



ABSTRACT

The present study investigated the potential of gallic acid and citric acid in enhancing phytoextraction of copper and zinc by *Impatiens balsamina* (kamantigi). The growth response of *I. balsamina* to the different concentrations of chelators was determined by measuring the shoot heights. It was found out that copper showed negative response to high amount of citric acid causing the shoot heights increment to decline. Shoot heights of plants treated with zinc were abruptly increased in all concentrations of gallic acid and citric acid. Concentrations of accumulated copper and zinc in the plant parts after 2nd, 4th and 6th week of transplanting were determined using atomic absorption spectrophotometric analysis. The average concentration of the accumulated copper in high concentration (30mg/kg) of citric acid was 714.41 mg.kg⁻¹ is far better than the control with 261.36 mg.kg⁻¹. High concentration of citric acid enhanced 362.07% Cu in *I. balsamina*. The used of gallic acid and citric acid in the enhanced phytoextraction of Zn were negligible. The overall research showed that citric acid was potentially suitable chelator in the enhancing the phytoextraction of copper.

Keywords: gallic acid, citric acid, shoot heights, phytoextraction, copper, zinc