Forced Circulation Solar Dryer | Solar Dryer System for Fruits and Vegetables

Comprising a solar air heater and an electric blower, this solar dryer operates in two stages. The greenhouse, constructed with a 200-micron UV-stabilized transparent plastic sheet, naturally heats the air within. The solar air heater then further elevates the temperature, and the blower directs the heated air into the drying chamber, circulating it back to the greenhouse. While suitable for drying various vegetables and food products like papad, it is not recommended for grains such as pulses and maize.

Noteworthy features of the solar dryer include the production of higher quality products due to reduced exposure to solar radiation, freedom from dust, bird droppings, and dead insects, a smaller footprint compared to open sun drying, and faster, more convenient, and energy-efficient drying.

Advantages of the Forced Circulation Solar Dryer:

Traditionally, farmers employed open drying techniques, but this process had limitations, exposing products to dust, insects, and birds. The forced circulation solar dryer addresses these issues by incorporating a humidity controller that maintains the required relative humidity for the drying process. Additional advantages include better product quality due to reduced solar radiation exposure, freedom from contaminants, a smaller space requirement than open sun drying, no attention needed during off sunshine hours or inclement weather, extended shelf life of dried products due to lower final moisture content, and faster, more convenient, and energy-efficient drying.