

论文

光照强度昼变化对烟叶蔗糖转化酶和蛋白酶活性的影响

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摘要 为探索光照强度昼变化对植物叶片水解酶活性的影响, 以烟草叶片为材料, 对蔗糖转化酶和可溶性糖含量, 蛋白酶活性和蛋白质含量, 游离氨基酸含量与光照强度昼变化之间的关系进行研究。结果表明, 光照强度的昼变化对蔗糖转化酶和蛋白酶活性有较大影响, 随光照强度增强, 蔗糖转化酶活性在11 : 00达到最高点3.933mg/(g · h), 之后开始逐步下降; 蛋白酶活性在午后大幅度上升, 17 : 00达到最大值125.33mg/(g · h), 之后迅速下降。对烟叶蔗糖转化酶和蛋白酶活性进行分析时, 前者应在午11 : 00左右取样测定; 后者应在15 : 00之后取样测定。

关键词 [光照强度](#); [昼变化](#); [烟叶](#); [蔗糖转化酶](#); [蛋白酶](#)

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Effect on the Daytime Change of Sunlight Intensity on Saccharose Invertase and Proteinase in Tobacco Leaves

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Abstract

The study aimed at exploring daytime sunlight intensity changes on the activity of hydrolases in the leaf, the experiment was conducted in greenhouse using tobacco leaves to study the relationship between changes of daytime sunlight intensity and the saccharose invertase and soluble sugar content, the proteinase activity and the protein content, and the amino acids content. The results showed that the daytime sunlight intensity changes had greater effects on activities of saccharose invertase and proteinase. With the increasing sunlight intensity, the invertase activity reached the peak at 11 : 00 to 3.933mg/g<I>8226;h, and then declined gradually in the afternoon; while the proteinase activity increased quickly in the afternoon and reached the peak at 17 : 00 to 125.33mg/g<I>8226;h, and then declined rapidly. For invertase analysis, The appropriate time for taking sample was at around 11 : 00, while for the proteinase analysis, the best time for sampling was after 15 : 00.

Key words [Sunlight intensity](#) [Daytime change](#) [Tobacco leave](#) [Saccharose invertase](#) [Proteinase](#)

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