MOLECULAR IDENTIFICATION OF SHALLOT PROGENITORS
GENERATED FROM TRUE SEEDS
BY PCR BASED TECHNIQUES

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Title of Research: MOLECULAR IDENTIFICATION OF SHALLOT PROGENITORS
GENERATED FROM TRUE SEEDS BY PCR BASED TECHNIQUES

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<tr>
<th>No</th>
<th>Name</th>
<th>Field Study</th>
<th>Affiliation</th>
<th>Time Allocation</th>
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<td>Ir. Arifin Noor Sugiharto</td>
<td>Biotechnology</td>
<td>Plant Breeding Lab. Agric.Fac.-Brawijaya Univ.</td>
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<td>Gati Windiastika SP.,MP</td>
<td>Biotechnology</td>
<td>Plant Breeding Lab. Agric.Fac.-Brawijaya Univ.</td>
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Research Field/Object: Agriculture and Food/ Shallot
Research Period: 5 months (June to October 2010)

Amount of Proposed: Rp 97,624,000,- (Ninety seven millions six hundreds and twenty four thousands rupiah)

Amount of Approved: Rp 92,000,000,- (Ninety two millions rupiah)

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ABSTRACT

Shallot breeding program is concentrated to develop an efficient propagation system toward on self-sufficient of seeds and production through true seeds. This system is considered as the best plant materials of shallot to make G0 that can be regenerated twice (G1) in the following season without significant degradation of genetic power. The purposes of this research are: to test the ability of five commercial cultivars to produce true seeds, to identify them with molecular markers of SSR and to analyze genetic variability of true seeds produced from self-pollination. The goal of this research is to find out commercial shallot cultivars that feasible to be used as parent stock for producing genetically good true seeds either for inbred or hybrid cultivars.

Research was held in Laboratory of biotechnology, Faculty of Agriculture, Brawijaya University and in farm station from March to November 2010. Five commercial cultivars in Indonesia i.e., Super Phillip, Bali hijau, Bali kuning, Ampenan and Sumenep were used as materials of research. Two sets of SSR primer linked with yield were used, then profiled by 0.8 % agarose electrophoresis system after amplification in certain PCR program using these two sets of primer. Digital photograph was used for preparing analysis.

The result showed that only Sumenep variety is homozygous, but Ampenan variety can also be considered as candidate to be used as homozygous parent. These two homozygous shallot varieties (Sumenep and Ampenan) can then be used as the parent stocks to produce genetically good true seeds either for inbred or hybrid variety.

Key words: Shallot, true seeds, SSR molecular marker, homozygous parent stock
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