

Effects of ethephone application on different harvesting methods and hulling of walnut husk

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Abstract

It is necessary to benefit from mechanization applications to decrease costs in walnut growing. Mechanical harvest especially plays a very important role in decreasing cost of harvesting in the growing period. The kernel of walnut ripens approximately three weeks before the husk (outer green skin) cracks. The husk not ripening at the same time with the kernel makes both traditional and mechanical harvests difficult. In this study, the efficiency of different harvesting methods and the effect on hulling of applied ethephon in walnut trees were investigated. Ethephon at 1000 ppm dose was applied with a turbo pulverizer which is P.t.o. driven until the run-off of the whole trees in the early morning hours. Just before and seven days after (at harvesting time) the ethephon applications, removal force of fruit was measured. After different harvesting methods such as tree trunk shaker, tree branch shaker, and traditional (stick beating) were completed, the comparisons of efficiency and time saving of these methods were carried out. At the end of the study, it was determined that applying ethephone increased the efficiency of the machine. It was investigated that facilitating of disjunction of the fruit by ethephon application increased the success of the mechanical harvest. It was also determined that positive contribution of ethephon was apparent in the hulling of the husk.