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## Physicochemical analysis of milkshake blending with date pulp (Khajur)

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### Abstract

A study on “physicochemical analysis of milkshake blending with date pulp (khajur)” was carried out by using buffalo milk. The study was to develop milkshake enriched with date pulp in different concentration by using whole milk. And the study on find out the physicochemical parameters of kalakand prepared by addition of different levels of date pulp. Milkshake prepared with 7.5 percent date pulp was found best treatment on the basis of physicochemical analysis of milkshake. The most acceptable quality flavoured milkshake could prepared by using date pulp at the rate of 7.5 percent of the buffalo skim milk and it contained total solids, fat, protein, ash, moisture content and titratable acidity as 29.27, 3.67, 3.79, 1.70, 17.67 and 0.30 percent, respectively.

**Keywords:** Milkshake, date pulp, physicochemical analysis

### Introduction

Milk being a perishable product gets spoiled quickly if not treated properly. Besides direct consumption as market milk, surplus milk is converted in to various milk products as per the liking of the people from various regions of the country. Delicious recipes are prepared from the milk by converting it in to desiccated, coagulated, fermented or frozen milk products.

The Date Palm (*Phoenix dactylifera*) is considered to be the most important fruit tree in most of the Arabian countries. Date production in the world is only confined to a small number of countries; most of them being the Arab countries Date is a high energy fruit and have been used as a staple food for thousands of years in the desert regions of the world. Dates are consumed in at least three major stages of maturity from fresh, crisp to succulent, to soft pliable. A fully tree ripened date is self-preserving for months and can be stored or transported as a concentrated food source.

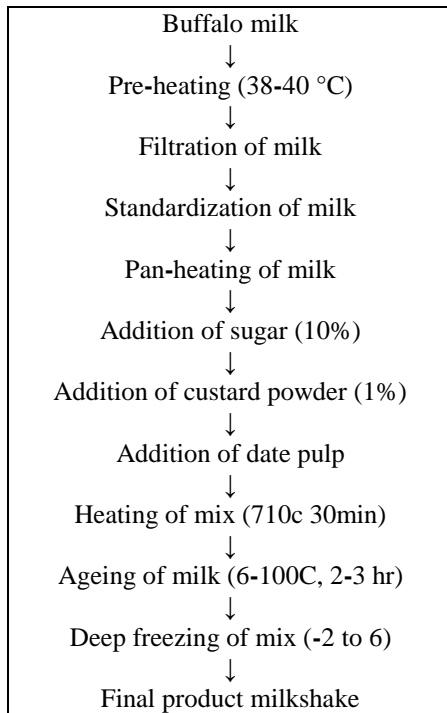
### Treatment details

T<sub>0</sub>-0% Date pulp + 10% of sugar  
T<sub>1</sub>-2.5% Date pulp + 10% of sugar  
T<sub>2</sub>-5% Date pulp + 10% of sugar  
T<sub>3</sub>-7.5% Date pulp + 10% of sugar  
T<sub>4</sub>-10% Date pulp +10% of sugar

### Material and method

Buffalo milk was obtained from the dairy farm, Nashik and standardized to 6% fat. Superior quality and completely matured date fruits and sugar were available from the local market Nashik. Milk shake was prepared as per. Minor modification. Was some preliminary trials were conducted to determine the range and appropriate stage of Date pulp for incorporation in milkshake. The trials with four levels of Date pulp (2.5, 5, 7.5 and 10%) were selected on the basis of preliminary trials for further studies six replication.

**Flow Chart**



**Fig 1:** Preparation of milkshake blending with date pulp  
Result and Discussion

**Table 1:** Physicochemical analysis of milkshake blending with date pulp

Sample	Total solid	Fat	Protein	Ash	Titrable acidity
T <sub>0</sub>	21.35	4.38	4.19	0.86	0.18
T <sub>1</sub>	26.5	3.93	4.18	1.30	0.24
T <sub>2</sub>	27.87	3.76	3.89	1.52	0.27
T <sub>3</sub>	29.27	3.67	3.79	1.70	0.30
T <sub>4</sub>	30.55	3.60	3.66	1.88	0.32
S.E	0.92	0.45	0.14	0.00	0.17
C.D	99.80	1.66	2.20	0.00	0.04

**Conclusion**

**Total solids**

Total solids content of milkshake decreased with an increase in the level of date pulp. The maximum total solids content (21.35%) was noticed in milkshake without date pulp i.e. T<sub>0</sub>, whereas the lowest (29.55%) was recorded in milkshake with 10% date pulp i.e. T<sub>4</sub>.

**Fat**

The mean value of fat decreased significantly from T<sub>0</sub> to T<sub>4</sub>. The highest fat content (4.38%) was observed in milkshake prepared without date pulp i.e. (T<sub>0</sub>), whereas the lowest fat content (3.60%) in milkshake with 10 percent date pulp T<sub>4</sub> (6.9%).

**Protein**

There was significant Increased in protein content of milkshake with decrease in the level of date pulp. The highest protein content (4.19%) was observed in milkshake prepared without date pulp (T<sub>0</sub>), whereas the lowest protein (3.66%) in milkshake with 10% date pulps (T<sub>4</sub>).

**Ash**

The variation in ash content of milkshake was non-significant. The lowest ash content (0.86%) was observed in milkshake

prepared without date pulp (T<sub>0</sub>), whereas the highest % (1.88%) in milkshake with 10% date pulps (T<sub>4</sub>).

**Acidity**

The mean value of acidity negligibly decreased with increase in the level of date pulp. The lowest acidity (0.18%) was observed in milkshake prepared without date pulp (T<sub>0</sub>), whereas the highest acidity (0.32%) in case of milkshake with 10% date pulp (T<sub>4</sub>).

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