

Performance of starfruit cv. B10 under netted structure. I. Effect of crop load on plant physiological performance and yield

ABSTRACT

Plant physiological performance and yield of starfruit at several crop loads under netted structure were studied in the starfruit farm at MARDI, Serdang, Selangor. The crop load consisted of three treatments ranging from less than 100 to about 600 fruits per tree. Crop load significantly influenced the specific leaf weight (SLW). The SLW from plants with the lowest crop load were significantly higher than the medium and high crop load. The rate of stomatal conductance and transpiration of mature leaf was significantly affected by the crop load treatments. The stomatal conductance of the high crop load (244.8 mmol m⁻²s⁻¹) and medium crop load (258.2 mmol m⁻²s⁻¹) were significantly higher at $p < 0.05$ compared to the low crop load (133.0 mmol m⁻²s⁻¹). At the same time, leaves at the lowest crop load had the lowest transpiration rate of 2.3 mmol m⁻²s⁻¹ compared to 4.4 and 4.3 mmol m⁻²s⁻¹ at the medium and highest crop load respectively and the difference was significant at $p < 0.05$. The yield increased significantly ($p < 0.05$) with increase in crop load from 6.3 t/ha at the lowest crop load to 22 t/ha at the highest.

Keyword: Starfruit; Crop load; Physiological performance; Yield; Specific leaf weight (SLW); Stomatal conductance; Transpiration