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Abstract Only 245

EFFECT OF NaCl ON NITRATE ASSIMILATION IN BARLEY.

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Nitrate assimilation is related with nitrate reduction in leaves, stechiometric malate synthesis, malate transport to the roots as K-malate, decarboxilation and exchange of HCO_3^- by NO_3^-.

Barley seedlings (5 days old) were cultivated during 5 days in nutrient solutions with 0,30, 60, 90, 120 and 150 $me \cdot l^{-1}$ of NaCl. Cl^-, NO_3^-, Na^+, K^+ and malate were analyzed in leaves at the end of experiment. Nitrate and nitrite reductase activity were tested during experiment.

The activity of nitrate -and nitrite- reductase had not variations with the different NaCl treatments. The malate content in leaves decreased from 290.1, without NaCl to 26.6 $\mu eq \cdot g^{-1}(d.w.)$with 150 $me \cdot l^{-1}$ of Na Cl in nutrient solution. In leaves K^+ is changed by Na^+ and NO_3^- was changed by Cl^-. Decrease of malate can explain the effect of NaCl decreasing total, organic and inorganic nitrogen in the plant. It could be produced by Na:K or/and NO_3^- : Cl^- relations.