

ABSTRACT

Experimental work on bananas and flakes was conducted in four stages viz:

1) Preliminary stage:

Studies on four stages of maturity of bananas were made to determine the optimum stage of maturity for processing into flakes by drum dehydration. Various physical and chemical properties were measured to serve as indices for maturity stage. A 6" diameter drum drier was used. Conclusions were:

a) Maturity stage	Half-ripe
b) Steam pressure	30-50 psi
c) Drum speed	1 rpm
d) Drum spacing	0.003-0.007"

ii) Optimizing variables:

Attempts at keeping maturity stage as uniform as possible by flotation methods; and at eliminating the slight astringency associated with half-ripe bananas by using various ratios of green to ripe bananas, and by boiling bananas before drum dehydration, were found to be impractical and unsuccessful.

Twenty different products prepared at various temperature and drum speed combinations were studied. Conclusions were:

a) Maturity stage	Half-ripe to Firm-ripe
b) Steam Pressure	35-40 psi

- | | |
|-----------------|-----------|
| c) Drum Speed | 1 rpm |
| d) Drum spacing | 0.005 ins |

Product description:

- | | |
|-----------|---|
| Colour | beige - yellow |
| Taste | sweet |
| Odour | characteristic banana smell |
| Texture | crisp(2-5% moisture) |
| Behaviour | easily reconstituted and
very hygroscopic. |

iii) Comparative Varietal Studies:

Three varieties of artificially ripened bananas were studied, after drum dehydration under conditions laid out in (ii), over a six month period in order to detect varietal differences in keeping quality in two forms of packaging. Eight properties were measured and the results assessed statistically. Conclusions were:

a) Ordinary packaging in poly-cellulose bags is more favourable than vacuum packed bags.

b) Of the three varieties of bananas (Dwarf-Cavendish, Valery and Robusta) Valery gave the most acceptable product.

iv) Product Utilization

Banana flakes were incorporated in the making of cakes,

ice cream, beverages and desserts. Findings were:

- a) Product gave cakes, beverages and desserts of acceptable quality.
- b) Product failed to give ice cream with acceptable banana flavour.