

## INCREASED AL ACCUMULATION IN PLANT TISSUES CAUSED BY ENVIRONMENTAL POLLUTION

A. Szabó-Nagy<sup>\*</sup>, A. Véha, E. Gyimes

University of Szeged, Faculty of Engineering,  
Dept of Food Engineering, Szeged, Hungary

Environmental problems (acid rains) increasing the acidity of the soils leading to the mobilization of several cations (Al, Mn). After their uptake by roots they could have toxic effects on plants: growth retardation, decreased crop production. The toxic elements could be dangerous for animals and men through the nutrient chain. Nowadays aluminium food packaging, post-use disposal, aluminum foil manufacturing cause serious environmental pollution; aluminium foils are priority toxins in the United States and Germany. Al is the most frequent metal of the earth crust, at alkaline or neutral soils it occurs mainly as insoluble deposit, this form is biologically inactive. At acidic pH the solubility of the aluminium increase. More than half of the world's potential arable lands are acidic and the existing trivalent Al form at acidic pH is toxic for living cells. Wheat (*Triticum aestivum L.*) is a staple food for more than one third of the world population. The effect of 0,1 mM aluminium addition at acidic pH on the growth, element and water content of winter wheat seedlings was investigated, plants were grown hydroponically in a complete nutrient solution at pH 4.5. The growth and the water content of Al-treated plants were decreased. Significant difference was found in the phosphorus content, the P translocation to the shoot was inhibited by Al, and the Ca<sup>2+</sup> content was decreased. The Al content of the root was one magnitude higher than in the shoot. The present results suggest correlation between Al uptake and root growth inhibition.

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<sup>\*</sup> Corresponding author: szna@mk.u-szeged.hu