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# 九芎植生木樁之生長與根系力學之研究

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**摘　　要**　本研究選取崩塌地植生工法中之打樁編柵常使用的九芎植生木樁，於網室、野外試驗地及崩塌地，進行木樁萌芽生長調查，其結果分別利用相關分析、迴歸分析以及卡方檢驗等統計方法，來探討植生木樁地上部與地下部之生長情形、根系之力學效應以及提昇成活率之可行方式，俾提供打樁編柵施工效益之參考。

**關鍵詞：**九芎、植生木樁、剪力增強、根系。

# The Growth and Root Strength of *Lagerstroemia subcostata* Vegetation Stake

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**ABSTRACT**　The *Lagerstroemia subcostata* vegetation stake is the most important and often used plant material of the staking and wattling method in Taiwan. Their planting datum was collected from the nethouse, experimental area and the Nantou Puli No.96 landslide area. The relationship between the stake's sprout rate, growth of dry materials and the root tensile strength were discussed by correlating analysis, regression and Chi-square test methods. Besides this, the root shear strength of vegetation stake was also estimated under different growth conditions. The obtained results are useful for any researchers looking to understand the advantages of the staking and wattling method.

***Key Words:***　*Lagerstroemia subcostata*, vegetation stake, shear strength, root system.

## 一、前　言

崩塌裸露地的立地條件極爲特殊與嚴苛，除地勢陡峭、養分缺乏外，亦少有土壤可供植物定根生長之介質，再加上土壤表層易於沖蝕、滑動，因此，在道路邊坡或有保全對象之地區，如何利用水土保持植生工法之相關技術，輔助崩塌地植物生長、演替，加速達到植生覆蓋與保育功能，實屬必要。

在不穩定的崩塌地坡面，可藉打樁編柵工法搭配其他植栽技術，使坡面穩定下來，防止土石滑落，減低降雨所產生之土壤沖刷，及防止坡面再有大規模滑動而造成土石流之虞。在崩塌地植生工法中，使用九芎樁之打樁編柵係最常用之植物材料，但有關植生木樁之萌芽試驗研究甚少，部分研究雖有適用種類之說明，但同種木樁在不同立地條件、不同木樁大小時之萌芽生長情形，則無資料可參考應用。

本研究採用九芎植生木樁爲材料，調查不同生長地點九芎植生木樁之萌芽率，並藉由逐月之觀察，了解其生長狀況，分析其萌芽成活率之差異，探究其原因；另就九芎植生木樁進行其根系特性試驗，採用統

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