

種苗改良繁殖場新聞稿

(105年7月8日)

農委會種苗場成功開發藥用石斛大量繁殖技術

石斛蘭為蘭科植物之第二大屬，種類達2000種以上，其中約有40種具有療效。石斛主要有療效的部位為莖，傳統上認為石斛味甘淡、性涼、無毒，具有潤喉清音、生津益胃、消炎明目等藥用功效，在神農本草經被列為「上品」，並名列中華「九大仙草」之首。也是我國衛生福利部中醫藥司公告可同時供作食品原料之藥食同源中藥材之一。而依現代藥理學研究，其主要活性成分為多醣、生物鹼，兩者皆具有抗氧化活性，能抑制發炎反應，進而達到免疫調節的作用。

種苗改良繁殖場表示，藥用石斛最大的產地在中國大陸，台灣過去也有一些原生的藥用石斛種原，然而由於石斛的經濟價值高，隨著人為大量的採集與利用，許多珍貴的藥用石斛品種已瀕臨絕種。目前石斛被列為瀕危野生動植物種國際貿易公約附錄二之物種，其野生植株及人工產製品之進出口貿易受到相當嚴格的管制，因此石斛藥材的取得越來越困難。

種苗場為了解決藥用石斛種原瀕危及藥材取得困難的問題，近年來著手研發多種藥用石斛的組織培養及馴化栽培技術。以石斛之高芽或側芽進行微體繁殖，建立分生苗繁殖技術，每次繼代培養平均可增殖 2-3 倍，再經發根培養和馴化栽培，成功培育石斛組織培養苗。目前該場已建立包括：金釵、鐵皮、流蘇石斛等之組織培養技術，未來藥用石斛將可透過組織培養快速繁殖種苗，進而量產優質的藥材以滿足市場需求。

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藥用石斛組織培養苗

In vitro plantlets propagation of medicinal *Dendrobium*



種植於溫室的藥用石斛組培苗

Greenhouse Planting of medicinal *Dendrobium* Tissue Culture Transplants

**Successful tissue culture techniques of medicinal *Dendrobium*
development by Taiwan Seed Improvement and Propagation Station,
COA**

Dendrobium is the second largest genus in the Orchidaceae with more than 2,000 species. About 40 *Dendrobium* species have been acknowledged for their curative effects. And the main medicinal part is the stem. The earliest extant monograph on the science of Chinese materia medica "Shen Nong Ben Cao Jing" shows that the medicinal *Dendrobium* is sweet in flavor, slightly cold in nature, non-toxic and classified as "top grade". The medicinal *Dendrobium* is not only good for your throat, stomach, eyesight health and anti-inflammatory properties. Taiwan Ministry of Health and Welfare also announced that the medicinal *Dendrobium* can be a material of medicine and food. According to modern pharmacological researches, the main active pharmaceutical ingredients of the medicinal *Dendrobium* are polysaccharide and alkaloids. Both ingredients are antioxidant activity, anti-inflammation, and activate immunomodulatory effects.

Taiwan Seed Improvement and Propagation Station (TSIPS) said that China is the largest producer of medicinal *Dendrobium*, there are also some native species of medicinal *Dendrobium* in Taiwan. Because of the high value of medicinal *Dendrobium*, the wild medicinal *Dendrobium* resources are threatened by extinction due to overexploitation and habitat destruction. Therefore, *Dendrobium* spp. are listed in Appendix II of the convention on International Trade in Endangered Species of Wild Fauna and Flora. All import and export trade of *Dendrobium* wild plants and artificial propagation products are subject to very strict controls.

Materials of medicinal *Dendrobium* become more and more difficult to obtain.

In order to solve the problem of lack of material resources, research in develop mass micropropagation and cultivation methods of several species medicinal *Dendrobium*, such as *Dendrobium nobile*, *Dendrobium candidum* and *Dendrobium fimbriatum* Hook., etc. has constantly been worked in TSIPS. They used keiki or lateral buds as explants to develop tissue culture methods, including: explants sterilization, proliferation and rooting of plantlets, and plant cultivation techniques. Young plants produced by the above-mentioned methods have high survival rate and grow well. In the future, plantlets of medicinal *Dendrobium* species would be produced more rapidly in a massive way, and can be used to produce high-quality medicinal material resources to satisfy market demand!