

Study on Effects of Improving Labour's Comfortableness and Working Efficiency in Agroforestry Ecosystem

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Abstract A tea-picking experiment has been laid out both in pure tea garden and peach-tea intercropping garden, for two summer seasons running at Linan and Fuyang Counties of Zhejiang Province which are located at north-mid subtropical area of China where the microclimate has been measured simultaneously. Results indicate that comparing with those in the pure tea plantation, in the peach-tea intercropping garden its light intensity, air temperature and wind speed reduced by 10 000~60 000 lx, 0.3~2.1 °C, and 0.1~0.3 m·s⁻¹ respectively but its air humidity increased by 1%~5%. Working in the intercropping garden, the temperature of workers' clothes reduced by 0.5~1.5 °C while the most reduction appeared from those dressing in white and the workers' effective temperature and the most uncomfortable time during a day, the discomfort index and the most uncomfortable time reduced by 0.3~0.8 °C and 2.5 hours, 1~3 and 1 hour respectively. Due to the worker's comfortableness in the intercropping garden, the worker's productivity increases around 22.6%~29.5%.

Key words agroforestry ecosystem, peach-tea intercropping, microclimate, labour's comfortableness, labour productivity

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“巨尾桉种质胶丸常温保存研究”成果通过鉴定

由中国林业科学研究院热带林业研究所曹月华副研究员主持研究的“巨尾桉种质胶丸常温保存研究”成果于1994年12月20日通过鉴定。采用常温保存巨尾桉种质资源,投资少,适合我国情况,对保护植物资源,发展优良桉树造林有重要意义,专家们一致认为该成果兼具学术价值和实践意义,成果总体上达到同类研究的国际先进水平。

本课题经过3年的试验研究工作,建立了巨尾桉胶丸种质常温保存条件,取得了保存10个月,再生率达52%的好成绩。根据胶丸种质保存期间与代谢有关的胶丸种质的呼吸、叶绿素、可溶蛋白和多酚氧化酶几个生理参数,以及过氧化物酶在10个月常温保存条件下的变化规律,发现了再生率和活力与生理参数的关系,从而为常温下采取限制营养供给和低氧结合,实现种质长期保存提供了生理生化依据。并摸索出了胶丸种质在保存期间胶丸颜色由绿逐渐转白或转黑过程与胶丸种质丧失生活力的关系。若阻断这一过程即可延长种质保存时间,这一发现具有较高实践意义。

(陈荷美)