

Analysis of flavour compounds in leech lime (*Citrus hystrix*) flower and yield improvement in callus

ABSTRACT

The major flavour compound obtained from *Citrus hystrix* flower was citronellal. Plantlet grown on a basal Murashige and Skoog (MS) medium without phytohormone do not produce any citronellal. However, the quantity of limonene was remarkably higher (101.62 ± 5.24 g/g fwt.) in stem than petal (27.30 ± 1.42 g/g fwt.), ovary (10.76 ± 0.01 g/g fwt.) and pollen and anther (6.64 ± 0.24 g/g fwt.). Callus was successfully induced from stem, embryo and petiole on the MS medium supplemented with sucrose (30 g/litre), naphthalene acetic acid (NAA) (2.0 mg/litre) and kinetin (1.0 mg/litre) but only limonene and cyclohexanol have been produced. Treatment of callus derived from stem under different types of light did not increase the number of flavour compounds. Treatment of callus under bright white cool fluorescent light showed the highest production of cyclohexanol (14.1 ± 1.11 g/g fwt.) and limonene (1.48 ± 0.09 g/g fwt.) compared to that of other treatments.

Keyword: *Citrus hystrix* flower; Callus; Major flavour compounds