

生物技术·遗传育种

屏边三七光合作用日变化研究初报^{*}

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摘要 在12%左右透光率荫棚下, 采用Ci-310PS便携式光合作用系统, 测定了屏边三七 (*Panax stipuleanatus*) 的光合作用日变化。结果显示: 屏边三七净光合速率的日变化动态在5月份呈现单峰型曲线; 9月份呈近似的双峰型曲线。5月份三七的光合净光合速率在13:00达到最高值 $2.73\mu\text{mol}/(\text{m}^2\cdot\text{s})$; 9月份净光合速率峰值分别出现在12:00和14:00左右, 13:00左右呈现不明显的午休现象。蒸腾速率与气孔导度的日变化趋势相同, 二者间的相关系数在5月份和9月份分别为0.445和0.909, 均达到了极显著的水平。屏边三七与二年生三七 (*Panax notoginseng*) 的方差分析显示, 二者在净光合速率、蒸腾速率方面的差异分别达到了极显著水平和显著水平。

关键词 [屏边三七](#); [净光合速率](#); [日变化](#)

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The Diurnal Variations of Photosynthesis in *Panax stipuleanatus*

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Abstract

The diurnal variations of photosynthesis in *Panax stipuleanatus* was investigated with Ci-310PS portable photosynthetic system under 12% light transmission rate in shady shed. The results were shown as follow: The curves of the diurnal variations of the net photosynthetic rates in May were different from those in September, the former with one peak and the latter with two peaks. In May, the net photosynthetic rates reached a maximum ($2.73\mu\text{mol}/(\text{m}^2\cdot\text{s})$) at 13:00; while in September, two peaks happened separately at about 12:00 and 14:00 hour with a midday suppression at 13:00 hour. The diurnal variations of the transpiration rates had the same tendency as those of the stomatal conductance; the correlative coefficient between them was 0.445 in May and 0.909 in September separately, reaching the significant levels. In comparison, *P. stipuleanatus* and *P. notoginseng* (two-year-old) were most significantly different from each other in the net photosynthetic rates, but their transpiration rates were significantly different.

Key words [Panax stipuleanatus](#) [net photosynthetic rate](#) [diurnal variation](#)

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