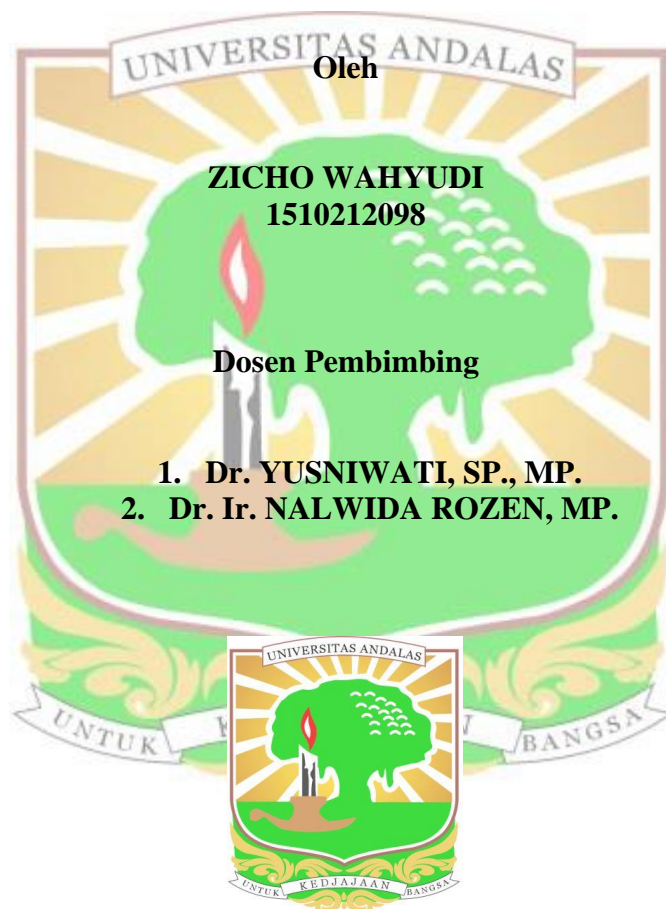


**PENGARUH MATRICONDITIONING TERHADAP
PENINGKATAN VIABILITAS DAN VIGOR
BENIH KEDELAI (*Glycine max* (L.) Merr)**

SKRIPSI



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PENGARUH *MATRICONDITIONING* TERHADAP PENINGKATAN VIABILITAS DAN VIGOR BENIH KEDELAI (*Glycine max* (L.) Merr)

ABSTRAK

Permintaan kedelai di Indonesia setiap tahun mengalami peningkatan. Sebagian petani menggunakan kedelai dari hasil musim panen sebelumnya dan menggunakan benih kedelai yang telah disimpan cukup lama. Benih kedelai yang telah disimpan lama akan mengalami kemunduran benih (*deteriorasi*) yang cukup tinggi, sehingga secara fisiologis akan berdampak pada viabilitas dan vigor benih. Benih kedelai cepat mengalami kemunduran viabilitas dan vigor karena kandungan lemak dan proteinnya relatif tinggi. Salah satu metode efektif yang dapat digunakan untuk meningkatkan viabilitas dan vigor benih kedelai dengan cara invigorasi *matriconditioning*. Penelitian ini bertujuan untuk mengetahui pengaruh *matriconditioning* dan media *matriconditioning* terbaik dalam meningkatkan viabilitas dan vigor benih kedelai yang telah mengalami kemunduran. Percobaan dilaksanakan di Laboratorium Teknologi Benih, Fakultas Pertanian, Universitas Andalas dari bulan Juli hingga September 2019. Percobaan dilakukan menggunakan metode eksperimental dengan Rancangan Acak Lengkap (RAL) yang terdiri dari 5 perlakuan dan 4 ulangan. Perlakuan *matriconditioning* yang digunakan diantaranya tanpa *matriconditioning*, abu sekam, arang sekam, sekam padi, dan serbuk gergaji. Pengamatan yang dilakukan yaitu kadar air benih, kadar air media *matriconditioning*, daya berkecambah, potensi tumbuh maksimum, perkecambahan hitung pertama, nilai indeks, bobot kering kecambah normal, uji muncul tanah, panjang radikula dan plumula. Data hasil pengamatan dianalisis dengan uji F taraf 5% dan jika berbeda nyata dilanjutkan dengan uji *Duncan New Multiple Range Test* (DNMRT) taraf 5%. Hasil penelitian menunjukkan bahwa *matriconditioning* menggunakan serbuk gergaji mampu meningkatkan viabilitas dari 52,67% menjadi 67,50% dan vigor dengan uji muncul tanah dari 39% menjadi 67,50%, namun belum mencapai viabilitas yang baik karena daya kecambahnya belum mencapai 80%.

Kata kunci: *kedelai, matriconditioning, invigorasi, deteriorasi, viabilitas, vigor*

THE EFFECT OF MATRICONDITONING TO IMPROVE SOYBEAN (*Glycine max* (L.) Merr) VIABILITY AND VIGOR

ABSTRACK

Soybean demand in Indonesia has increased every year. Some farmers use soybeans from the previous harvest season and use soybean seeds that have been stored for a long time. Soybean seeds that have been stored for a long time will experience quite a deterioration of the seed, so that physiologically it will have an impact on seed viability and vigor. Soybean seeds quickly decline it's viability and vigor because of the relatively high fat and protein content. One of the effective methods that can be used to improve the viability and vigor of soybean seeds is by invigoration matriconditioning. This study aims to determine the effect of the matriconditioning and media matriconditioning in increasing the viability and vigor of soybean seeds that have suffered a setback. The experiment was conducted at the Seed Technology Laboratory, Faculty of Agriculture, Andalas University from July to September 2019. The experiment was conducted using an experimental method with a Completely Randomized Design (CRD) consisting of 5 treatments and 4 replications. The treatments matriconditioning used were without matriconditioning, husk ash, husk charcoal, rice husk, and sawdust. Observations made were seed water content, moisture content of media matriconditioning, germination capacity, maximum growth potential, first count germination, index value, normal weight of dry sprouts, soil emergence test, radicle and plumule length. The observational data were analyzed with an F test of 5% and if significantly different, it was continued with the Duncan New Multiple Range Test (DNMRT) at 5%. The results showed that matriconditioning using sawdust was able to increase viability from 52.67% to 67.50% and vigor with soil emergence test from 39% to 67.50%, but had not yet achieved good viability because the germination rate had not reached 80%.

Keywords: *soybean, matriconditioning, invigoration, deterioration, viability, vigor*