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Comparative Studies of Microbiological Qualities of Singori (A Type of Sweet) of Kumaon Region

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G. B. Pant University of Agriculture and Technology, Pantnagar, Uttarakhand, India**Abstract:**

The study was initiated to compare market and laboratory made singori with objective of providing scientifically proven best quality of said sweet. Singori is a traditional sweet of hills specially Almora district. The conventional method of manufacturing singori was studied at Pantnagar, Rudrapur, Haldwani and Almora. Microbiologically the singori of Almora was found better with lowest SPC, yeast and molds count and lipolytic activity. The sensory score of Singori samples obtained from market ranged from 6.22 to 8.65.

1. Introduction

Singori is an exquisite cuisine of Kumaonis, a community inhabiting the region of Kumaon in the north-eastern section of the state of Uttarakhand. The region has its own distinct, impressive culture and delicious, nutritious, mouthwatering dishes. Singori is relatively high moisture sweet in which the multiplication of microorganisms occurs relatively at a high rate. Therefore, the study underhand was planned to evaluate microbiological qualities of singori presently available in the market and compare it with preparation of laboratory.

2. Materials and Methods

Singori was collected from Pantnagar, Rudrapur, Haldwani, Almora and also prepared in laboratory using fresh buffalo milk having 9% SNF and 6% fat. To evaluate as well as compare the microbiological quality of singori of different places total viable, coliform, proteolytic, lipolytic, yeast as well as mould count were estimated (AOAC, 1984).

3. Result and Discussion

This was the pioneer study on singori regarding microbiological quality. The samples of singori were examined for various microbial counts e.g. total viable, coliform, proteolytic, lipolytic and yeast and moulds counts were carried out. The results presented in table 1 indicated that the total viable counts of singori was highest ($p \leq 0.05$) in samples from Haldwani (81.20 ± 3.45) due to unhygienic practices followed by the halwais and lowest count of 33.60 ± 1.85 was found in control 1 samples. The coliform organisms were absent in both the control (laboratory prepared) samples but highest ($p \leq 0.05$) in sample of Pantnagar (20.4 ± 1.36) indicating older sample. All the samples from all markets exhibited the presence of these bacteria due to prolonged storage. The proteolytic count of singori varied from 0.00 to 274.00 ± 6.00 which was as highest ($p \leq 0.05$) in samples from Haldwani (274.00 ± 6.00). Similarly, the lipolytic was highest ($p \leq 0.05$) in the samples of Rudrapur (60.20 ± 1.20). Yeast and mould were highest ($p \leq 0.05$) in samples of Rudrapur (458.00 ± 15.9) indicating aging. While the lowest counts of these values were recorded in both the control samples in which control 1 was best due to sampling just after preparation without a moment of storage. Our findings are in fair agreement of those reported by Kakkar (2004) in her study on balmithai and Praneeta (2005) on Rasogulla.

S.N.	Places	TVC (Th./g)	Coli form (per./g)	Proteolytic (Mean+SEM)/g	Lipolytic (Mean+SEM)/g	Yeast & Mould (Mean+SEM)/g
1	Pantnagar	76.60±5.11	20.4±1.36*	117.60±0.18	54.20±0.86	214.00±5.8
2	Rudrapur	48.60±0.081	1.60±1.60	127.00±4.36	60.20±1.20*	458.00±15.9*
3	Haldwani	81.20±3.45*	7.00±0.00	274.00±6.00*	58.40±3.08	216.00±12.0
4	Almora	57.20±0.66	1.80±1.80	221.80±14.01	42.00±1.55	261.00±5.6
5	Control-1	33.60±1.85	0.00±0.00	0.00±0.000	0.00±0.000	10.40±5.1
6	Control-2	46.60±5.11	0.00±0.00	95.60±19.13	42.20±6.11	31.44±58.2
Overall		62.3.0±3.45	4.80±0.50	46.60±5.11	42.8±3.95	202±25.4

Table 1: Total viable and Coliform Proteolytic, Lipolytic and Yeast and Mould count of singori

*Significant at 5% level ($p \leq 0.05$)

4. Conclusion

Study revealed that microbiologically best quality of singori was found of controls because of hygienic preparation and lesser time of storage. However, prolonged storage increases the TVC, Coliform, Proteolytic, Lipolytic as well as Yeast and Mold counts of singori.

5. References

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