

Solar Cabinet Dryer

Utility

The solar cabinet dryer is a natural-convection-based drying system developed for energy-efficient drying of agricultural and horticultural produce using solar energy. It is designed to reduce dependence on open sun drying and electrical dryers while improving product quality and market value.



The dryer utilizes solar-heated air that flows across thin layers of produce placed on perforated trays, with an aspirator ensuring effective removal of moist air. The technology significantly reduces drying time and microbial contamination, enhances the quality of dried products, lowers operating costs, and saves electrical energy, thereby contributing to higher farmer income and reduced carbon dioxide emissions through the use of clean, renewable solar energy.

Specification and working features		
Batch Capacity	:	20 kg/batch
Solar collector area	:	2.5 m ²
Number of trays	:	4
Electrical energy saving	:	1.5–2.0 kWh/kg dried produce

Design: ICAR-CIAE, Bhopal

Commercialization Status: Ready for Commercialization

Proposed stakeholders: farmers, sensor based equipment's manufacturers etc.

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