Isolasi, identifikasi, dan karakteristik pertumbuhan mikoriza anggrek holomycotrophic gastrodia crispa dalam medium potato dextrose agar modifikasi dengan variasi suhu inkubasi = Isolation, identification, and growth characteristic of mycorrhiza in holomycotrophic orchid gastrodia crispa on modified potato dextrose agar with variation of incubation temperature

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Abstrak

;<em;>Gastrodia<span;> <em;>crispa<span;> sebagai anggrek <em;>holomycotrophic<span;> endemik pegunungan Jawa Barat memiliki habitat pada tanah dengan serasah bambu dan pertumbuhannya sangat dipengaruhi oleh mikoriza. Kebutuhan kondisi lingkungan yang spesifik dan keberadaannya yang endemik diduga memiliki simbiosis dengan fungi tertentu. Isolasi, identifikasi, dan uji pertumbuhan perlu dilakukan untuk mengetahui mikoriza simbion <em;>G. crispa<span;> dan pertumbuhan optimalnya. Penelitian telah berhasil mengisolasi dan mengidentifikasi mikoriza simbion <em;>G<span;>.<em;> crispa<span;> yang diperoleh dari Taman Nasional Gunung Halimun-Salak dan Taman Nasional Gunung Gede-Pangrango. Isolasi dilakukan berdasarkan teknik tanam langsung dan diinkubasi pada suhu 25 ^o<span;>C. Empat isolat berhasil diisolasi dari tiga sampel umbi semu <em;>G. crispa<span;>. Identifikasi fenotipik yang dibandingkan dengan kunci identifikasi menduga isolat merupakan genus <em;>Acremonium<span;>, <em;>Penicillium<span;>, <em;>Trichoderma<span;>, dan <em;>mycelia sterilia<span;>. Uji pertumbuhan menggunakan variasi medium dan suhu inkubasi dilakukan pada medium PDA dan PDB modifikasi di suhu 9 ^o<span;>C, 25 ^o<span;>C, dan 30 ^o<span;>C selama 25 hari. Medium PDA dan PDB modifikasi 1 menggunakan pelarut filtrat tanah, sementara PDA dan PDB modifikasi 2 menggunakan pelarut filtrat tanah dengan serasah bambu. Hasil uji keempat isolat mikoriza mendapatkan pertumbuhan optimal pada PDA dan PDB modifikasi di suhu 25 ^o<span;>C. Pertumbuhan <em;>Acremonium <span;>sp., <em;>Penicillium <span;>sp., dan <em;>Trichoderma <span;>sp. di medium PDA dan PDB modifikasi 1 dengan PDA dan PDB modifikasi 2 tidak berbeda signifikan, sementara pertumbuhan <em;>mycelia sterilia <span;>lebih optimal pada medium PDA dan PDB modifikasi 2.

.....Gastrodia crispa is an endemic holomycotrophic orchid of West Java mountain area found on soil with bamboo leaf litter and its growth is greatly affected by mycorrhiza. The specific requirement of environmental condition and its endemic presence, might have a symbiosis with specific fungi. Isolation, identification, and growth assay were carried out to identify the mycorrhizae and their optimal growth condition. The research has succeeded in isolation and identification of the symbiont mycorrhizae G. crispa from Gunung Halimun-Salak National Park and Gunung Gede-Pangrango National Park. Isolation was carried out using readily cultured isolation technique and incubated at 25 oC. Four mycorrhizae were isolated from three G. crispa pseudotuber samples. Phenotypic identification compared to the key identification assumed that the isolate belongs to the genus Acremonium,

Penicillium, Trichoderma, and mycelia sterilia. Variation of medium and incubation temperature were assayed using the modified PDA and PDB medium with three variations of incubation temperature 9 oC, 25 oC, and 30 oC for 25 days. Soil filtrate was used to dissolve modified PDA and PDB 1, while bamboo leaf litter with soil filtrate was used to dissolve modified PDA and PDB 2. The results show that four isolates mycorrhizae had optimal growth on modified PDA and PDB at the temperature of 25 oC. The growth results of Acremonium sp., Penicillium sp., Trichoderma sp. on modified PDA and PDB 1 with modified PDA and PDB 2 did not show a significant distinction, while mycelia sterilia had optimal growth on modified PDA and PDB 2.