Preparation of flavored candy from central core of banana pseudostem


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Received: 09-01-2016 Accepted: 17-09-2016 DOI: 10.18805/ajdfr.v35i4.6638

ABSTRACT

In addition to fruit production, huge quantity of biomass is (pseudostem, leaves, suckers etc.) is generated in banana. Developing edible products from banana central core was one of the activities envisaged in the National Agricultural Innovation Project sanctioned in consortium mode with Navsari Agricultural University, Navsari as lead centre. Further, in Gujarat, consumption of central core is not commonly observed. In past few scientists prepared candy from central core and registered patent of it. In order to popularize candy consumption and to gain acceptability among people, it was prepared by using different artificial flavors. Present Experiment was conducted in the year 2010 and banana pseudostem centre core (cv. Grand Naine) was obtained from Soil and Water Management Research Unit Farm, Navsari Agricultural University Navsari. The four flavors as treatments viz; lemon, mango, orange and pineapple were used for flavoring banana central core candy. Flavoring was done during the steeping of banana centre core candy at 7th, 9th, 11th and 13th days.

The candy was organoleptically evaluated by 9 point hedonic scale and results show that flavoring of banana pseudostem central core candy could be done successfully with mango, pineapple, orange and lemon flavors. However mango flavor was found most acceptable with 7th day of flavoring.

Key words: Flavoured candy, Banana pseudostem.

India is the largest producer of banana next to mango and major banana producing states are Maharashtra, Kerala, Tamilnadu, Gujarat, Bihar, West Bengal, Assam, Andhra Pradesh and Karnataka. Banana is cultivated primarily for their fruit and to a lesser extent to make fiber and as ornamental plants. It occupies about 7 lacks ha area in India with an average productivity of 39 t/ha. In Gujarat, it occupies about 0.69 lacks ha area with production of 44.50 lakh ton (Patel, 2015).

In addition to fruit production and its processing, huge quantity of biomass (pseudostem, leaves, suckers etc.) is generated. After harvesting the fruits, remaining portion of the plant such as pseudostem, leaves and under ground rhizomes etc are dumped as a waste. In past, some researchers have successfully demonstrated use of banana pseudostem and leaves for extraction of fibers on a small scale. Apart from this, the high value products viz., mordant from sap, microcrystalline cellulose powder from fiber and edible products like candy from central core can also be obtained. The standard methodology for processing of banana central core candy was developed by the scientists of Navsari Agricultural University. Considering an average 20 kg weight of pseudostem, from one hectare about 60-70 t/ha of pseudostem can be obtained. On weight basis, central core constitutes about 10-15 percent of the pseudostem which comes to around 7-10 t/ha. The central cores on average contain 1 % starch, 0.68 % crude fiber and 1 % total ash. It is also considered to be used as edible portion of banana pseudostem. It is often cooked and consumed as a vegetable in Kerala, India and is canned with potatoes and tomatoes in curry sauce. It was reported that central cores are effective against the liver and kidney parasites and the juice of central core is traditional remedy against the kidney stone. There is a scope for development of many commercial edible products from it. So this experiment was conducted for addition of various edible flavors in to the banana central core candy.

The banana pseudostem centre core is collected from Soil and Water Management Research Unit Farm, NAU, Navsari and brought to Centre of Excellence on Post Harvest Technology, Navsari Agricultural University, Navsari. After preliminary treatments it was sliced and chopped using a stainless steel slicer-dicer to approximate 25 x 10 x 12 mm size and blanching was done immediately after dicing. The standardized sugar level 2500 g per 2000 g cubes was used for making banana central core candy. Cubes are steeped in the sugar syrup for further osmosis.

When final syrup strength of all the treatments attained the 70°Brix, candy was washed and arranged in tray in single layer for uniform drying of candy. It was frequently checked turned in side by side to reduce the stickiness in the candy. Uniform drying of candy required about 30 hours. The candy was packed in the polyethylene bags for further storage and organoleptic quality analysis.
The organoleptic analysis of banana centre core candy was done using 9 point hedonic scale (Ranganna, 2009). The observed data were statistically analyzed using CRD design (Panse and Sukhatme, 1957).

The observations of organoleptic parameters on the basis of 9 point hedonic scale were recorded for taste, color, texture, flavor and overall acceptability of artificially flavored banana pseudostem core candy by fifteen panelists. The average data of organoleptic parameters for sixteen treatments are reported in Table 1. Treatment T2 with a score of 7.00, 7.42, 7.50, 7.00 and 8.33 score for taste, colour, texture, flavour and overall acceptability, respectively was the highest among all the treatments. Data also indicated that the mango flavor score is higher compared to other flavors for the treatments in which, the flavoring was done after 9th, 11th and 13th day of steeping. This result indicated that panelists liked mango flavor for banana pseudostem central core candy, but the treatment in which flavor was added on 7th day of steeping was preferred most. The statistical results of taste, colour, texture and flavour are not significant. This indicates that panelists liked flavored banana pseudostem candy irrespective of treatment variation. The overall acceptability scores of 7.33 and 7.25 for treatment T6 and T10, respectively was at par with T2. Mango flavored candy, treatment T6 and T10 was liked by panelist.

CONCLUSION

Based on the study results, it can be concluded that flavoring of banana pseudostem central core candy can be done successfully with mango, pineapple, orange and lemon flavors. The 7th day of flavoring treatment gives the best acceptability. Mango flavored candy was preferred the most compared to lemon, orange and pineapple flavors.

REFERENCES

