

Title Asian pear (*Pyrus Serotina* Rehd.) postharvest research program at Tarbiat Modares University (TMU)

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Abstract

In order to evaluate some Asian (Japanese) pear (*Pyrus seratina* Rehd.) cultivars under Iranian climatic conditions, the national research project was started in 1997 at the Department of Horticultural Science, Tarbiat Modares University (TMU), Tehran, Iran. Nine Asian pear cultivars named 'KS'6, 'KS'7, 'KS'g, 'KS'9, 'KS'IO, 'KS'II, 'KS'12, 'KS'J3 and 'KS' 14 were introduced to Iran from Belgium. Scions were budded on European pear (*Pyrus communis* L.) seedling rootstocks in August, 1998. Vegetative and reproductive growth characteristics and performance of the cultivars as well as postharvest fruit shelflife were evaluated at TMU Asian pear collection orchard during the last decade. Postharvest study program was carried out with the emphasis on the impact of pre-harvest factors such as cultural practice, foliar nutrient application and environmental conditions on fruit quality attributes and shelflife. Results showed that one of the major disorders that developed during storage on some cultivars was internal browning (IE) of the flesh around core regions. It was the influence of fruit maturity stage on IE indicating that more matured fruit are more susceptible to senescence IE than immature ones, so the optimum harvest time was explored on sensitive cultivars. In addition, control of scald and IE was investigated by I-methylcyclopropene (I-MCP) application. Also, the effects of I-MCP on ripening, superficial scald and concentrations of u-famesene, conjugated trienols (CTols) and antioxidant enzyme activity were studied. Data on selected research results and future outlook of the postharvest research program at TMU on Asian pear and collaboration with the other universities and research institutes are discussed.