

## KERAGAMAN DAN KLASIFIKASI INTRASPEKIFIK KULTIVAR TERONG (*Solanum melongena* L.) AKSESI INDONESIA BERDASARKAN KARAKTER MORFOLOGIS DAN MOLEKULAR

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### INTISARI

Terong (*Solanum melongena* L.) merupakan tanaman budidaya sebagai salah satu komoditas sayuran penting bernilai ekonomi. Indonesia termasuk dalam 10 negara dengan produksi terong terbesar di dunia serta memiliki keragaman terong yang tinggi. Klasifikasi terong yang hanya didasarkan pada karakter morfologis akan menunjukkan hasil yang kurang mantap sehingga perlu didukung dengan karakter molekuler. Karakter morfologis dibedakan menjadi makromorfologis dan mikromorfologis. Karakter mikromorfologis juga merupakan karakter pendukung yang penting dalam klasifikasi. Penelitian ini bertujuan untuk mengetahui keragaman dan klasifikasi intraspesifik kultivar terong berdasarkan karakter makromorfologis, mikromorfologis dan molekuler dengan penanda *Inter Simple Sequence Repeat* (ISSR). Sampel terdiri dari 21 kultivar lokal dan 2 kultivar komersil, pengamatan berdasarkan 30 karakter makromorfologis berdasarkan deskriptor terong IBPGR, 15 karakter mikromorfologis daun dan amplifikasi DNA menggunakan 5 primer ISSR (UBC 809, UBC 880, UBC 888, UBC 892, UBC 895). Skoring karakter morfologis dan mikromorfologis dalam bentuk data *mutistate*, pola pita DNA diskoring menjadi data biner. Analisis kluster menggunakan metode *Unweighted Pair-Group Method Arithmetic* (UPGMA) dari program komputer MVSP 3.1 dan dilanjutkan dengan *Principle Component Analysis* (PCA) untuk melihat karakter yang membedakan tiap kluster. Hasil penelitian menunjukkan terong memiliki keragaman morfologis buah yaitu lekuk pada buah, rasio panjang:lebar buah, bentuk buah, ujung buah, dan warna kulit buah, serta pada mikromorfologis daun seperti dinding epidermis, bentuk trikoma, dan tipe stomata. Berdasarkan karakter makromorfologis terbentuk 2 grup kultivar yaitu grup buah berlekuk dan buah tidak berlekuk yang terbagi menjadi sub-grup buah tidak berlekuk dengan daun berduri banyak dan sub-grup buah tidak berlekuk dengan daun berduri sedikit. Karakter mikromorfologis menghasilkan 4 kluster berdasarkan kombinasi karakternya. Pola pita DNA yang terbentuk menunjukkan persentase polimorfisme yang dihasilkan sebesar 64,5%, dan hasil analisis kluster menghasilkan 7 kluster. Hubungan kekerabatan berdasarkan makromorfologis, mikromorfologis dan molekuler tidak bersifat kongruen.

Kata kunci: Terong (*S. melongena*), keragaman, klasifikasi intraspesifik, aksesii Indonesia, ISSR

**VARIATION AND INTRASPECIFIC CLASSIFICATION OF EGGPLANT  
CULTIVAR OF INDONESIAN ACCESSION (*Solanum melongena* L.)  
BASED ON MORPHOLOGICAL AND MOLECULAR CHARACTERS**

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**ABSTRACT**

Eggplant (*Solanum melongena* L.) is a cultivated plant as one of the important vegetable commodities that have economic value. Indonesia is included in the 10 countries with the largest amount of eggplant production in the world and with wide eggplant diversity. Eggplant classification that is simply based on the morphological character will show a less obvious relationship. Therefore, it needs to be supported by other characters such as molecular. Morphological characters are divided into macromorphological and micromorphological. Micromorphological character is an important supporting character in plant classification. The aims of this study are to determine the diversity and intraspecific classification of eggplant cultivar based on macromorphological, micromorphological and molecular characters with Inter-Simple Sequence Repeat (ISSR). The samples consisted of 21 local cultivars and 2 commercial cultivars; the observation had been done based on 30 macromorphological characters according to IBPGR descriptors for eggplant, 15 micromorphological characters of leaves surface and DNA amplification using 5 primary ISSR (UBC 809, UBC 880, UBC 888, UBC 892, UBC 895). The scoring of macromorphological and micromorphological characters was in form of multistate data while DNA bands were scored into binary data. Morphological and molecular data were analyzed separately by using Unweighted Pair-Group Method Arithmetic (UPGMA) method to create a dendrogram from the computer program namely MVSP 3.1 and then it was tested using the principle of component analysis (PCA) to see the characters that distinguish each cluster. The results showed that the eggplant had morphological diversity in fruit curvature, fruit length: breadth ratio, fruit shape, fruit apex and fruit colour, as well as on leaves micromorphological characters such as the epidermal wall, trichome shape, and stomata type. Dendrogram based on morphological characters were divided into 2 cultivars groups; they were curved fruit group and non-curved fruit group that consisted of non-curved fruit sub-group with more spiny leaves and non-curved fruit with less spiny leaves sub-group. Dendrogram based on micromorphological characters were divided into 4 clusters. The total number of polymorphism percentage in ISSR was 64.5% and the dendrogram was divided into 7 clusters. So, the phenetic relationship based on macromorphological, micromorphological and molecular is not congruent.

**Keywords:** Eggplant (*S. melongena*), diversity, intraspecific classification, Indonesian accession, ISSR