

## PRACTICE ABSTRACT n° 31

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### Solar drying of tree tomato

Fruits are perishable and preserving them is a big challenge for fruit farmers and agricultural industries. This leads to post-harvest losses and therefore specific processes must be adopted in order to extend fruit shelf-life and put surplus production to good use. In the case of tree tomato (tamarillo), pulping and drying can address these challenges.

Ripe tree tomato fruit is cleaned and then pulped using either the cold or hot extraction methods. The hot extraction is done by blanching the fruits using steam or hot water for between 3-5 minutes before pulping. In the cold method pulping is done without blanching but the yield is lower. Sieving is done to ensure pulp smoothness by removing the seeds and fibre. Sodium benzoate is used as a preservative at a maximum concentration of 1 gram per litre of product and citric acid is used as a flavouring agent and preservative.

An innovative hybrid solar cabinet drier developed in the University of Nairobi is suitable for use in drying tree tomato pulp (Figure 1). The drier has a solar collector, incorporating concentrating lenses on the transparent glass cover, at the top through which air at ambient temperature passes as it is forced through the drying cabinet containing stacked drying trays loaded with the fruit pulp before it comes out as exhaust air. In addition, the drier has a battery that is charged by solar energy and is used to heat the drying air via a heating coil when there is inadequate or no solar radiation. There is therefore extended drying period beyond that for a typical solar drier. The dried material is milled using a hammer mill or a disc attrition mill and packaged.

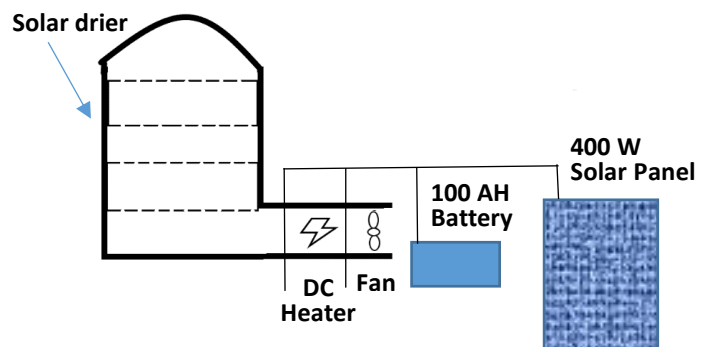


Figure 1: Innovative solar cabinet drier