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Nutritional Composition and Stability of *Saba senegalensis* Fruit Extract



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Introduction

Saba senegalensis is an indigenous Shrub like fruit tree of the family Apocynaceae native to the Sahel of Africa.

In Ghana, it is commonly found in the three Northern Regions of Ghana but not domesticated. Saba fruits are often eaten as an appetiser whiles the leaves and bark of trees are used as medicine.

Introduction Cont'd

Most fruits from Saba are often left ripen in the wild and not utilised.

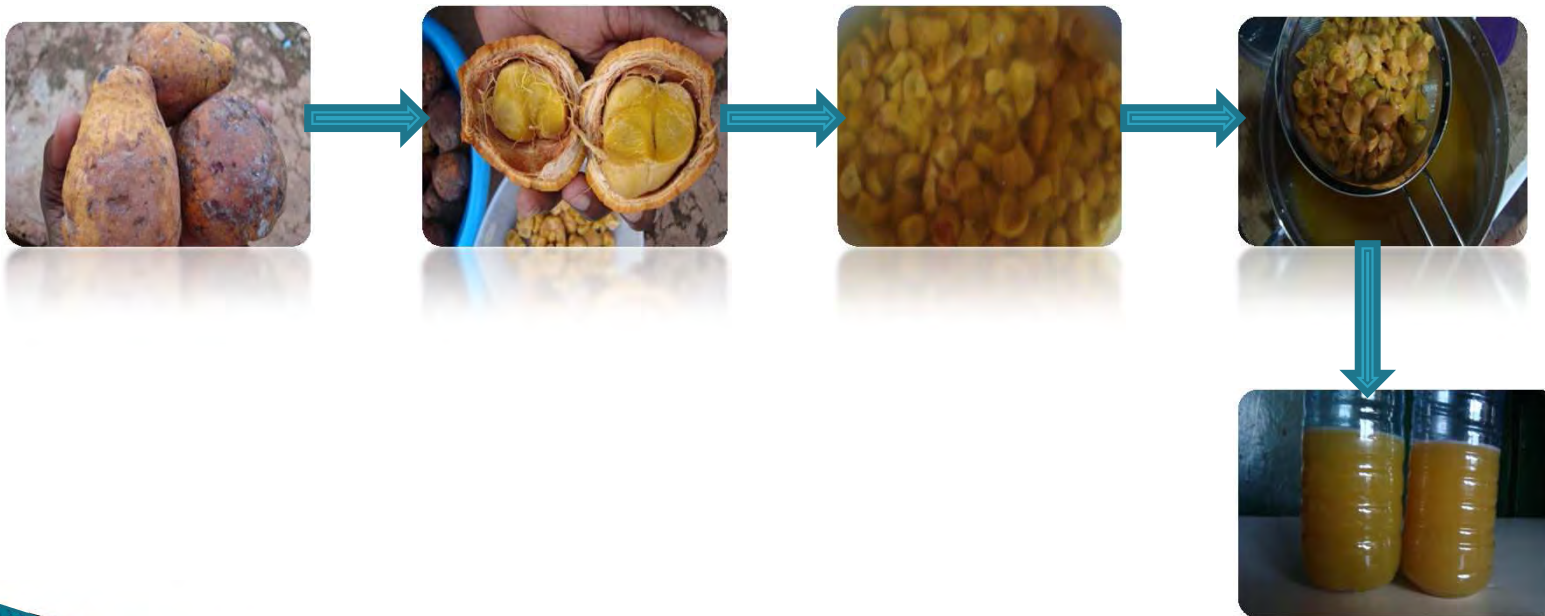
Fruits often bought to markets in the Upper West Region are wasted due to lack of market.

The main objective of the study was to assess the stability of fruit juice extract from Saba.



Materials and Methods

- ▶ Fruit samples were collected from the Nadowli District of the Upper West Region Ghana.
- ▶ Fruit extraction



Materials and Methods Cont'd

Heat treatment (65 °C and holding time of 5 min.)



Materials and Methods Cont'd

- ▶ Proximate Composition determination following the recommended methods of the association of official analytical chemists (AOAC, 2005).
- ▶ Storage of juice extract {room temperature (33 °C – 39 °C) and refrigeration (4 °C, below 0 °C)}
- ▶ Sensory and consumer analysis (colour, taste, aroma and viscosity)

Results and Discussion

Mean values from the proximate analysis indicate the presence of nutrients in varied proportions as shown in Table 1 below.

Table 1: Proximate Composition of Fruit Extract

Parameters	Mean Values
Protein	0.8 ± 0.02
Fat	6.2 ± 0.00
Carbohydrate	50.0 ± 0.01
Ash	2.0 ± 0.03
Fibre	12.0 ± 0.10
Moisture content	29.0 ± 0.01
Vitamin C	18 mg
pH	2.3
Titratable acidity	30.3g/l
Brix	13.9%

± Standard deviation

Results and Discussion Cont'd

Sensory and consumer analysis results indicated a over all acceptance for the product as shown in Table 2 below.

Table 2: Sensory and Consumer Analyses of Fruit Extract

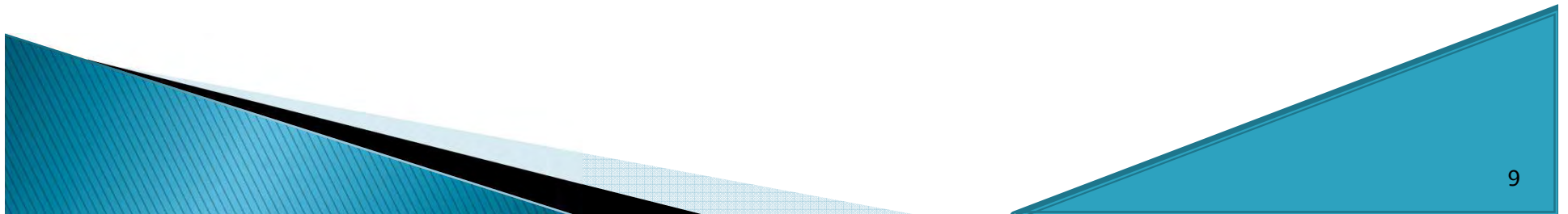
Parameters	Mean Scores
Colour	3.9 ± 0.01
Taste	3.0 ± 0.01
Aroma	2.9 ± 0.02
Viscosity	3.2 ± 0.01

* Ranked from 0-4 (0 = dislike, 1 = fair, 2 = good, 3 = very good, 4 = excellent)
± Standard deviation

Results and Discussion Cont'd

Stability of Fruit Extract

- Fruit extract without heat treatment and refrigeration fermented within 24 hr.
- Heat treated fruit extract was stored at 4°C for 22 days without fermentation and the production of off flavours.
- Frozen fruit extract was kept stable for 90 days.



Conclusion

Fruit extract from Saba is nutritious and acceptable for consumption. The extract is stable and has an enhanced shelf life when heat treated and stored refrigerated.

- ✓ Fruit extracts could be processed for commercial use.
- ✓ Domestication of the plant
- ✓ Further utilization of the fruits (vitamin C).

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Thank you

