

Factors influencing in vitro tuberization of *Chlorophytum borivilianum* in solid culture

ABSTRACT

The present study describes an efficient technique of microtuberization of *Chlorophytum borivilianum*. In this study, young shoot buds of *C. borivilianum* were cultured on solid MS medium supplemented with 30, 60 and 90 g l⁻¹ sucrose either individually or in combination with 0, 315, 630, 950, 1265 and 1580 M 2-chloroethyl-trimethylammonium chloride (CCC). The highest mean number of microtubers was significantly enhanced in the presence of CCC at 950, 1265 and 1580 M after 8 weeks of culture whereas the lowest occurred in the absence of CCC. Increasing the sucrose only stimulated microtuber elongation. The number of microtubers produced was strongly enhanced by the concentration of up to 60 g l⁻¹ sucrose in the medium compared with 30 g l⁻¹ sucrose, but at higher level of 90 g l⁻¹ sucrose, microtuber production declined. In the presence of sucrose, number of microtuber increased with increasing CCC level up to 1265 M particularly at 60 g l⁻¹ with CCC mean number of microtuber per explants was more pronounced (3.5). Meanwhile, using 90 g l⁻¹ sucrose with or without CCC showed higher microtuber length which indicates that at high sucrose concentration, CCC has no significant role on tuber elongation. Results showed the most suitable combination for in vitro tuberization of *C. borivilianum* was 950 M CCC with 60 g l⁻¹ sucrose.

Keyword: *Chlorophytum borivilianum*; CCC; Microtuberization; Sucrose