

Land suitability assessment for patchouli (*pogostemon cablin*) development and essential oil production

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920541009&lokasi=lokal>

Abstrak

Patchouli (*Pogostemon cablin*) is one of the important crop species in Indonesia, since over 80% of patchouli oil global market is produced in Indonesia. Patchouli oil is the key ingredients for fragrance and aromatherapy products. Patchouli oil is extracted from the stems and leaves of patchouli plants. Therefore, it is important to improve Patchouli plant productivity and increase resources for sustainable patchouli cultivation. The suitability of abiotic factors in the growing environment of crops remarkably determines the success of crop production. This study aimed to assess and evaluate land suitability for plant growth and development of Patchouli (*Pogostemon cablin*) in Dilem Wilis, Bendungan District, Trenggalek Regency, Indonesia. Initially, a survey was conducted and then an analysis was done to classify the land suitability for crops cultivation. The research was conducted on 3 locations from May to July 2017 for land suitability and from July to November 2017 for Patchouli crops cultivation experiment. The results indicated that Location 1 had a land suitability of N class, implying that this location was not suitable due to its limiting factor of low IGO content (0.08 me/100 g). Meanwhile, both Location 2 and Location 3 showed similar land suitability class of S3s, tc, f, n signifying as less appropriate. The results of this study also indicated the influence of land suitability classes on plant growth however, the different classification (in this case S3 compared to N) did not demonstrate a correlation between land classes and oil yield and Patchouli alcohol, where the element Potassium was the limiting factor