

## Effect of Ascorbic and Salicylic Acids Foliar Spraying on Growth, Fruiting and Fruit Quality of Pecan Trees

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**P**ECAN TREES cv. Cherokee were foliage sprayed with 150 ppm or 300 ppm ascorbic acid; 150 ppm salicylic acid and the combination of 150 ppm ascorbic and salicylic acids at the start of female inflorescences emerging and repeated after one month. All treatments increased vegetative growth *i.e.* leaf area, leaf dry weight and chlorophyll content and tree fruiting, *i.e.* fruit set, yield number and weight, reduced fruit shedding; improved fruit quality *i.e.* nut weight, kernel percentage and oil content. The treatment of 300ppm ascorbic acid was the most effective in this respect.

**Keywords:** Pecan- Ascorbic acid – Salicylic acid- Fruiting- Fruit quality- Vegetative growth- Oil content – Kernel percentage – Chlorophyll.

Pecan (*Carya illinoensis*) is a nut crop characterized by high nutritional and commercial values. Pecan fruits contain more than 70% oil and a considerable amount of carbohydrates, protein, vitamins and minerals. Pecan fruit is used either fresh or in food industries, also pecan wood is tough and elastic that makes it suitable for furniture industry.

Ascorbic acid (Vit."C") is an organic compound in higher plants which is required in trace amounts to maintain normal growth (Oertli, 1987). Ascorbic acid has an auxinic action and also a synergistic effect on flowering and fruiting of fruit trees. It is recently used instead of auxins and other chemicals for enhancing growth, yield and fruit quality (Mansour *et al.*, 2000 on Banaty grapevines, El-Sayed *et al.*, 2000 on grape and Ahmed *et al.*, 2003 on banana).

On the other hand, salicylic acid was reported to be new growth hormone (Raskin, 1992) and to induce many stimulating effects on growth and some physiological activities of different plants (Bardis, 2004 on garlic plant; Kumar and Reddy, 2007 on mango and Huang ren Hua *et al.*, 2008 on navel orange).

The aim of this work was to investigate the efficacy of ascorbic acid or salicylic acid on improving vegetative growth, fruiting and fruit quality of "Cherokee" pecan trees.