

# Ripening stimulation in 'Dhakki' dates exploring indigenous techniques

S.A. Saleem, A.A. Saddozai, A.K. Baloch, M. Ahmad, M. Asif

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## Abstract

Date palm (*Phoenix dactylifera* L.) is playing a vital role by providing food and shelter to millions. A prominent local cultivar 'Dhakki' of Dera Ismail Khan (Pakistan) is economically far more important for having jumbo size with small stone, heavy weights, fine texture and delicious taste, and therefore is highly suitable for export targets. However, being a late cultivar it is confronted with enormous environmental stresses. Stormy monsoon season coincidence with the period of dates ripening, unbalanced production/ consumption, and lack of preservation technology are few extremely disturbing factors causing quality deterioration and excessive postharvest losses. The aim of the study is to induce well advance rapid artificial ripening in 'Dhakki' fruits harvested at firm and astringent Doka (Khalal) stage, and complete curing/drying before the fall of monsoon. Application of brine solution and vinegar acid treating individually or in combined form at 0.25 to 3.5% concentrations has been investigated as ripening initiator/accelerator. The 'Dhakki' fruits at Doka (Khalal) stage immersed in a treatment solution for 5 min was ripened/cured in an aerated incubator at 38 to 40°C for 72 h. Observing changes in color shade, fruit pulp, texture, total soluble solids, appearance and the extent of ripening assessed the efficiency of the treatment. All of the treatments induced ripening of varying degree, however 2% brine appeared highly effective introducing accelerated ripening and causing 75% excessive yield over the control sample. The process does not require fruits to attain the Dong (Rutab) stage for ripening initiation, and hence saved additional 2-3 weeks tree hangover period.