Title Postharvest treatment of dates

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Abstract

Purpose of review: The increasing demand for high quality dates that are not chemically treated and the phase out of methyl bromide (MB), which is used in fumigation and disinfestation of dates, have created the interest for preparing this review.

Recent findings: Reports in recent studies include: (1) improved practical techniques for the application of solar energy in the maturation and drying of dates in the open and close to date gardens; (2) new data related to the moisture content, water activity and equilibrium relative humidity (ERH) of dates; (3) initial data on the relationship between the level of ERH and the market appropriate texture of Medjool dates; (4) the importance of harvesting Medjool dates at 65% ERH; (5) a novel approach to the integration of the heat disinfestation method in the date drying process (this approach has the potential to fully replace the fumigation treatments with MB at the receipt stations for the Medjool variety); (6) the emigration of pests from fruits by using heated air (50^{o}C) that also controls the pests within an exposure time of 2 h after the date reaches the target temperature; (7) storage methods based on the use of modified atmospheres to replace refrigerated storage.

Directions for future research: Additional work is needed to define the feasibility of the heat disinfestation method on the quality of date varieties other than Medjool. The potential of heat to cause emigration of insects when dates are handled in bulk should be elucidated.