

Morphological characterization of parental lines and reciprocal hybrids of cucumber (*Cucumis sativus* L.)

ABSTRACT

Growing awareness of the economic and health benefits of cucumber (*Cucumis sativus* L.) as a nutritional crop has renewed interest in the production and development of improved cultivars. Breeding of local cucumber cultivars especially in Malaysia, under tropical conditions is scarce. UniSZA has initiated research in cucumber breeding with the objective to develop improved variety for local cultivation. This study investigated morphological variation in six cucumber parental lines; DINO 03-0143, TRG 13-0054, KTN 15-0040, TRG 19-0001, TRG 18-0018, and TRG 19-0002 and their reciprocal hybrids. Morphological characteristics were evaluated at three plant stages; vegetative, inflorescence, and fruit. From the result obtained, most hybrids showed improvement in morphological qualities including fruit weight, fruit length, main vine length and side shoot number as compared to their respective parents. A cross between TRG 19-0002 x TRG 13-0054 produced hybrids with the longest (16.6 cm) and heaviest fruit (215 g) as compared to the other hybrids. For main vine length, TRG 19-0001 x TRG 18-0018 produced hybrids with the longest vine length (167 cm), which was superior to enhance vegetative growth in cucumber breeding. Moreover, most hybrids formed female flowers faster than their parents, thus producing early fruits which shorten the harvesting time. Therefore, the hybrids produced can be expanded to a larger scale field trial for the commercial cucumber market.