

铝对茶树生长与生理特性影响的研究

于翠平, 潘志强, 陈杰, 范冬梅, 王校常*

浙江大学茶叶研究所, 浙江杭州310058

Effects of Al³⁺ on growth and physiological characteristics of tea plant (*Camellia sinensis*)

YU Cui ping, PAN Zhi qiang, CHEN Jie, FAN Dong mei, WANG Xiao chang**

Institute of Tea Science, Zhejiang University, Hangzhou 310058, China

摘要

参考文献

相关文章

[Download: PDF \(2453KB\)](#) | [HTML 1KB](#) | [Export: BibTeX or EndNote \(RIS\)](#) | [Supporting Info](#)

摘要 以平阳特早 (PYTZ) 和乌牛早 (WNZ) 为实验材料, 通过水培试验, 设置0 mmol/L和0.4 mmol/L两个铝浓度处理, 研究了铝对两个茶树品种生长及生理指标的影响。结果表明: 铝处理明显促进茶树生长发育, 增加茶树叶片叶绿素的含量, 并提高了超氧化物歧化酶 (SOD)、过氧化氢酶 (CAT)、过氧化物酶 (POD) 活性, 使丙二醛 (MDA) 含量降低, 但影响的程度两个品种间存在着明显的差异。

关键词: 铝 茶树 叶绿素 保护酶 丙二醛 生理特性

Abstract: Pingyangtezao (PYTZ) and Wuniuzao (WNZ) (*Camelliasinensis*) were selected to investigate aluminum (Al) influence on the growth and physiological characteristics of tea plants. The results show that aluminum can promote growth and development of tea. Compared with the control treatments without Al, the obvious upward tendencies of the contents of chlorophyll are observed in the treatment of 0.4 mmol /L Al³⁺, the activities of Superoxide Dismutase (SOD), catalase (CAT) and peroxidase (POD) in tea leaves treated with 0.4 mmol/L Al³⁺ are significant higher than those of the control (no Al³⁺), and the contents of malondialdehyde (MDA) are reduced by the treatment with Al. However, difference of those indexes are observed in two cultivars, therefore, the physiological reactions to Al of these two cultivars are different, we infer that different tea cultivars may have the different effects of Al toxicity on genotypic difference.

Keywords: aluminum tea protective enzyme malondialdehyde physiological characteristic

Received 2011-07-04; published 2011-12-26

Corresponding Authors: 于翠平 Email: yucui ping810403@163.com

引用本文:

于翠平 潘志强 陈杰 范冬梅 王校常. 铝对茶树生长与生理特性影响的研究[J] 植物营养与肥料学报, 2012, V18(1): 182-187

YU Cui-ping PAN Zhi-qiang CHEN Jie FAN Dong-mei WANG Xiao-chang. Effects of Al³⁺ on growth and physiological characteristics of tea plant (*Camellia sinensis*) [J] Acta Metallurgica Sinica, 2012, V18(1): 182-187

Service

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [Email Alert](#)
- ▶ [RSS](#)

作者相关文章

- ▶ [于翠平](#)
- ▶ [潘志强](#)
- ▶ [陈杰](#)
- ▶ [范冬梅](#)
- ▶ [王校常](#)