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研究与进展

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### 不同增温处理对基质育苗移栽棉缓苗期部分生理生化指标的影响

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### Responses of Physiological and Biochemical Indices of Seedling Transplanted Cotton to Different Temperature Treatments in Recovering Stage

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摘要

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**摘要** 试验以露地移栽为对照,研究了地膜覆盖和地膜覆盖加拱棚2种增温处理对基质育苗移栽棉花缓苗期的影响,结果表明,在缓苗期内,不同的增温处理对叶绿素影响不大,丙二醛MDA和脯氨酸含量均随生育进程呈现先增加后下降趋于稳定的趋势,覆膜和覆膜加拱棚较露地移栽含量低,温度高有利于缓解棉苗的胁迫程度;3种不同处理条件下,超氧化物歧化酶SOD和过氧化物酶POD两种酶活性呈现先增加后下降趋于稳定在一个水平,POD对环境胁迫的反应较大;缓苗期各处理间棉苗素质没有差异,缓苗期后,覆膜加拱棚单株鲜重及叶面积均高于其它处理。说明较高温度有利于缩短移栽棉的缓苗期,促进棉苗早发。

**关键词:** 棉花 基质育苗移栽 缓苗期 生理生化

**Abstract:** Taking open cultivation as control, this study was to investigate responses of substrate seedling-raising transplanted cotton to two different temperature treatments (film-mulched and plastic tunnel in film-mulched) in recovering stage. The results showed that: during the recovering stage, the different temperature treatments has no significant influence on chlorophyll content, MDA and proline content were all going up at first, and then descending to a steady situation. The content of MDA and proline in film-mulched and plastic tunnel in film-mulched cotton were lower than those of open cultivation. The higher temperature is beneficial to relieve the stress level of cotton seedling. Under three different treatments, SOD activity and POD activity were all going up first, then decreasing to a steady level. POD was more sensitive to the negative environment than SOD. In recovering stage, there were no significant differences in statistics on cotton seedling qualities among three treatments. After recovering stage, the fresh weight and leaf area per plant of plastic tunnel in film-mulched cotton were larger than the others. Higher temperature is beneficial to shorting the recovering stage and promoting the cotton seedling delivery early.

**Keywords:** cotton substrate seedling-raising and transplanting recovering stage physiological and biochemical

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