

ABSTRACT

THE EFFECT OF PACKAGING TYPE AND STORAGE DURATION IN ROOM TEMPERATURE ($\pm 28^{\circ}\text{C}$) ON THE VIABILITY OF BEAN SEEDS (*Phaseolus vulgaris* L.)

By

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During storage, bean seeds (*Phaseolus vulgaris* L.) will continue to experience viability decline. One effort to slow down the rate of decline is the use of appropriate packaging materials. This study aims to determine the type of packaging that can maintain high bean seed viability during the storage period of 0-8 months at room temperature of approximately $\pm 28^{\circ}\text{C}$. The research was conducted at the Seed and Plant Breeding Laboratory, Faculty of Agriculture, Lampung University, from September 2020 to May 2021. This study used three types of packaging treatments: aluminum foil (AF), black plastic (PH) polyethylene, and transparent plastic (PB) polypropylene, applied in a Complete Randomized Block Design (CrBD) with five replications. Data analysis was conducted using regression analysis with Sigma Plot 12.0 software to express the equation $\hat{y}=f(x)$ and the Student's t-test to compare the mean viability of bean seeds from 0-8 months. The results of the study indicate that the comparison of linear coefficient (b_i) and mean of each viability variable showed no significant difference between packaging types. In fact, there was a higher decline in viability in black plastic packaging between 4-8 months, ranging from 74.24% to 48.48%. The type of aluminum foil packaging can create the highest viability of bean seeds

up to 8 months (81.5%), clear plastic packaging up to 6 months (81.2%), and black plastic up to 2 months (87.12%).

Keywords: viability, packaging, storage duration, aluminum foil, bean seeds

ABSTRAK

PENGARUH JENIS KEMASAN DAN LAMA SIMPAN DALAM RUANG BERSUHU KAMAR ($\pm 28^{\circ}\text{C}$) PADA VIABILITAS BENIH BUNCIS (*Phaseolus vulgaris* L.)

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Selama masa penyimpanan, benih buncis (*Phaseolus vulgaris* L.) akan terus mengalami kemunduran viabilitas. Salah satu upaya untuk memperlambat laju kemunduran adalah penggunaan bahan pengemas yang tepat. Penelitian ini bertujuan untuk mengetahui jenis kemasan yang dapat menciptakan viabilitas benih buncis tinggi selama periode simpan 0-8 bulan dalam ruang bersuhu kamar $\pm 28^{\circ}\text{C}$. Penelitian dilaksanakan di Laboratorium Benih dan Pemuliaan Tanaman, Fakultas Pertanian, Universitas Lampung dari bulan September 2020 sampai bulan Mei 2021. Penelitian ini menggunakan perlakuan tiga jenis bahan kemasan yaitu aluminium foil (AF), plastik hitam (PH) polietilena, dan plastik bening (PB) polipropilena, yang diterapkan dalam rancangan kelompok teracak lengkap (RKTL) dengan lima ulangan. Analisis data menggunakan analisis regresi dengan bantuan perangkat lunak Sigma Plot 12.0 untuk menyatakan persamaan fungsi $\hat{y}=f(x)$ dan uji-t Student untuk membandingkan rerata viabilitas benih buncis 0-8 bulan. Hasil penelitian menunjukkan bahwa perbandingan koefisien garis lurus (b_i) dan rerata setiap variabel viabilitas menunjukkan tidak berbeda nyata antarjenis kemasan. Secara faktual terjadi kemunduran viabilitas lebih tinggi pada jenis kemasan plastik hitam antara 4-8 bulan yaitu dari 74,24%- 48,48% . Jenis

kemasan aluminium foil mampu menciptakan viabilitas benih buncis tertinggi sampai 8 bulan (81,5%), kemasan plastik bening sampai 6 bulan (81,2%) dan plastik hitam sampai 2 bulan (87,12%).

Kata kunci: aluminium foil, benih buncis, kemasan, lama simpan, viabilitas