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Effect of different concentration of ginger extracts on preparation of Aonla candy cv. NA-7

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Abstract

The present investigation was executed at the Laboratory of Department of Crop Improvement and Biotechnology, ICAR-CISH, Lucknow during the year 2017-18. Experiment effect of ginger extract concentration of Aonla candy cv. NA-7 was studied and candy prepared with T₅ treatment was found best on the basis of chemical composition, organoleptic quality, cost: benefit ratio. Treatment T₅ can be recommended for preparation of quality candy of Aonla fruit on commercial scale, it can be improved by use of more than 2.5 per cent concentration of ginger extract there is needs to conduct a work on preparation of Aonla candy.

Keywords: Ginger, concentration, storage, Aonla, candy

Introduction

Aonla (*Embllica officinalis* G.) also known as Indian gooseberry belongs to family Euphorbiaceae. It is native to tropical South Eastern Asia particularly Southern India. It phenol contains Gallic acid, elegendic acid and glucose which prevent oxidation of Vitamin C. Aonla is a source of carbohydrates, carotene, thiamine, riboflavin, and minerals like iron, calcium, phosphorus, magnesium and rich source in pectin. Aonla fruit have very good medicinal value and utilizing from ancient time for the treatment of several ailments like tuberculosis of lungs, asthma, bronchitis Scurvy, diabetes, anemia, weakness of memory, cancer, tension, influenza, cold loss and grayness of hair etc. Consumer do not relish the fruit in fresh form and consequently use in the preparation of various Ayurvedic and food preparations like Jam, Jelly, RTS, Squash, nectar, juice, canned fruit, Ice cream, toffees, preserve, laddu, barfi, Chyvanparsh, Triphla and candies. Among these product Candy is now gaining much popularity in the market due to its natural appeal of an original fruit, nutritional quality, easy to handling and transport, better shelf life, low preparation cost and good returns. Attempts are being made to produce product which are not only nutritionally delicious but also acceptable among the Consumers. The medicinal, nutritional and organoleptic quality of Aonla candy can be improved by addition of ginger extract in the Aonla candy. Ginger (*Zingiber officinalis* L.) is an indigenous plant. It is belong to family Zingiberaceae. It is originated in India and grown in almost all the states. Ginger is also an Ayurvedic crop and its test and flavour is very much acceptable to Indian peoples. Components of gingerol (Zingiberane, bisabolene, Camphene, geranial, Linalool and Borneol) possess beneficial properties for the treatment poor digestion, heartburn vomiting and preventing motion sickness. So, ginger extract is selected as flavouring agent and quality enhancer for Aonla candy.

Materials and Methods

In the present study of Aonla fruit cv. NA-7 were taken in the 3rd week of January, 2017. The fruits were harvested from the plants by hands to avoid any type of physical damage including bruising. The fruits were transported from orchard.

Standardization of ginger extracts concentration for preparation of Aonla candy

Three kilogram of blemish free mature and uniform size of fresh fruits, for each treatment were taken and washed properly with fresh water. Thereafter, the fruits were blanched in boiling water with 2% sodium bicarbonate (baking soda) for five minutes. After boiling the Aonla fruits segment are separated by hand and washed 3 times with the fresh water.

First of all prepared 25 lit. of sugar syrup containing 50% TSS and divided in to five equal amount in five containers thereafter, added ginger extract in the volume of 25 ml (T₅) 20ml (T₄), 15ml (T₃), 10ml (T₂), and 0ml (T₁) in different five container having 50% sugar syrup at slightly hot stage. Next day, segments were drained and concentration of syrup was maintained 60% by adding sugar and again segment of each treatment were steeped, after 24 hours concentration of the

syrup was maintained 70% by above process and segment were left in it for 3 days. Thereafter, segments were drained and washed to remove adhering layer of sugar by 3-4 quick dips in to hot water after putting into muslin cloth. These pieces were dried in the hot air oven at 50°C for 12 hours (Fig.1). The screening of Aonla cultivars NA-7 for candy was evaluated by sensory test (Organoleptic rating) by the panel of 10 judges on the basis of 9 point hedonic scale.

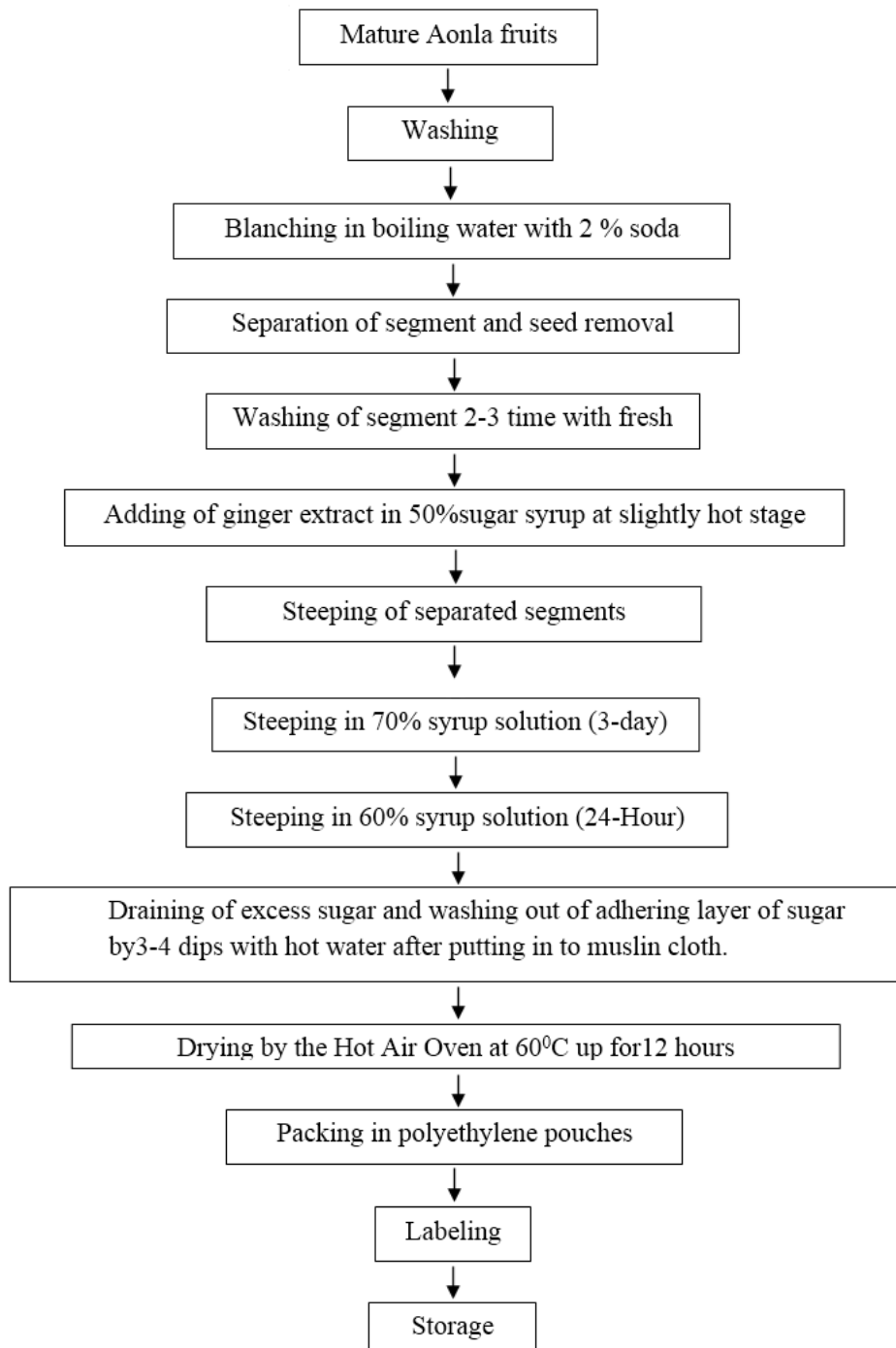


Fig 1: Flow sheet for preparation of Aonla candy

Result and Discussion

It has been observed that different concentration of ginger extract of Aonla candy on organoleptic quality is given in Table-1. The organoleptic score of Ginger extract 25 ml, Ginger extract 20 ml and Ginger extract 15 ml treatment were rated as like extremely and rest of the treatment like very much by the panel of judges. Non-significant change was observed in TSS content during storage. It increased gradually

during storage. The minimum change in TSS content was observed in treatment Ginger extract 25 ml, Interaction between treatments and storage period was found non significant showed in table 1 harides like pectin, starch etc. into simple sugars as well as evaporation of moisture during storage. An increase was also found in Aonla candy (Pawar and Patil 2013) ^[7].

Table 1: Effect of different concentration of ginger extract on organoleptic quality of Aonla candy.

Treatments	Score	Rating
T ₁ Ginger extract 0 ml	7.90	Like very much (LVM)
T ₂ Ginger extract 10 ml	8.00	Like very much (LVM)
T ₃ Ginger extract 15 ml	8.15	Like extremely (LE)
T ₄ Ginger extract 20 ml	8.25	Like extremely (LE)
T ₅ Ginger extract 25 ml	8.70	Like extremely (LE)

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