

AUTHENTICATION OF THREE WAX APPLES CULTIVARS (SYZYGIUM SAMARANGENSE (BLUME) MERR. & L.M. PERRY) BASED ON MORPHOLOGICAL CHARACTER AND FRUIT METABOLITE PROFILE

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Abstract	<p>Wax apple is one of the superior fruits of Demak, especially cultivars 'Citra', 'Delima' and 'Madu Deli Hijau'. Research on the wax apple of the three cultivars is still limited. Therefore, research on the authentication of wax apple cultivars based on morphological characters and metabolite profiles present in one location is important to do. The aims of this study were to identify morphological characters and analyze metabolite profiles, to analyze relationship and to identify morphological characters and metabolite marker profiles in the authentication activities of three wax apples cultivars. Sampling was in Boyolali Village, Demak Regency. The stages of this research included morphological characterization of stem, leaf, fruit and seed organs, phylogeny analysis with MVSP, metabolite profile analysis using GC-MS, and determination of morphological characters and metabolite profiles with PCA. The results showed that there were morphological diversity and metabolite profile variations of the three cultivars. Relationship analysis based on morphological characters and metabolite profiles resulted in different grouping patterns. 'Madu Deli Hijau' and 'Citra' are closely related based on morphological characters and a combination of morphological characters and metabolite profiles. Morphological characters in the authentication of the 'Citra' (dark red exocarp color), 'Delima' (bright red exocarp color, smooth and flat fruit surface, jagged fruit shape), in 'Madu Deli Hijau' (elongated leaf shape and exocarp is green with a pink tinge). Authentication of probable marker metabolite profiles on 'Citra', 'Delima' and 'Madu Deli Hijau' wax apples of 10, 7 and 5 compounds.</p>
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