

## **The growth and biochemical responses on in vitro cultures of *Oncidium taka* orchid to electromagnetic field.**

### **ABSTRACT**

The effects of electromagnetic fields (EMF) strengths of 0, 10, 20, 40, 60, 80, 100 and 120 kV/m were investigated using protocormlike bodies (PLBs) of *Oncidium taka* orchid cultures under in vitro condition. Various biochemical and antioxidant system changes in PLBs were investigated. The results obtained reveal the potential of using 40 kV/m electric field strength stimulated production of higher photosynthetic pigments and increasing the growth of *Oncidium taka* PLBs. The results also showed the difficulties in obtaining and establishing a clear relationship between the influencing electric field and the protein, nitrogen content, peroxidase (POX) and glutamate oxaloacetate transaminase (GOT) activities. This suggests that electromagnetic field could be used as a tool to promote *Oncidium taka* orchid growth via photosynthesis once the right EMF strength and duration of exposure has been established through future studies.

**Keyword:** Orchid; Protocorm-like b