

研究报告

覆盖与间作对亚热带丘陵茶园地温时空变化的影响

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摘要 研究了亚热带丘陵茶园连续4年进行稻草覆盖与白三叶草间作对茶园地温时空动态变化的影响.结果表明,茶园地温具有明显的时空动态变化特征和位相滞后现象,与茶树的年生长发育周期各阶段的最适温度非常吻合.稻草覆盖与白三叶草间作改变了土壤热量交换层(地表层)的性质,具有升温时降温和降温时增温、保温的双向动态调控作用,降低了日较差,增强了同一土层温度的稳定性,其调控效果为随着土壤深度增加而降低,13:00>19:00>7:00,降温大于增温和保温,降温幅度随气温的升高而增大,增温和保温随气温的下降而加强,间作白三叶草的降温效果大于稻草覆盖,保温效果则相反.茶园地温时空变化转换点得到调节,显著地降低了有害高温的出现次数,明显地降低了持续高温期的土壤温度,有效地缩短了极限高温时间.

关键词 [茶园地温](#) [稻草覆盖](#) [白三叶草间作](#) [时空变化](#)

分类号

Effects of mulching and intercropping on temporal-spatial variation of soil temperature in tea plantation in subtropical hilly region

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Abstract

The study of four years straw mulching and white clover intercropping in a tea plantation in subtropical hilly region showed that the soil temperature in the plantation presented a distinct dynamic temporal-spatial variation and hysteresis, which was greatly accorded with the fittest temperature of tea growth. Straw mulching and white clover intercropping altered the nature of soil thermal exchanging layer (soil surface), decreased daily temperature difference, enhanced the temperature stability in the same soil layer, and had duplex effects of lowering temperature when it went up and increasing and keeping temperature when it went down. The effectiveness was in the order of white clover intercropping > straw mulching > control, 13:00 > 19:00 > 7:00, and lowering temperature > increasing and keeping temperature, and decreased with soil depth. Straw mulching and white clover intercropping adjusted the switching point of the temporal-spatial variation of soil temperature, and evidently decreased the emergence of harmful high temperature. During the period of continual high temperature, these measures markedly lowered soil temperature, and effectively shortened the duration of this period.

Key words [Soil temperature in tea plantation](#) [Straw mulching](#) [White clover intercropping](#) [Temporal-spatial variation](#)

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