XIV GREMPA, ATHENS, HELLAS 2008

XIV Meeting of the Mediterranean Research Group for Almond and Pistachio

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ORGANIZED BY
The Agricultural University of Athens Greece
NAGREF Greece
Technological Education Institute of Kalamatas Greece
Mediterranean Agronomic Institute of Zaragoza Spain IAMZ
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Dear colleagues

The organizing committee of the XIV GREMPA MEETING is very pleased to announce that the main arrangements for the organization are nearly completed. Over 120 scientists from 16 countries all over the world have already registered or declared that the will attend the Meeting, which will take place in Acropol Hotel Athens, Greece between 30 March - 4 April 2008.
Looking forward to welcome you in Athens
On behalf of the local organizing committee

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THE ROLE OF POTASSIUM IN PISTACHIO LEAF NECROSIS

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Potassium is an alkaline element with high binding affinity to other elements and is capable of making a better color in fruit skin, its taste and higher sugar and vitamin C contents. Potassium is not only the most abundant in plant tissues, but is also the most important cation in case of physiological and biochemical plant functions. From a physiological point of view, it plays an important role in activation of more than 50 enzymes, by changing the third structure of enzymatic proteins. It also participates in stomata functioning, causing closure in water stress conditions and thus preventing water loss. Salinity is a source of physiological dehydration. In saline conditions, sodium concentration is usually high in root environment, influencing the ratio of relative cation concentrations (sodium to other cations, especially to potassium) in favour of sodium. In such cases, non potassium-specific binding sites are occupied by sodium ions, and thus sodium absorption is enhanced, and the final result will be a potassium deficiency in plant. So, it is important to apply more potassium in saline, compared to non-saline conditions.

The present study was conducted to assess the role of potassium in leaf necrosis of two pistachio cultivars, through sampling from leaves, soil, and water in seven orchards. Water, soil, and leaf samples were taken from seven orchards of pistachio (cultivars Ohadi and Badami) in different regions of Feizabad-Mahvelaat. Chemical analysis showed that in orchards with higher concentration of potassium in soil and water, more K concentration was noted in leaves of both cultivars. In other orchards suffering from high salinity, however, potassium was substituted by sodium; and deposition of the latter element resulted in leaf necrosis of these trees with prominent symptoms showing a significant negative correlation with potassium content in leaves of both cultivars studied.

Keywords: potassium, leaf necrotic, pistachio.