



**FOOD PRODUCTION
&
FOOD PROCESSING**



FOOD PRODUCTION AND FOOD PROCESSING

(Week 1)

Introduction:

Preserving food products is a vital stake in countries where all cultural production takes place over short periods of time. The food offer has to be spread out over the year.

Drying of foodstuffs is the oldest and most widespread preserving method. That also makes it one of the cheapest. Lately, developing countries have witnessed a new come-back of this process, for several reasons:

1. Traditional drying is now made more effective owing to simple and cheap improvement:
 - The product can be kept for a longer period of time;
 - The dried food's nutritional value can be improved (as well as taste);
 - The product which is home-dried with improved method sell better.

2. Today, with artisanal or semi-industrial dryers, are high quality dried foodstuffs likely to be sold on:
 - international market
 - rapidly expanding national urban markets.

3. For geographically isolated regions, including small state islands, witness economic growth only when they have access to big market and dried products have double advantages over fresh produce in this sense;

- they have a high added value per kilogram, which means that transport costs have little influence on the final price;
- they do not suffer from bad transport conditions like the fresh produce they come from.

An overview of Food Processing and its contribution to the world
 Assessment of trainees' knowledge on basic concept in food processing (mostly drying)

The mechanism underlying the different types of drying

- natural convection all-solar drying (le séchage traditionnel à l'air libre)
- forced convection all-solar drying (les séchoirs solaires directs)
- all-fossil-fuel drying (les séchoirs solaires indirects)
- solar/other energy hybrid drying (les séchoirs solaires mixtes)
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(Week 2)

Defining a drying Food Chain (including process design)

The drying Process with focus on:

Tubers (Cassava & Sweet potato)

Fruits (Banana, mango & pawpaw)

Vegetables (Chilli, carrot, tomato)

Fish

Meat

(Week 3)

Principles of Foodstuff behavior

Biochemical composition of foodstuffs

Product spoiling; Physiological evolution of crops and fish

Microbiological spoiling

Biochemical evolution

The concept of Microbes

Relation of Water activity and microbial growth

(Week 4)

Site selection and set up of a simple solar dryer
Visit to Montagne Goyaves Processing plant
Understanding Process flow and Food Processing Layout

(Week 5)

The Water in the product

Determining Moisture content of the final dried product
Water availability notion
The 3 phases in a drying process.
Influence of drying on foodstuff quality

(Week 6)

Drying Practical of Sweet potato (or another foodstuff) at Montagne Goyaves
3 different group will use of different drying method to dry similar product

(Week 7)

Processes and Controls in food drying

Defining different processes in drying of roots (cassava/S. potato)

(Week 8)

Quality Assurance

Good Manufacturing Practices (GMP) and Good Hygienic Practices
Cleanliness: Sanitation of equipment and utensils
The concept of HACCP