

## A Combined Condition of Hydroponic Effects on Growth and Cadmium Distribution of Impatiens (Impatiens Walleriana)

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### Abstract

Impatiens can be bred from cuttings, a method which has been shown to lead to a high concentration of cadmium in its shoots. In order to determine the best breeding conditions, a hydroponic experiment was conducted with five different cadmium concentrations, two lighting periods, and two solution intensities. The experimental results show that differences in treatments did not affect growth exhibition significantly. Impatiens grown in 50% solution intensity accumulates significantly higher cadmium concentrations, however, when compared with 100% solution intensity. The maximum cadmium concentrations in the roots and shoots were more than 2600 and 1400 mg/kg, respectively. Changes in the lighting period and the solution intensity affected the subcellular distribution of cadmium but not its chemical form. Cadmium was found to be associated primarily with pectate/protein in most of the treatments, regardless of the conditions. When considering optimum growth exhibition and cadmium fraction in impatiens bred from rooted cuttings, 100%-12HCd20 was shown to be the best hydroponic condition.

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### Biography

The Hung-Yu La works at the National Chung Hsing University in Taiwan. He talks about the plant science. Hung-Yu La has many research works and he published

so many articles in different journals. He is the editorial board member of the journal also. He received so many honariums.