

## RESEARCH ARTICLE

# Performance evaluation of solar tunnel dryer and electric tray dryer for drying date palm fruit (*Pheonix dactylifera* L.) in arid region of Rajasthan

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### SUMMARY

Date palm (*P. dactylifera*, L.) is an important fruit of arid and semi-arid regions. In Western Rajasthan the dates are harvested in the month of July-August but preferred to eat during winter months, so it becomes necessary to dry and store the fruits at least for 4 to 6 months. The use of an appropriate temperature for drying of dates is quite crucial as a higher temperature may encourage case hardening, caramelization and a higher hygroscopicity; whereas a lower temperature would be insufficient to remove significant moisture leading to a clumpy powder. Farmers generally dry the dates in open sun. This traditional uncontrolled drying method is unhygienic and required more time, also weather dependent, so alternate economical methods are being tested in the region by the scientists and the farmers for drying of dates in the form of Pind. The paper deals with the performance of solar tunnel dryer and electric tray dryer installed at the farmer's field in Bikaner district of Rajasthan. The results reveal the drying time of Medjool date palm fruits in solar tunnel dryer and electric tray dryer.

**Key Words :** Medjool, Dehydration of date fruits, Pind, Open sun drying, Solar tunnel dryer, Electric tray dryer, Drying time

**How to cite this article :** Gaur, Dhairya, Singh, Vijay Raj and Gaur, J. K. (2023). Performance evaluation of solar tunnel dryer and electric tray dryer for drying date palm fruit (*Pheonix dactylifera* L.) in arid region of Rajasthan. *Internat. J. Plant Sci.*, **18** (2): 98-102, DOI: 10.15740/HAS/IJPS/18.2/98-102, Copyright@ 2023:Hind Agri-Horticultural Society.

**Article chronicle :** Received : 11.03.2023; Revised : 10.04.2023; Accepted : 27.05.2023

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