

KARAKTERISASI RESISTENSI GULMA *Synedrella nodiflora* TERHADAP HERBISIDA REFLEX MENGGUNAKAN GEN PPX2L SEBAGAI PENANDA MOLEKULER

Title	KARAKTERISASI RESISTENSI GULMA <i>Synedrella nodiflora</i> TERHADAP HERBISIDA REFLEX MENGGUNAKAN GEN PPX2L SEBAGAI PENANDA MOLEKULER
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Abstract	<p>Fomesafen as an active substance of Reflex herbicide can inhibit PPOase, an enzyme playing important role in chlorophyl biosynthesis. Deletion of three bases at gene encoding PPOase, i.e. PPX2L, was reported as one of resistance mechanisms against PPOase inhibiting herbicides. Nevertheless, only a few studies on molecular characterization of <i>Synedrella nodiflora</i> resistance against Reflex were reported. Therefore, this study was aimed to (1) know the sequence of PPX2L gene isolated from resistant <i>S. nodiflora</i> against Reflex, (2) perform homology study of PPX2L gene from resistant <i>S. nodiflora</i> and various plant species in data base, and (3) know the sequence of PPX2L gene responsible to <i>S. nodiflora</i> resistance against Reflex. The PCR products of susceptible <i>S. nodiflora</i> showed three bands, in that of 500 bp is strongly assumed as PPX2L gene. Susceptible <i>S. nodiflora</i> is genetically different from susceptible <i>A. tuberculatus</i>, indicated by the absence of three base pairs at position 834, 835 and 836 in susceptible <i>S. nodiflora</i>, where in susceptible <i>A. tuberculatus</i> this position is occupied by CAG. Then, in both susceptible <i>S. nodiflora</i> and <i>A. tuberculatus</i> there is C at position 919 but T in resistant <i>A. tuberculatus</i>. At amino acid level this position is CCC (proline) in susceptible <i>S. nodiflora</i>, CTA (leucine) in susceptible <i>A. tuberculatus</i> and TTA (leucine) in resistant <i>A. tuberculatus</i>. Therefore, inspite of base alteration from C in susceptible <i>A. tuberculatus</i> to T in resistant <i>A. tuberculatus</i>, the amino acid formed remains constant, i.e. leucine. Significant difference is, however, observed in susceptible <i>S. nodiflora</i> because there is proline at the same position.</p>
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Author	Dr Dra MURNI DWIATI, MSi