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## Standardization of protocol for preparation of juice from bottle gourd (*Lagenaria siceraria* Mol. Standl.) fruits.

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### Abstract

Bottle gourd (*Lagenaria siceraria* Mol. Standl.) is an important vegetable crop and known as lauki, doodhi and in Marathi language "doodhi Bhopal". On dry weight basis per 100 g of bottle gourd fruits contain moisture 94.5 g, fat 0.2 g, fiber 0.7 g, carbohydrate 3.75 g, calcium 12 mg, phosphorus 10 mg, potassium 87 mg. To prepare quality juice bottle gourd fruits were washed, cut into small pieces and pieces were blanched at 80°C in hot water for 3-4 min. After blanching pieces were used to extract the juice then juice was filtered through muslin cloth and centrifuged at 5000 rpm for 10 min. The filtered juice was pasteurized at 85°C for 30 min. The preservative @ 600 ppm sodium benzoate was added during pasteurization. Hot juice filled in sterilized glass and PET bottles and stored at ambient and cold temperature ( $5 \pm 2^\circ\text{C}$ ).

**Keywords:** Bottle gourd (*Lagenaria siceraria* Mol. Standl.), juice, blanching)

### Introduction

Bottle gourd (*Lagenaria siceraria* Mol. Standl.) is an important vegetable crop of tropical and subtropical region of the world belongs to family Cucurbitaceae and genus *Lagenaria*. Among all plants of Cucurbitaceae family, *Lagenaria* is the most popular. Bottle gourds are from Africa. It is very popular in Indo-Pakistan subcontinent and cultivated throughout India almost throughout the year. Bottle gourd is yellowish green in colour and has white pulp with white seed embedded in spongy flesh. It is also known as white gourd, calabash gourd, lauki, doodhi, ghiya and in Marathi language "doodhi bhopla" (Bose, 2002) [4].

Besides, this bottle gourd has many health and nutritional benefits. The approximate nutritional composition of bottle gourd fruits on dry weight basis g per 100 g of bottle gourd reported moisture 94.5 g, fat 0.2 g, fiber 0.7 g, carbohydrate 3.75 g, calcium 12 mg, phosphorus 10 mg, iron 0.8 mg, thiamin 0.3 mg, riboflavin, 0.05 mg, niacin 0.3 mg, sodium 1.7 mg, potassium 87 mg, and vitamin C 12 mg (Rumeza *et al.*, 2006) [5].

### Material and Methods

The present investigation entitled "Standardization of protocol for preparation of juice from bottle gourd (*Lagenaria siceraria* Mol. Standl.) Fruits was conducted at experimental site and laboratory of the Department of Horticulture, Mahatma Phule Krishi Vidyapeeth, Rahuri during year 2011-2012.

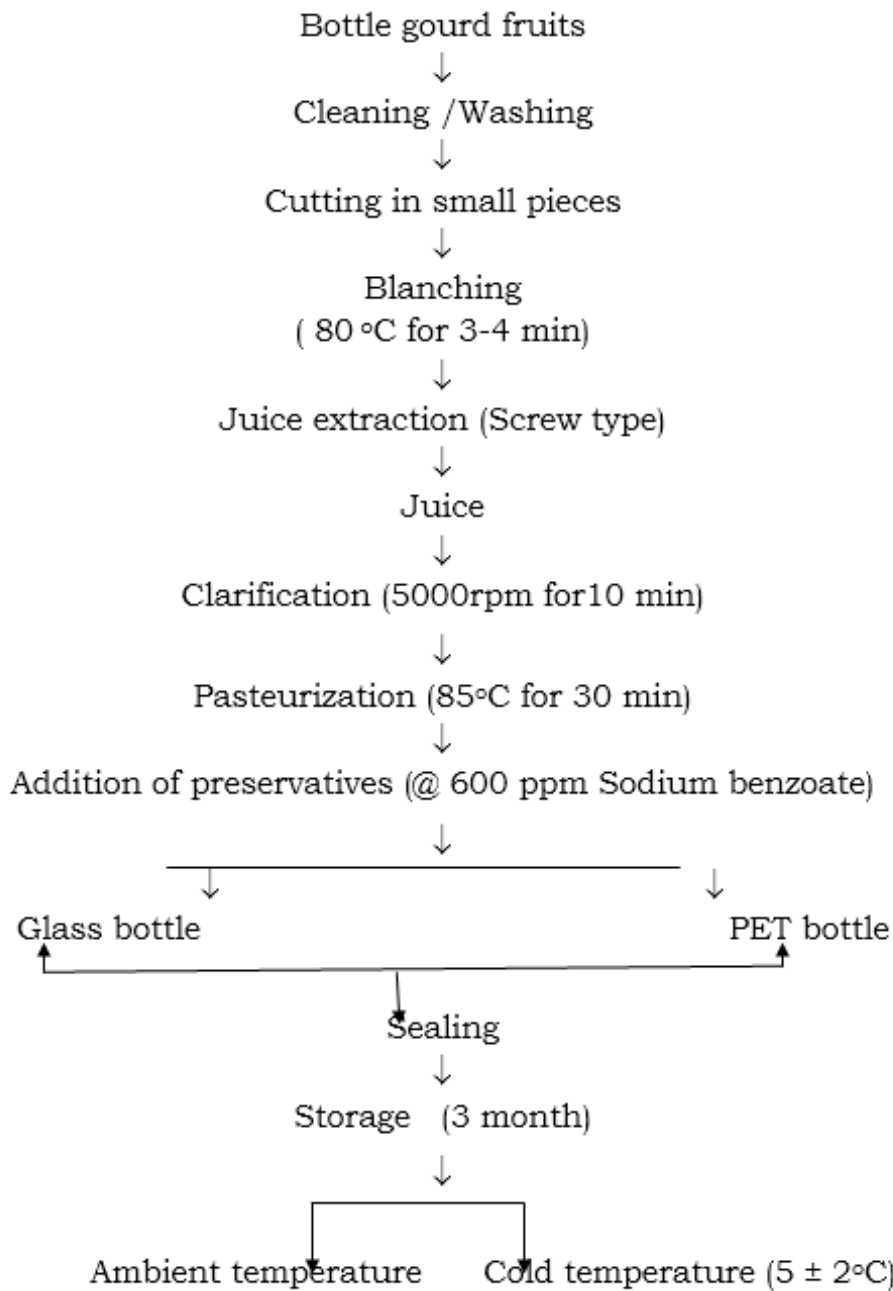
Fresh bottle gourd fruits were selected for experiment. Screw type extractor is used for extraction of juice from bottle gourd fruits. For pasteurization of filtered juice high temperature i.e. 85°C for 30 min. is used. Preservative (sodium benzoate) @600ppm was used to prolong shelf life of juice and for storage purpose Glass and PET bottles were used.

Fresh bottle gourd fruits of were selected for experiment. The bottle gourd fruits were washed to reduce field heat and remove dirt. Fruits cut with the help of knife into small pieces. These pieces were immediately blanched at 80°C in hot water for 3-4 min in order to deactivate enzymes and to avoid browning. After blanching pieces were used to extract the juice by using screw type extractor. The extracted juice was filtered through two layers of muslin cloth and centrifuged at 5000 rpm for 10 min. The filtered juice was pasteurized at 85°C for 30 min. to inactivate the harmful organism and to prolong the shelf life. The preservative @ 600 ppm sodium benzoate was added during pasteurization of juice. Immediately after pasteurization, hot juice filled in sterilized glass and PET bottles. The juice was stored at ambient temperature and cold temperature ( $5 \pm 2^\circ\text{C}$ ).

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**Result and Discussion**

**Procedure for preparation of bottle gourd juice**



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