

**ANALISIS METABOLIT SEKUNDER PADA BIJI DAN TANGKAI BUAH  
HANJELI (*Coix lacryma-jobi* L.) JENIS KETAN DAN PUTIH  
DENGAN METODE GC-MS**

**SKRIPSI**

diajukan sebagai syarat untuk memperoleh gelar Sarjana Sains

Program Studi Biologi



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**PROGRAM STUDI BIOLOGI  
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UNIVERSITAS PENDIDIKAN INDONESIA  
2021**

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Skripsi ini diajukan untuk memenuhi salah satu syarat untuk memperoleh gelar  
Sarjana Sains pada Program Studi Biologi Departemen Pendidikan Biologi  
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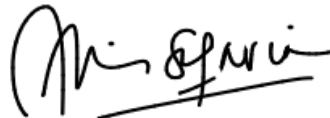
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## PERNYATAAN

Dengan ini saya menyatakan bahwa skripsi dengan judul “**ANALISIS METABOLIT SEKUNDER PADA BIJI DAN TANGKAI BUAH HANJELI (*Coix lacryma-jobi* L.) JENIS KETAN DAN PUTIH DENGAN METODE GC-MS**” beserta isinya benar-benar merupakan karya saya sendiri. Saya tidak melakukan pengutipan atau penjiplakan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku di dalam lingkungan masyarakat keilmuan. Atas pernyataan ini saya siap menanggung sanksi apabila di kemudian hari ditemukan adanya pelanggaran terhadap etika keilmuan atau adanya klaim dari pihak lain terhadap keaslian karya saya ini.

Bandung, Juli 2021

Yang membuat pernyataan

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Bandung, Juli 2021

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DENGAN METODE GC-MS**

**ABSTRAK**

Tanaman hanjeli (*Coix lacryma-jobi* L.) merupakan tanaman yang berasal dari Asia Timur, termasuk Indonesia. Di Indonesia hanjeli tersebar di berbagai ekosistem lahan pertanian yang beragam dari lahan kering hingga lahan basah. Pemanfaatan hanjeli di Indonesia masih terbatas hanya sebagai bahan makanan dan obat tradisional dalam jumlah yang sangat kecil. Salah satu penyebabnya adalah masih kurangnya informasi mengenai kandungan senyawa pada tanaman ini. Tujuan dari penelitian ini adalah menganalisis metabolit sekunder yang terdapat pada biji dan tangkai buah hanjeli putih dan hanjeli ketan dengan metode GC-MS agar pemanfaatan hanjeli dapat dikembangkan secara luas di Indonesia. Sampel diambil dari Desa Cikadut, Kecamatan Cimenyan, Kabupaten Bandung, Jawa Barat. Sampel diekstrak menggunakan metode maserasi dengan pelarut etanol 96%. Hasil analisis GC-MS menunjukkan bahwa biji dan tangkai buah hanjeli putih dan hanjeli ketan mengandung jumlah dan jenis senyawa yang berbeda, namun ada pula senyawa yang ditemukan pada kedua jenis hanjeli tersebut. Kesimpulannya terdapat 4 senyawa pada biji hanjeli putih, 6 senyawa pada biji hanjeli ketan dan 3 senyawa yang terdapat pada keduanya. Pada tangkai buah hanjeli putih ditemukan 11 senyawa, pada tangkai buah hanjeli ketan sebanyak 8 senyawa, dan terdapat 4 senyawa yang ditemukan pada keduanya. Total metabolit sekunder yang ditemukan pada tangkai hanjeli putih dan tangkai hanjeli ketan adalah 15 senyawa yang berbeda sedangkan 7 senyawa berbeda pada biji hanjeli putih dan biji hanjeli ketan. Senyawa yang ditemukan merupakan golongan fenolik, gula alkohol, asam lemak, dsb.

**Kata Kunci:** Hanjeli *Coix lacryma-jobi* L., biji, tangkai buah, kromatografi gas-spektrofotometri massa (GC-MS), metabolit sekunder

**SECONDARY METABOLITE ANALYSIS OF  
HANJELI (*Coix lacryma-jobi* L.) IN SEEDS AND FRUIT STALKS  
ON TYPE KETAN AND PUTIH WITH GC-MS METHOD**

**ABSTRACT**

*Hanjeli (*Coix lacryma-jobi* L.) is a plant from East Asia, including Indonesia. In Indonesia, hanjeli are scattered in various agricultural land ecosystems ranging from dry land to wet land. The use of hanjeli in Indonesia is limited only as food and traditional medicine in very small quantities. One of the reasons is the lack of information about the content of compounds in this plant. This study aims to analyze the secondary metabolites contained in the type putih and ketan hanjeli seeds and fruit stalks using the GC-MS method so that the utilization of hanjeli can be widely developed in Indonesia. Samples were taken from Cikadut Village, Cimenyan, Bandung, West Java. Samples were extracted using maceration method with 96% ethanol as solvent. The results of the GC-MS analysis showed that the hanjeli seeds and fruit stalks type putih and ketan contained different amounts and types of compounds, but there were also compounds found in both types of hanjeli. In conclusion, there are 4 compounds in hanjeli type putih seeds, 6 compounds in hanjeli type ketan seeds and 3 compounds contained in both. On the hanjeli type putih fruit stalks 11 compounds were found. Therefore the type ketan hanjeli contains 8 compounds. Also there are four same compounds contained in both. The total secondary metabolites found were 15 different compounds in both hanjeli fruit stalks and 7 different compounds in both hanjeli seeds. The compounds found are groups of phenolic, sugar alcohols, fatty acids, etc.*

**Keywords:** *Hanjeli *Coix lacryma-jobi* L., seeds, fruit stalk, gas chromatography-mass spectrophotometry (GC-MS), secondary metabolites*



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