

**International Energy Journal, Volume 12, Issue 4, December  
2011**

[HOME](#) | [ABOUT](#) | [USER HOME](#) | [SEARCH](#) | [CURRENT](#) | [ARCHIVES](#)

[Home](#) > [Volume 12, Issue 4, December 2011](#) > [Singh](#)

## Amla (*Emblica officinalis*) Drying in Solar-assisted Heat Pump Dryer

*P. L. Singh, S. Singh*

### Abstract

*An attempt has been made to study dehydration of Amla (Indian goose berry) fruits. Amla (*Emblica officinalis*) fruits contains high amount of vitamin-C, which is volatile and highly susceptible to heat. Heat pump drying provides a controllable drying environment (temperature and humidity) for better products quality at low energy consumption. Amla was dried in the dryer at relatively lower temperatures (35-50°C). The vitamin-C content in the heat pump dried Amla was improved up to 88% as compared to the open sun drying. There was significant reduction (five-fold) in microbial counts in the Amla dried in the heat pump dryer. The drying time in the dryer was reduced with increase in drying temperature. Drying behaviour was best fitted with the Henderson and Pabis drying model. The total COP (heating and cooling) of the heat pump was 4.8. The average COP along with the solar heating system was improved to 6.6. Thermal efficiency of the dryer was 24-28% for Amla fruit drying.*

Full Text: Subscribers Only