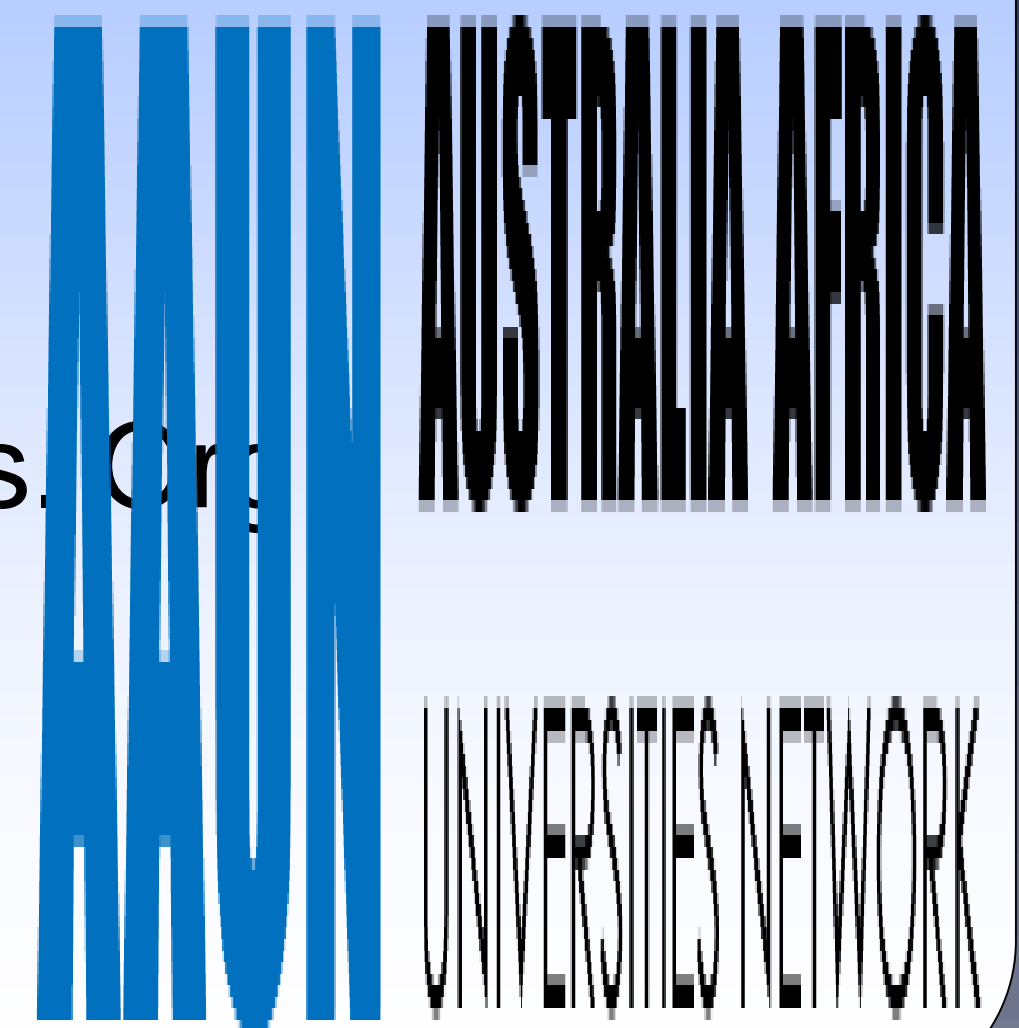


QUALITY CHARACTERISTICS OF ORANGE FLESHED SWEETPOTATO CRISPS FROM SELECTED KENYAN VARIETIES

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Introduction

Orange-fleshed sweetpotato (OFSP) is a biofortified root crop with beta carotene, a very important provitamin A carotenoid considered key in combating vitamin A deficiency in sub-Saharan Africa. For effective utilization, preparations of OFSP into value added shelf-stable products is desirable. The purpose of the current study was to develop fried crisps from popular OFSP varieties (Kakamega and Kabode) and evaluate their quality characteristics as affected by slice thickness and frying temperature.

Methods

- Raw Sweetpotatoes (Fig. 1) were washed and peeled then sliced



Fig. 1: Raw Orange fleshed sweetpotatoes

- **Slices:** thin, medium and large slices.
- Frying **temperature** range: 160-180 °C
- **Frying time:** 3-5 min or till bubbles cease



Fig. 2: Fried OFSP crisps

- **Crisps analyzed for:**
 - Moisture and oil contents
 - B-carotene and sensory

Results

- Moisture, oil and β -carotene contents shown in Table 1

Table 1: Moisture, oil and β -carotene of OFSP Crisps

| Variety | Thickness | Parameter | Frying Temperature (o C) | | |
|----------|-----------|-----------|--------------------------|-------|-------|
| | | | 160 | 170 | 180 |
| Kabode | 1.0 | MC (%) | 3.22 | 2.32 | 2.17 |
| | | Oil (%) | 38.15 | 35.96 | 34.13 |
| | | Carotene | 3.44 | 2.72 | 2.43 |
| Kakamega | 1.0 | MC (%) | 3.92 | 3.68 | 3.55 |
| | | Oil (%) | 52.05 | 39.67 | 39.59 |
| | | Carotene | 2.51 | 2.49 | 2.33 |
| Kabode | 1.5 | MC (%) | 3.74 | 3.14 | 3.02 |
| | | Oil (%) | 32.72 | 21.03 | 20.65 |
| | | Carotene | 3.94 | 3.89 | 3.23 |
| Kakamega | 1.5 | MC (%) | 4.22 | 4.02 | 3.85 |
| | | Oil (%) | 38.94 | 33.09 | 31.59 |
| | | Carotene | 3.34 | 2.77 | 2.07 |
| Kabode | 2.0 | MC (%) | 3.83 | 3.33 | 3.66 |
| | | Oil (%) | 21.98 | 21.98 | 21.73 |
| | | Carotene | 3.64 | 1.95 | 1.57 |
| Kakamega | 2.0 | MC (%) | 4.82 | 4.36 | 4.01 |
| | | Oil (%) | 35.92 | 32.09 | 28.01 |
| | | Carotene | 4.19 | 4.05 | 3.36 |

- Low temperature and large slices=higher retention of carotene
- Oil contents:
 - Kabode: 20.65-38.15%;
 - Kakamega: 28.01-52.05%, highest in small slices.

Note: With exception of Kakamega variety crisps of slices 1.0 mm fried at 180 °C, all the crisps were generally acceptable.



Branded SME products resulting from the research currently traded

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