

Evaluation of Antioxidant Activity as a Function of the Genetic Diversity of *Canna indica* Complex

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Abstract : *Canna indica* is a prominent species complex in tropical and subtropical areas. They become indigenous in Southeast Asia where they have been introduced. At present, *C. indica* complex comprises over hundred hybrids, are cultivated as commercial horticulture. The species complex contains starchy rhizome having economic value in terms of food and herbal medicine. In addition, bright color of the flowers makes it a valuable ornamental plant and potential source for natural colorant. This study aims to assess genetic diversity of four varieties of *C. indica* complex based on SRAP (sequence-related amplified polymorphism) and iPBS (inter primer binding site) markers. We also examined phytochemical characteristics and antioxidant properties of the flower extracts from four different color varieties. Results showed that despite of the genetic variation, there were no significant differences in phytochemical characteristics and antioxidant properties of flowers. The SRAP and iPBS results agree with the more primitive traits showed by morphological information and phytochemical and antioxidant characteristics from the flowers. Since *Canna* flowers has long been used as natural colorants together with the antioxidant activities from the ethanol extracts in this study, there are likely to be good source for cosmetics additives.

Keywords : *Canna indica*, antioxidant activity, genetic diversity, SRAP, iPBS

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