

研究论文

模拟酸雨对盆栽樟树 (*Cinnamomum camphora*) 幼苗叶矿质元素含量的影响

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收稿日期 2006-10-24 修回日期 2007-1-15 网络版发布日期: 2007-3-5

摘要 采用盆栽方法, 以不同pH值 (3.0、4.0、5.0) 的模拟酸雨溶液对樟树幼苗进行浇灌处理, 研究不同酸度酸雨对樟树幼苗叶矿质元素含量的影响。结果表明, 各酸雨处理后樟树幼苗叶矿质元素含量都受到一定程度的影响, N、P、Ca、Mg、Fe、Al、Cu、Mn、Ni含量均较对照有所增加; C、K、Zn含量有所减少。S、Cd、Pb含量变化表现为: pH3.0处理S、Cd含量增加, Pb含量下降; pH4.0处理S、Cd、Pb含量均下降; pH5.0处理S、Cd含量减少, Pb含量增加。相关分析则表明, 酸液pH值与樟树幼苗叶中N、Mn含量呈显著负相关。该项研究可为南方城市绿化树种的选择提供理论依据。

关键词 [酸雨](#); [樟树](#); [叶](#); [矿质元素](#); [影响](#)

分类号 [Q948](#)

Effects of simulated acid rain on mineral elements content in leaves of *Cinnamomum camphora* seedling in artificial potted environment

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Abstract It is well-known that acid rain are widespread contaminants in the environment. Many researches about acid rain focused on physiological characteristic, while much more information is required concerning mineral elements changes of plants. Through potted planting experiment, *Cinnamomum camphora* seedling which were planted in pots were treated with three different pH values (3.0,4.0,5.0) of simulated acid rain. The results showed that the mineral element content varied to a certain extent. The content of Nitrogen, Phosphorus, Calcium, Magnesium, Iron, Aluminum, Copper, Manganese and Nickel was relatively higher in the treated plants than those without treatment, but the content of Carbon, Potassium and Zinc was lower. The content change of Sulphur, Cadmium and Lead trends as follows: Increasing for Sulphur, Cadmium and decreasing for Lead under pH3.0 treatment. For pH4.0 treatment, the content of Sulphur, Cadmium and Lead fell down. Under treatment of pH5.0, content of Sulphur, Cadmium ascended while content of Lead descended. Analysis showed that a negative one between pH concentration and content of Nitrogen. Manganese was significant. This study can offer basic theory for choosing the greening tree species in Southern cities.

Key words [simulated acid rain](#); [Cinnamomum camphora](#); [leaves](#); [mineral elements](#); [effects](#)

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