



COMPARATIVE STUDY OF JAM MADE FROM DORUWA-TAMARIND BLEND AND CONVENTIONAL JAM

JIBRIL, MARYAM.

Department of Food Science and Technology, Federal Polytechnic, P.M.B. 0231,
Bauchi, Bauchi State, Nigeria.

Abstract

The study examined the relationship between Jam Made from Doruwa-Tamarind Blend and Conventional Jam. The materials for the study obtained from Market and for the purpose of the study Moisture, TSS and PH contents were determined for each product using standard method. The results of this study show some of the analyzed physicochemical characteristics of commercial Jams can compare well with blend of Doruwa-Tamarind Jam in terms of giving a well acceptable Jam with good keeping quality.

Introduction

Fresh fruits and vegetables are known to be perishable agricultural food commodities because of their high moisture content and due to the various readily available nutrients and growth factors that are taking place. Indigenous tropical fruits such as African locust bean (Doruwa, *Parkia biglobosa*) and Tamarind are often left unexploited and are allowed to waste due to their excess supply in their season. The act and art of Jam making is an interesting process that helps reduce post-harvest losses that are often associated with fresh fruits. Jam can be defined as a cooked and gelled fruit juice or fruit pulp packaged for storage. The preparation of jam involves the use of pectin as a gelling agent with sugar or honey and/or citric acid [1]. This research aimed at comparing the Physico-chemical characteristics of Jam made from a blend of Doruwa-Tamarind, with a Conventional Jam.

Materials and Methods

The materials that were used for this work include *Doruwa*, Tamarind, sugar and pectin, all purchased from Bayara market, in Bauchi metropolis. The doruwa powder was removed from the seeds and reconstituted with water to obtain the pulp, the Tamarind pulp was also extracted from the flesh. Both pulps were mixed, sugar added, and boiled for 10 minutes to dissolve the sugar. After the initial boiling, pectin was added and the mixture was further boiled with continued stirring until the temperature of 60°C was reached. Citric acid was added to obtain a correct balance for jam after which the end point was judged by boiling up to temperature of 104°C. The boiled mixture was hot filled into a sterile glass jar to avoid setting on the boiling pan, the product was allowed to set, cooled under water, resulting in an acceptable jam. Physio – chemical analysis was carried out on the products; *Doruwa*-Tamarind Jam and the conventional Jam of Raspberry. Moisture, TSS and PH contents were determined for each product using standard method [2].

Results and Discussion

Results for the Physico-chemical properties of both Jams are showed in Table1. The result showed that the difference in both samples was found to be significantly low ($P < 0.05$) in all the parameters measured. The moisture content of CJM showed significantly low difference as compared to DOT Jam, this indicates that there keeping quality will be the same. The pH of both samples ranged from 3.9 – 4.00. The CJM was found to have lower pH than the DOT Jam, this could be because the CJM is made of Raspberry fruit with very low pH as compared to the DOT Jam that is a blend of acidic and neutral fruits. T.S.S was found to be lower in DOT with 65% brix as compared to 66% in CJM, this could be attributed to the fact that DOT Jam is made from the fruit pulp while the CJM is made from the fruit juice. Both values however agree with the 65 – 67% T.S.S by the Food laws.

Table 1. Physico-Chemical values of Doruwa-Tamarind Jam (DOT) and Conventional Jam (CJM).

Sample	Moisture	PH	TSS
DOT	28.40 \pm 0.00 ^a	4.0 \pm 0.21 ^a	65.0 \pm 0.8a
CJM	27.60 \pm 0.00 ^b	3.9 \pm 0.25 ^b	66.2 \pm 0.6 ^b

Values are Mean \pm Standard Deviation in Duplicate Determination. Column not followed by the same alphabet are significantly different.

Conclusion

The results of this study indicate that some of the analyzed physicochemical characteristics of commercial Jams can compare well with blend of Doruwa-Tamarind Jam in terms of giving a well acceptable Jam with good keeping quality.

References

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