

Building a Solar Dryer



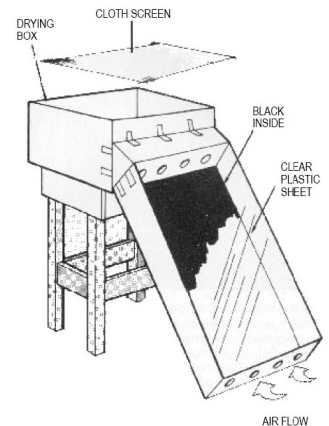
Other than providing an opportunity to use readily available pallet wood, dehydrating (whether it be by the power of the sun or otherwise) has some definite advantages.

Benefits of dehydrating food

- Increased shelf life of produce
- Intensifying the flavour
- Making seasonal home-grown produce available all year round
- A free way of processing food by harnessing the sun's power!

How does dehydrating work?

Dehydration lowers the moisture content of the food, which inhibits the growth of micro-organisms and prevents decay. The aim of a solar dryer is to promote this process by providing a supply of warm air through a central chamber in which the food is placed. Air circulation is important for maximum effectiveness.



Cost of Build:
Estimated at
less than £15



Desirable characteristics of our solar dryer

- Has adjustable vents to allow control over the air flow (if required)
- Weatherproof, to protect the foods from the elements
- Modular or 'dismantlable' to allow for moving to another site
- Easy access to add or remove food from the racks
- Easy to clean, hygienic

With this in mind, we intend to experiment with a variety of ideas, although principally our design will be very similar to one that can be found in *Mother's Energy Efficiency Book: Heat, Light, Power* (Mother Earth News, 1983, ISBN 0 938 43205 2). After much consideration, and with our ever-growing love of

re-use and pallets, we have decided to go for a very sturdy, weatherproof build; something to stand the test of time. Other key factors included hygiene and portability.



Ventilation and protection: Air enters via the circular vent holes, which incorporate tightly woven wire meshing (pictured) to block access for wildlife. The air intake can be controlled by sealing off one or more of the holes, depending on how much air flow is required.



Hygiene: Hygiene is a high priority. The shelves needed to be easy to wash and remove. We opted for some salvaged fridge shelves that we mounted such that they were easy to slide in and out (pictured).



Transportation: The completed dryer comes in three detachable modules: the ramp (which heats the air), the chamber (in which the produce to be dried is laid out on the shelves), and the stand (on which the chamber sits to reach the desired height). Because of the size of the dryer and the materials used (the glass was approx. 5in thick), handles were fitted to allow for easier transportation of the unit (pictured).

Other finishing touches include painting the exterior with a wood protector to ensure durability, and the plan is to use salvaged roofing felt to protect the roof.

What you will need:

- A load of pallet wood!!
- A sheet of glass, the thicker the better
- Black heat-resistant paint
- Wood primer
- Bag of screws
- 2 fridge shelves
- Wire meshing
- 6 angle bars (to sit shelves and glass on)