

## 2021臺灣國際蘭花研討會蘭科植物科技研發成果發表

### Taiwan International Orchid Show Orchid Research Result Publication

技術/專利：藥用蘭花—三叉白及組織培養無菌播種大量繁殖

technology/patent：Medicinal orchid—*In vitro* mass micropropagation of *Bletilla striata* by aseptic seed germination

研發機關：種苗改良繁殖場、中國醫藥大學

作者：文紀鑾、張珈錡、簡怡文、郭昭麟

聯絡電話：04-25825430

E-MAIL：cluwen@tss.gov.tw

Organization：Taiwan Seed Improvement and Propagation Station (TSIPS), China Medical University

Researcher：Chi-Luan Wen, Jia-Ci Chang, Yi-Wen Chien, Chao-Lin Kuo

Telephone：04-25825430

#### 摘要 Abstract

三叉白及根莖是中藥白及正品基原，需求量大，因自然資源因過度開發而嚴重受損，其種子小且沒有胚乳，在自然環境下種子發芽率低。組織培養無菌播種技術提供種子在短時間發芽。三叉白及無菌播種研究包括種子發芽、PLB增殖、發根和種苗移植。結果發現，種子發芽與胚成熟期有密切關係，無菌播種最佳培養基為1/2MS+ sucrose 30g/L，最佳PLB增殖培養基1/2MS+ BA 1.0 mg/L+ kinetin 1.0mg/L+IAA 0.1 mg/L，增殖倍率為3-4倍，最佳發根培養基為1/2 MS+ charcoal 2g/L。

*Bletillae* rhizome (*Bletilla striata*) is in high demand as a traditional Chinese medicine, and the natural resources have been severely damaged due to excessive exploitation. Because *Bletilla striata* seeds are small and have no endosperm, the seed germination rate is low in natural conditions. Tissue culture technique of aseptic seed germination can provide many seedlings in a short time. This studied of the aseptic seed germination. It included such stages as seed germination, proliferation of clusters of PLBs, induction of rooting and transplanting of seedlings. The results found that the relationship between embryo mature stage and the germination rate was close. The best medium for the germination and PLBs growths of the seeds was 1/2MS+ sucrose 30g/L, and 1/2MS+ BA 1.0 mg/L+ kinetin 1.0mg/L+IAA 0.1 mg/L was the best proliferation medium, giving a proliferation rate of 3-4. 1/2 MS+ charcoal 2g/L was favorable for rooting.

#### 圖表 Figure & Table



圖一、三叉白及之花形

Figure1. Flowers of *Bletilla striata*



圖二、三叉白及在田中栽培

Figure 2. *Bletilla striata* cultured in the field



圖三、三叉白及組織培養苗

Figure 3. *Bletilla striata* plantlets by tissue culture



圖四、三叉白及鮮根莖

Figure 4. Freshy rhizome of *Bletilla striata*