

## Ethylene biosynthesis and pear fruit abscission

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The rate of ethylene increases prior to abscission in fruits and petioles. Ethylene producing compounds may increase abscission in many species and inversely the application of inhibitors of ethylene biosynthesis may inhibit abscission.

Physiological wounding is one of the main factors that promotes ethylene biosynthesis. In a pear garden at Karaj, Iran, we have noted that heavy fruit abscission was completely asserted, in a lag of 4 hours, after chemical control of mites.

With the hypothesis that mites produce heavy wounds in pear leaves, we may propose that produced ethylene by pear trees caused the fruit abscission.

Based on the above hypothesis, experiments are conducted with pear cuttings treated with IBA and planted under mist condition in order to study the ethylene biosynthesis in six pear cultivars. Unfortunately, the leafy cuttings taken in the spring of 1996 were remained unrooted probably because of carbohydrate deficiency, but in the primary studies, using the techniques of gas-chromatography. Shahmiveh and Natanzi didn't produced any ethylene, which Pyghambari, Douches and williams cultivars produced a similar and considerable amount of ethylene.

The results of these experiments if completed, may produce advantages of reducing the application of chemicals to control mites in pear gardens of the country. Also we may be able to study the interactions of the effect of auxines and ethylene on both rooting of cuttings and their leaf abscission.