The Pharma Innovation Journal 2023; SP-12(12): 1121-1123

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; SP-12(12): 1121-1123

www.thepharmajournal.com
Received: 02-09-2023
Accepted: 04-10-2023

VU Todkar
Department of Animal Husbandry and Dairy Science, College of Agriculture, DBSKKV, Dapoli, Maharashtra, India

MA Waikar
Department of Animal Husbandry and Dairy Science, College of Agriculture, DBSKKV, Dapoli, Maharashtra, India

AS Dhawade
Department of Animal Husbandry and Dairy Science, College of Agriculture, DBSKKV, Dapoli, Maharashtra, India

VS Dandekar
Department of Animal Husbandry and Dairy Science, College of Agriculture, DBSKKV, Dapoli, Maharashtra, India

SS Ramod
Department of Animal Husbandry and Dairy Science, College of Agriculture, DBSKKV, Dapoli, Maharashtra, India

AJ Mayekar
Department of Animal Husbandry and Dairy Science, College of Agriculture, DBSKKV, Dapoli, Maharashtra, India

PS Sawant
Department of Animal Husbandry and Dairy Science, College of Agriculture, DBSKKV, Dapoli, Maharashtra, India

Corresponding Author:
VU Todkar
Department of Animal Husbandry and Dairy Science, College of Agriculture, DBSKKV, Dapoli, Maharashtra, India

Effect of jackfruit pulp on physico-chemical attributes of lassi

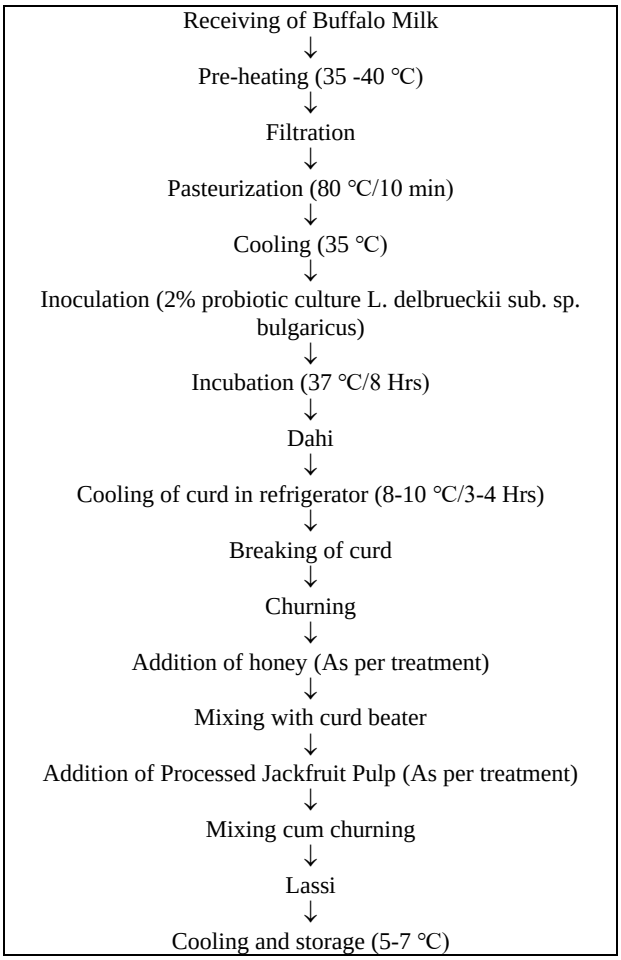
VU Todkar, MA Waikar, AS Dhawade, VS Dandekar, SS Ramod, AJ Mayekar and PS Sawant

Abstract
Lassi was prepared by using of buffalo milk with different proportion of jackfruit pulp and honey. The investigation was undertaken to standardize the level of processed jackfruit pulp and honey in probiotic herbal jackfruit lassi. The product was subjected to chemical analysis. The most acceptable quality of probiotic herbal jackfruit lassi can be manufactured by addition of jackfruit pulp @ 14 percent and honey @ 18 percent which contained on an average 22.89, 3.81, 2.80, 14.41, 0.638 and 0.76 percent total solid, fat, protein, total sugar, ash and titrable acidity, respectively.

Keywords: Jackfruit pulp, physico-chemical attributes, lassi

Introduction
Fermented food and drink items have a variety of nutritional and medicinal benefits. One of the main factors influencing the health benefits of fermented milks and related products is lactic acid bacteria (LAB). During fermentation, lactic acid bacteria create useful metabolites including antibiotics and anti-carcinogenic chemicals and also help milk components to be more easily digested. They also synthesise vitamins. It becomes imperative to ascertain and verify the physical and chemical features of lassi in light of its nutritional value and economic significance. Keeping these points in consideration, it was suggested to do study on the assessment of the physicochemical characteristics of probiotic herbal jackfruit lassi with different proportion of jackfruit pulp and honey. Fruits are beneficial to health. Fruits have a high nutritional content and are now considered to be a necessary component of a full or balanced diet. Fruits often include high levels of proteins and carbs, both of which are necessary for body tissue growth and life maintenance. Probiotic organisms are used in fermented dairy products in an effort to provide consumers with a nutritious, healthful, and appealing product by combining their potential health advantages with the ability to proliferate in milk. Although milk and milk products are highly perishable, they may be kept refrigerated for longer periods of time than they can be kept at room temperature. For this reason, we can store milk products that have been enhanced with jackfruit pulp to increase their therapeutic potential. The milk product industry will enter a new era with the addition of jackfruit pulp. The current investigation's idea is that it will satisfy the market segment that is health conscious.

Materials and Methods
Fresh buffalo milk was obtained from the College of Agriculture, Dapoli's instructional dairy farm in order to prepare lassi that included jackfruit pulp. Ingredients like honey and processed jackfruit pulp were bought from the Dapoli local market.
With a few minor adjustments, the probiotic herbal jackfruit lassi was made using the technique provided by Pathange *et al*. (2018) [8]. Fresh, high-quality buffalo milk was heated to 35 to 40 degrees Celsius before being filtered. After being thoroughly cleaned and sterilised, the milk was heated to 90 °C for 15 minutes and then cooled to 35 °C. Next, 2% of Lb. bulgaricus culture was put to the utensil. The ingredients were evenly divided among the tins, incubated for eight hours at 37 °C, and then the probiotic herbal jackfruit lassi recipe was made. Flow chart for probiotic jackfruit herbal lass.



Treatments

In the present study probiotic culture of *Lactobacillus delbrueckii sub. sp. bulgaricus* was used @ 2% for all treatments, whereas processed jackfruit pulp was used @ 12%, 14% and 16% along with honey @ 14%, 16% or 18% was used. The addition of processed jackfruit pulp and honey was on w/w basis. Thus, there will be 9 treatment combination as presented below-

J_1H_1 - Probiotic herbal lassi prepared with jackfruit pulp @ 12% and honey @ 14% (w/w)
J_2H_1 - probiotic herbal lassi prepared with jackfruit pulp @ 14% and honey @ 14% (w/w)
J_3H_1- probiotic herbal lassi prepared with jackfruit pulp @ 16% and honey @ 14% (w/w)
J_1H_2- probiotic herbal lassi prepared with jackfruit pulp @ 12% and honey @ 16% (w/w)
J_2H_2- probiotic herbal lassi prepared with jackfruit pulp @ 14% and honey @ 16% (w/w)
J_3H_2- probiotic herbal lassi prepared with jackfruit pulp @ 16% and honey @ 16% (w/w)
J_1H_3 - probiotic herbal lassi prepared with jackfruit pulp @ 12% and honey @ 18% (w/w)
J_2H_3 - probiotic herbal lassi prepared with jackfruit pulp @ 14% and honey @ 18% (w/w)
J_3H_3 - probiotic herbal lassi prepared with jackfruit pulp @ 16% and honey @ 18% (w/w)

Sensory evaluation

Six semi-trained judges evaluated the products. The attributes taken into account for the purpose of scoring the products were flavour, colour and appearance, body and texture, and overall acceptability.

Physico-chemical analysis of probiotic herbal jackfruit lassi

Treatments	Total solid	Fat	Protein	Total sugar	Ash	Titrable acidity
J_1H_1	21.15	3.97	2.88	12.55	0.640	0.72
J_2H_1	21.14	3.92	2.87	12.58	0.647	0.72
J_3H_1	21.13	3.87	2.85	12.60	0.650	0.71
J_1H_2	22.04	3.91	2.86	13.49	0.640	0.74
J_2H_2	22.03	3.86	2.83	13.51	0.642	0.74
J_3H_2	22.02	3.82	2.82	13.52	0.645	0.73
J_1H_3	22.91	3.86	2.81	14.40	0.630	0.76
J_2H_3	22.89	3.81	2.80	14.41	0.638	0.76
J_3H_3	22.87	3.77	2.79	14.42	0.641	0.75

Total solid

Probiotic herbal jackfruit lassi contains an average of 21.15 (T_1), 21.14 (T_2), 21.13 (T_3), 22.04 (T_4), 22.03 (T_5), 22.02 (T_6), 22.91 (T_7), 22.89 (T_8), and 22.87 (T_9) percent total solids. It was found that the total solids content gradually decreased as the amount of jackfruit pulp increased and increased with the amount of honey increased. The simultaneous drop in T_1 to T_3, T_4 to T_6, and T_7 to T_9 could be the result of the jackfruit pulp level changing. The probiotic herbal jackfruit lassi at T_7 (22.91%) with jackfruit pulp at 12 percent and honey at 18 percent had the highest total solids content, whereas T_3 (21.13%) had the lowest total solids level.

Fat

The average fat content of probiotic herbal jackfruit lassi were 3.97 (T_1), 3.92 (T_2), 3.87 (T_3), 3.91 (T_4), 3.86 (T_5), 3.82 (T_6), 3.86 (T_7), 3.81 (T_8), and 3.77 (T_9) percent. The probiotic herbal jackfruit lassi with the highest fat level (3.97%) was found in treatment T_1, which included jackfruit pulp at 12% and honey at 14%, whereas treatment T_9, which included additional jackfruit pulp at 16% and honey at 18%, had the lowest fat content (3.77%). The outcome demonstrates that the fat percentage was decreased with the addition of jackfruit pulp and honey. This could be because the fat content of honey and jackfruit pulp was significantly lower than that of milk.

Protein

The average protein content of probiotic herbal jackfruit lassi were 2.88 (T_1), 2.87 (T_2), 2.85 (T_3), 2.86 (T_4), 2.83 (T_5), 2.82 (T_6), 2.81 (T_7), 2.80 (T_8), and 2.79 (T_9) percent. The protein content of the probiotic herbal jackfruit lassi gradually decreased when jackfruit pulp and honey were added. This could be because milk has a higher protein level than jackfruit pulp or honey, which are significantly lower.

Total sugar

The average total sugar content of probiotic herbal jackfruit lassi were 12.55 (T_1), 12.58 (T_2), 12.60 (T_3), 13.49 (T_4), 13.51 (T_5), 13.52 (T_6), 14.40 (T_7), 14.41 (T_8), and 14.42 (T_9)

percent. The total sugars showed increasing during analysis. This may be due total sugar content of jackfruit pulp and honey was considerably more as compared to the total sugar content of milk.

Ash

The average ash content of probiotic herbal jackfruit lassi were 0.640 (T_1), 0.647 (T_2), 0.650 (T_3), 0.640 (T_4), 0.642 (T_5), 0.645 (T_6), 0.630 (T_7), 0.638 (T_8), and 0.641 (T_9) percent. As the amount of jackfruit pulp and honey in probiotic herbal jackfruit lassi increases, the amount of ash content falls. This could be because the ash content of honey and jackfruit pulp was significantly lower than that of milk.

Acidity

A probiotic herbal jackfruit lassi with 0.72 (T_1), 0.72 (T_2), 0.71 (T_3), 0.74 (T_4), 0.74 (T_5), 0.73 (T_6), 0.76 (T_7), 0.76 (T_8), and 0.75 (T_9) percent acidity was the average. During analysis, there was an increase in acidity. This could be because the acidity of the honey and jackfruit pulp was significantly higher than that of the milk.

Conclusion

The findings demonstrated that the probiotic herbal jackfruit lassi had lower fat and protein content in relation to its physico-chemical qualities. On the other hand, total solids rose as the amount of honey increased and decreased when the amount of jackfruit pulp increased. While adding more jackfruit pulp and honey to make lassi increased the amount of total sugar, ash, and acidity.

References

1. Afaneh IA. Development of Set and Drinking Sesame Yoghurt from Decorticated Sesame Seed. American Journal of Applied Sciences. 2013;10(11):1392-1397.
2. Bagal SG, Chavan KD, Kulkarni MB. Studies on Preparation of Lassi from High Acid Cow Milk. J Dairying, Foods and H. S. 2007;26(2):80-84.
3. Bhutkar SS. Studies on Preparation of Lassi from Buffalo Milk Blended with Coconut Milk. Research Journal of Animal Husbandry and Dairy Science. 2011;3(2):70-72.
4. Campbell Platt G. Fermented foods - A world perspective. Food Res. Internat. 1994;27(2):253-257.
5. De S. Outlines of Dairy Technology; 29th Impression, Oxford University Press. Delhi, 2004, 419.
6. Gandhi DN, Nambudripad VKN. An introduction to different Acidophillus milk products and its concentrates. Indian Dairyman. 1977;31(11):813.
7. Kumar TS, Arvindakshan P, Sangeetha A, Pagote CN, Rao KJ. Development of Mint Flavoured Yoghurt Spread. Asian Journal of Dairy and Food Research. 2013;32(1):19-24.
8. Sarangapani C, Patange A, Bourke P, Keener K, Cullen PJ. Recent advances in the application of cold plasma technology in foods. Annual review of food science and technology. 2018 Mar 25;9:609-629.