

## Documents

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**Development of Stevia rebaudiana Hybrids through Trigona-Assisted Pollination [Pembangunan Hibrid Stevia rebaudiana melalui Pendebungaan Berbantuan Trigona]**

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**Abstract**

Hybridization is an important method to widen variations and to develop novel varieties in plants. The increasing interest in Stevia rebaudiana over the last decade soared by its potential as an alternative source of sugar. In this study, improvement in stevia has been conducted through hybridization using Trigona for the development of stevia hybrids. Trigona, which consists of small to medium-sized bees, is usually found in tropical and subtropical parts of the world. They are common visitors to flowering plants and pose an important function as crop pollinators. A field experiment was conducted using 17 stevia accessions (from Malaysia and Paraguay), and the F1 hybrids were morphologically and chemically evaluated. Among the F1 individuals, a wide range of variability with regards to qualitative and quantitative morphological parameters was observed. A selection of seven F1 hybrids namely MS007HYB1, MS007HYB2, LangatHYB, EireteHYB, NilaiHYB1, NilaiHYB2, and NilaiHYB3 was made based on their promising features. Improvements were observed in total stevioside content for MS007HYB1 (45%) and MS007HYB2 (30%), rebaudioside content for MS007HYB2 (4.2%), NilaiHYB2 (3.8%), NilaiHYB3 (3.6%) and LangatHYB (14.4%), and delay in flowering for MS007HYB1 (46 days), MS007HYB2 (46 days), LangatHYB (51 days), EireteHYB (47 days), NilaiHYB1 (49 days), NilaiHYB2 (46 days) and NilaiHYB3 (46 days) when compared to their respective mother plants. © 2022 Penerbit Universiti Kebangsaan Malaysia. All rights reserved.

**Author Keywords**

Hybridization; hybrids; Stevia rebaudiana; Trigona

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