





Adaptation and promotion of Refractance window drying technology for production of high quality

The Design process

By

Dr. Julia Kigozi

Department of Agricultural and Biosystems Engineering

Design Team



Prof. John Muyonga School of Food Technology, Nutrition & Bioengineering Makerere University



Dr. Julia Kigozi (Ph.D) School of Food Technology, Nutrition & Bioengineering Makerere University



Shaffic Ssenyimba Msc. Agric. Eng Makerere University



Raymond Mutumba Msc. Agric. Eng Makerere University

Dr. Peter Tumutegyereize
Mr. Kavuma & Tonnet Team (Fabrication team)

WHY RWD

- Mechanical simplicity,
- retention of product quality (color, vitamins, aroma and antioxidants),
- energy efficiency,
- high drying speed
- relatively low purchase costs
- relatively low operational costs.

Working Principle of a Refractance Window dryer



Design Challenge



Key Considerations Of Drying Technologies •drying speed,

- •product quality,
- energy efficiency,
- versatile
- Technological simplicity and cost.
- Ease of maintenance

•Challenge : Relatively inexpensive drying technology at a relatively low production cost



Developed RWD Models under the bioinnovate project

Model 1



Capacity : 18kg/hr

Automation system







Capacity : 18kg/hr



Capacity: 2kg/hr



Capacity: 6kg/hr



