

臭氧处理对竹笋木质化及相关酶活性的影响 Effects of O<sub>3</sub> on Lignification and Related Enzyme Activity in Bamboo Shoots

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摘要: 为探索臭氧对竹笋木质化的影响,研究了100、200或300 μL/L臭氧处理30 min对冷藏(1±1)℃竹笋木质化及相关酶活性的影响。结果表明:臭氧处理可延缓竹笋冷藏期间硬度的上升,降低呼吸强度和乙烯释放量;可延缓PAL、POD和PPO活性的增加,其木质素和纤维素的含量分别比对照低7%~12%和8%~14%,霉变率比对照低71%~84%。臭氧处理延缓了竹笋的木质化进程。 In order to determine the effectiveness of O<sub>3</sub> on lignification of bamboo shoot (*Phyllostachys pubescens* Mazel), the bamboo shoots were exposed to either 100 μL/L, 200 μL/L or 300 μL/L for 30 min before stored at (1±1)℃ for 30 d. The effect of O<sub>3</sub> treatment on lignification and related enzyme activity were investigated. The results indicated that O<sub>3</sub> treatment inhibited firmness from increasing, while decreasing the respiration rate and ethylene production. O<sub>3</sub> treatment also retarded the activities of phenylalanine ammonia lyase (PAL), peroxidase (POD) and polyphenol oxidase (PPO) increasing. The cellulose and lignin content were 8%~14% and 7%~12% lower than that of control, and the decay rate was 71%~84% lower than that of control. Therefore, O<sub>3</sub> treatment has potential use in delaying lignification of bamboo shoot.

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