

accumulation (Xue et al., 2023). In *Hopea hainanensis*, 0~30% shading was most favorable overall, and a dynamic strategy of initial 30% shading followed by gradual reduction was proposed to support early establishment and later biomass partitioning. In plastic-greenhouse cultivation of *Cyclocarya*, shading increased survival, reduced leaf burn, and improved biomass compared with the unshaded control, which suffered inhibited growth under summer heat (Feng et al., 2023). These results indicate that *T. hemsleyanum* cuttings and young rooted seedlings should be protected from intense direct radiation, especially in warm seasons or enclosed facilities, but should not be maintained under chronically deep shade.

Table 1 Four planting modes of *T. hemsleyanum* (Adopted from Hu et al., 2023)

Planting modes	Main steps	Renderings
Greenhouse-ridge	Build artificial greenhouse; Arrange the land into ridges; Planting <i>T. hemsleyanum</i>	
Understory-ridge	Select suitable understory planting land; Arrange the land into ridges; Planting <i>T. hemsleyanum</i>	
Greenhouse-container	Build artificial greenhouses; Put the soil in a suitable container and place it neatly; Planting <i>T. hemsleyanum</i>	
Understory-container	Select suitable understory planting areas; Put the soil in a suitable container and place it neatly; Planting <i>T. hemsleyanum</i>	

Ventilation should be coordinated with shading and humidity management rather than maximized indiscriminately, because air exchange can reduce heat accumulation and disease-favoring stagnation but may also disrupt the high-humidity microclimate required for unrooted cuttings (Ventura et al., 2019). In microcutting systems, a shade