

研究论文

不同棉铃发育时期遮荫对棉纤维品质性状的影响

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摘要 以中棉所41和鲁棉研18两品种为试材, 设计3个遮荫时期(处理I: 棉铃发育0~20 d; 处理II: 棉铃发育21~40 d; 处理III: 棉铃发育41 d到吐絮), 研究了遮荫对棉花纤维品质性状影响的规律。结果表明, 遮荫使纤维长度变短, 纤维伸长期增长, CK在25 d纤维达最大长度, 处理I、处理II分别在35 d、30 d才达到最大长度, 而处理III对纤维伸长期没有影响; 各时期遮荫都降低纤维断裂比强度和纤维成熟度, 但使纤维细度增加, 其中处理II对纤维比强度、纤维成熟度和纤维细度的影响最大, 与CK差异均达极显著水平; 处理I和处理III影响较小。各时期遮荫对两品种纤维品质性状的影响趋势一致。

关键词 [棉花](#) [棉铃发育](#) [遮荫](#) [纤维品质](#)

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Effect of Shading at Different Developmental Stages of Cotton Bolls on Cotton Fibre Quality

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Abstract Sunlight is one of the most important factors affecting cotton yield and fibre quality. There are more rain at flowering boll-forming stages in Yangtze valley, and unsuitable cotton population structure in Huanghe River valley limiting the increase of yield and the improve of fibre quality. The effect of sunlight on growth of cotton in seedling stage has been systematically researched, but limited research on fibre quality and the development in flowering boll-forming stages reported. The objective of this study was to evaluate the effect of shading on cotton fibre quality using the cultivars Zhongmiansuo 41 and Lumianyan 18 with three shading stages: boll age of 0 - 20 days (treatment I), boll age of 21 - 40 days (treatment II) and boll age from 41 days to bolling(treatment III). The results showed that the maximum fibre length of cotton was decreased and the elongation period was increased by shading. Fibre length was the maximum of CK at the boll age of 25 days without shading, while that of treatment I at the boll age of 35 days, and that of treatment II at the boll age of 30 days, but that of treatment III also at the boll age of 25 days. Fibre gauge tenacity and maturity were both decreased, but fibre fineness was increased under shading at different stages. Treatment II was the most effective one affected fibre development and was significantly different from CK, while treatment I and treatment III had less effect on fibre development. All the trends of the cotton fibre characters changed under shading were similar between two cultivars.

Key words [Cotton](#) [Boll development](#) [Shading](#) [Fibre Quality](#)

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