

## **“Spatial determination of elements in green leaves of oak trees (*Quercus robur*) by laser ablation-ICP-MS”**

Julie M. Rogers  
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Research on ecosystems has indicated a strong link between plant tissue chemistry and soil chemistry. It is thought that measuring levels of common pollutant elements in tree leaves will provide an accurate indication of the amount of pollution in the soil. The purpose of this study was to use laser ablation inductively coupled plasma mass spectrometry as a means for determining spatial distribution of Mg, Pb, Al and Ca in green leaves of oak trees. The method provides a spatial resolution down to 300 $\mu$ m with the use of the 355nm wavelength and the pulse energy of 50mJ. Plant standards and cellulose spiked with multi element solution standards, dried and pressed into pellets were used as calibration samples. This technique of determination gave recovery rates between 93%-108%. Three types of patterns of element distribution were observed: most concentrated near the top, most concentrated near the center (stalk), and no pattern at all. It was found that even elements with similar chemical behavior and mobility showed different concentration patterns.

### **Bibliography**

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