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Morphological Characteristics and Pollination Requirement in Red Pitaya (Hylocereus Spp.)

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Abstract : This study explored the morphological characteristics and effects of pollination methods on fruit set and characteristics in four red pitaya (Hylocereus spp.) clones. The distinctive morphological recognition and classification among pitaya clones were confirmed by the stem, flower and fruit features. The fruit production season was indicated from the beginning of May to the end of August, the beginning of September with 6-7 flowering cycles per year. The floral stage took from 15-19 days and fruit duration spent 30–32 days. VN White, fully self-compatible, obtained high fruit set rates (80.0-90.5 %) in all pollination treatments and the maximum fruit weight (402.6 g) in hand self- and (403.4 g) in open-pollination. Chaozhou 5 was partially self-compatible while Orejona and F11 were completely self-incompatible. Hand cross-pollination increased significantly fruit set (95.8; 88.4 and 90.2 %) and fruit weight (374.2; 281.8 and 416.3 g) in Chaozhou 5, Orejona, and F11, respectively. TSS contents were not much influenced by pollination methods.

Keywords : Hylocereus spp., morphology, floral phenology, pollination requirement
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