

國立臺灣大學森林環境暨資源學系

專題演講

演講題目：Plant cell, tissue and organ culture: the most flexible foundations for plant metabolic engineering applications

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摘要： Significant advances in plant cell, tissue and organ culture (PCTOC) have been made in the last five decades. PCTOC is now thought to be the underlying technique for understanding general or specific biological functions of the plant kingdom, and it is one of the most flexible foundations for morphological, physiological and molecular biological applications of plants. Furthermore, the recent advances in the field of information technology (IT) have enabled access to a large amount of information regarding all aspects of plant biology. For example, sequencing information is stored in mega repositories such as the National Center for Biotechnology Information (NCBI), which can be easily accessed by researchers worldwide. To date, the PCTOC and IT combination strategy for regulation of target plant metabolism and the utilization of bioactive plant metabolites for commercial purposes is essential. In this review, the advantages and the limitations of these methodologies, especially regarding the production of bioactive plant secondary metabolites and metabolic engineering in target plants are discussed mainly from the phenotypic view point.

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