidity content of market kandi peda recorded by south kandi peda followed by north, west, east, central and kandi peda. South kandi peda samples were significantly superior over west, east, central and north in respect of acidity content.

### **Conclusion**

The kandi peda marketed in south region had better physico-chemical qualities than central, west, north and east kandi peda which were fair but full fill prescribed standards.

The present study suggested that, there is need to conduct frequent quality check on this product, which avoid pre and post contamination and thereby, helps to protect the consumer's interest from health point of view.

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