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[previous paper](#) [back to paper's list](#) [next paper](#)

Suitable stroke and frequency for nut detachment of different pistachio varieties

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abstract In order to determine the suitable stroke and frequency for the detachment percentage of pistachio nut and cluster off the tree, a mechanical shaker was used. In the three experiments with 125 trees from 10 different varieties of pistachios, a 9 Hz frequency and a 25 mm stroke were found to be the most suitable choice for shaking. In the final experiment, 30 trees, 3 replications of 10 different varieties, were trunk shaken with the above stroke and frequency. The test was carried out at the Pistachio Experimental Station in Rafsanjan. As for the ripe nuts, a detachment rate of 95% was observed, whereas in the case of clusters only a maximum detachment rate of 21% was recorded and that was for the Reza-I Zoodras variety. Other varieties, namely Ghazvini, Ohadi, Kalleh Ghoochi, Shah Pasand and Momtaze Tajabadi, showed lower cluster detachment. The nut detachment for different varieties was significantly different ( $\alpha=0.01$ ). Detachment was higher for Italia-I, Momtaze Tajabadi and Ghazvini varieties which were therefore recognized as the most suitable ones for shake harvesting while using a shaker having the above suitable stroke and frequency.

keywords frequency, stroke, pistachio, detachment percentage, varieties

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