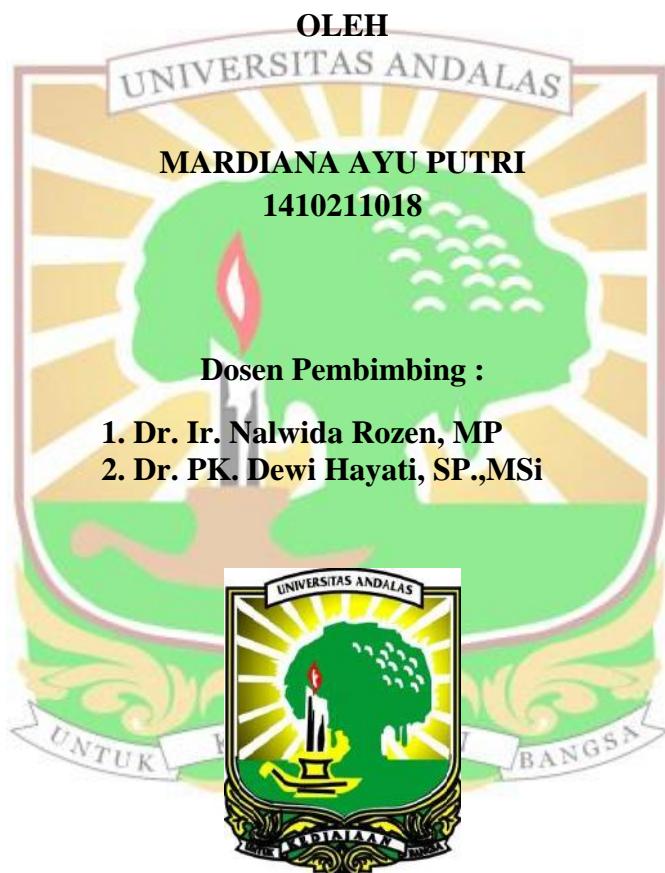


**EFEKTIFITAS ASAP CAIR UNTUK MENEKAN  
DETERIORASI BENIH KAKAO (*Theobroma cacao* L.)  
SELAMA PENYIMPANAN**

**SKRIPSI**



**FAKULTAS PERTANIAN  
UNIVERSITAS ANDALAS  
PADANG  
2019**

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**Abstrak**

Benih kakao merupakan benih rekalsitran yang memiliki kadar air tinggi, sehingga mudah mengalami deteriorasi selama penyimpanan yang ditandai dengan serangan jamur dan penurunan viabilitas dan vigor benih. Penelitian ini bertujuan untuk menekan deteriorasi benih kakao selama penyimpanan. Penelitian ini telah dilaksanakan di Laboratorium Teknologi Benih, Fakultas Pertanian, Universitas Andalas dari bulan Januari sampai Februari 2019. Percobaan ini menggunakan Rancangan Acak Lengkap (RAL) dengan pola Faktorial dua faktor. Faktor pertama yaitu konsentrasi asap cair dan faktor kedua yaitu lama penyimpanan benih. Data pengamatan dianalisis dengan uji F pada taraf 5%, jika berbeda nyata maka dilanjutkan dengan uji lanjut Duncan's New Multiple Range Test (DNMRT). Hasil penelitian menunjukkan bahwa asap cair belum efektif dalam menekan deteriorasi benih kakao selama penyimpanan yang ditandai dengan peningkatan serangan jamur, benih berkecambah, dan penurunan viabilitas dan vigor. Namun asap cair berpotensi sebagai biofungisida benih selama penyimpanan yang cukup efektif menekan serangan jamur hingga 3 minggu penyimpanan. Lama penyimpanan 1 minggu mampu mempertahankan viabilitas dan vigor benih kakao.

Kata kunci: *asap cair, benih kakao, biofungisida, deteriorasi, viabilitas dan vigor*

# EFFECTIVENESS OF LIQUID SMOKE IN REDUCING OF DETERIORATED COCOA SEED (*Theobroma cacao* L.) DURING STORAGE

## Abstract

Cocoa seeds are recalcitrant that retain high water content, hence they have deteriorated during storage period which was characterized by the fungal attack and the decrease of viability and vigor of seed. The objective of the study was to decrease the deterioration of cocoa seeds during the storage period. This research was conducted at the Seed Technology Laboratory, Faculty of Agriculture, Andalas University from January to February 2019. The experiment used a Completely Randomized Design (CRD) in Factorial with two factors. The first factor was the concentration of liquid smoke and the second was the duration of seed storage period. Observation data were analyzed using the F-test and significant differences were further tested with Duncan's New Multiple Range Test (DNMRT) at the 5% level. Results showed that the liquid smoke was not effective in suppressing the deterioration of cocoa seeds which was characterized by the increased of fungal attack, seeds germination and the decrease of viability and seed vigor during storage period. However, liquid smoke was potentially used as seed bio-fungicide during storage due to it was effective in reducing fungal attacks for up to three weeks of storage period. The one week of storage period was able to maintain the viability and vigor of cocoa seeds.

Key words: *liquid smoke, cocoa seed, bio-fungicide, deterioration, viability and vigor*