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Harvesting time and viability of ixora coccinea 'dwarf red coccinea' pollen

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Abstrak

The cultivated variety of the non-native I. coccinea, Dwarf Red Coccinea @RC), is most popular and widely spread all over Thailand. However, knowledge about its pollen morphology and fertility for plant breeding purposes, is limited. This study aimed to investigate the quantity, viability and germinability of pollen grains collected from the flowers of DRC at different times on a summer day, particularly from 8 AM to 4 PM. Pollen quantity was determined using a haemacytometer while its viability and germinability were examined after staining with 1% acetocarmine and allowing the pollen to germinate on a modified agar-gelled germination medium. The pollen collected at 10 AM had the highest pollen density (53.3x104 pollen/mL) and viability percentage (72.05'/0). When these pollen were allowed to germinate on an artificial medium suppleented with various sucrose concentrations, the highest in vitro pollen germinability was found at the medium containing 10% sucrose. Hence, the best time to collect the I. coccinea, cv. 'Dwarf Red Coccinea' pollen was at 10 AM. However, further investigations are recommended on the effects of daily or hourly environmental changes particularly, ambient temperature and humidity, on the quantity and quality of harvestable pollen as well as on the pistil phenology, to develop a more complete breeding strategy for the Ixora species