

## THE CHANGE GRAFT IN WALNUT AND THE IMPORTANCE OF IT IN TERMS OF WALNUT GROWING IN MACEDONIA

Turan Karadeniz<sup>1\*</sup>

<sup>1</sup>Department of Horticulture, Faculty of Agriculture, Ordu University, Cumhuriyet Campus, 52200, Ordu, Turkey

\*e-mail: turankaradeniz@hotmail.com

### Abstract

Top-working may be one of successful methods used for changing one variety to another when walnut trees don't produce sufficient yield. Top-working application that enables to replace unproductive or poor quality walnut varieties with better quality ones is a simple, easy and reliable operation for growers. Therefore, it can make more efficient the walnut orchards in Macedonia. Seedling walnut trees that don't yield in the walnut orchards can be also brought into production. Top-working can therefore contribute to walnut cultivation in Macedonia.

Grafting methods such as 'bark graft' and 'modified bark graft' can be operated on the main branches with 25 - 30 cm trunk diameter of 10 -15 year old walnut trees or seedling trees. In these methods, the trunk or main branches can be grafted with cross-cut above 2 - 3 m from the level for walnut seedling trees. After the trunk of tree is cut for xylem exudation two weeks before grafting in early spring, the grafting application is done in late March when air temperature reaches to 20 - 25 °C. The suitable temperatures for walnut top-working coincide with in early April in Macedonia. The shoots should be taken in January, February and March, and stored at 4 °C in the refrigerator until grafting season. A graft master can averagely make 15 pcs of top-working in a day depending on the age and location of tree.

The graft take is usually resulted in high success rates. The grafted trees begin to yield a few years later, and tree yields are closer to their peers within 5 - 7 years.

**Key words:** *Key words: Walnut, Juglans regia, Change graft, Shove grafting, Under shell.*