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# How to process cowpea leaves using Refractance window drying technology.

## Introduction

Cowpea leaves are consumed as a traditional leafy vegetable and are rich in proteins, vitamins A, B and C, as well as minerals like iron and calcium. Cowpeas grow in diverse environments including tropical and semi-arid, require minimal attention and the leaves mature within a short period of time of only three weeks, making them an affordable and nutritious option for both rural and urban households. Cowpea leaves contribute to the nutrition, food security and well-being of the rural communities particularly women who grow them both for home consumption and for sale in local markets.

## Processing of cowpea leaves

Sun-drying and boiling prior to drying are the major traditional processing methods used to prepare or to extend the shelf life of cowpea leaves. More modern methods include; solar drying, freeze drying, convection oven drying and refractance window drying. Dried cowpea leaves can be used in stews, soups and relishes, porridges and baked products.

## Refractance Window Drying (RWD) Technology

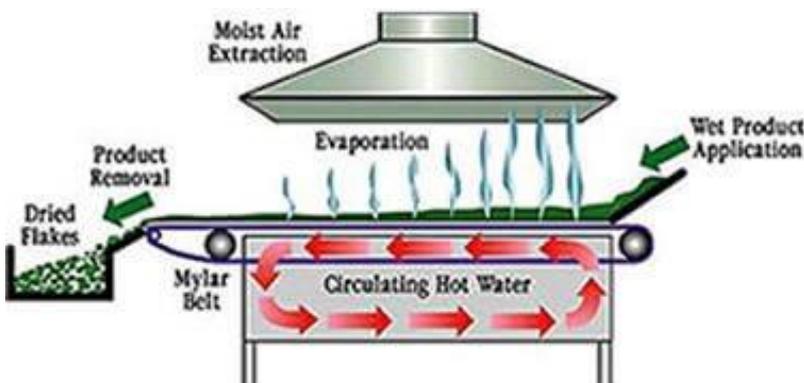


Figure 1: Mechanism of Refractance window drying  
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Figure 2: A locally fabricated Refractance Window Dryer at Makerere University Agricultural Research Institute Kabanyolo (MUARIK) © Sophie Nansereko

**1.** Pluck young cowpea leaves from the plant, wash with water and lightly chop.



**2.** Spread chopped leaves on mylar in preheated RWD at 93°C and leave for 60 minutes.



- 3.** Carefully scrape off the dried leaves from the mylar and leave to cool for 1-2 minutes.
- 4.** Grind dried leaves and pack powder in air tight bags or containers.

Superior products with respect to nutritive value, appearance, flavour and microbial load

Uses both electricity and biomass

Shorter drying time

Can achieve moisture content of up to 3-7%

A variety of product forms such as powder and flakes



## RWD ADVANTAGES



## Marketing tips



- Ensure and maintain high quality products
- Practise good customer care
- Provide additional information with the product
- Increase sales through use of different channels
- Practice efficient production, distribution and delivery
- Stick to a sound business plan

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