

**INVIGORASI BENIH KAKAO (*Theobroma cacao* L.) MELALUI
KOMBINASI MEDIA SIMPAN + PEG 6000 DAN ZAT PENGATUR
TUMBUH (ZPT) TERHADAP PERKECAMBAHAN DAN
PERTUMBUHAN BIBIT**

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ABSTRAK

Kakao (*Theobroma cacao* L.) merupakan komoditas perkebunan penting di Indonesia, namun benihnya bersifat rekalsitran sehingga daya simpannya pendek dan viabilitasnya cepat menurun. Penelitian ini bertujuan menentukan kombinasi media simpan+PEG 6000 dan zat pengatur tumbuh, menentukan media simpan serta menentukan zat pengatur tumbuh yang terbaik terhadap perkecambahan dan pertumbuhan bibit kakao. Penelitian dilaksanakan bulan Januari-Maret 2026 dengan penyimpanan benih di Laboratorium Pemuliaan Tanaman dan Teknologi Benih, serta perkecambahan dan penanaman polybag di *Green house*, Fakultas Pertanian UPN Veteran Yogyakarta. Penelitian menggunakan Rancangan Faktorial (3x3) + 1 Kontrol (Tanpa media simpan dan tanpa ZPT), dengan Rancangan Acak Lengkap (RAL). Faktor pertama adalah media simpan yaitu *cocopeat*+PEG 6000, serbuk gergaji+PEG 6000, serta sarang sekam+PEG 6000 dan faktor kedua adalah zat pengatur tumbuh yaitu tanpa ZPT, GA3, GA3+NAA. Data yang diperoleh dianalisis menggunakan *Analysis of Varians* (ANOVA) dan diuji lanjut menggunakan *Duncan Multiple Range Test* (DMRT) taraf 5%. Perbedaan kontrol dan perlakuan dianalisis dengan *metode ortogonal kontras* (MOT) taraf 5%. Hasil analisis data kombinasi terbaik pada perlakuan arang sekam+PEG 6000 dan tanpa zat pengatur tumbuh terhadap parameter potensi tumbuh maksimum. Perlakuan media simpan *cocopeat*+PEG 6000 memberikan perkecambahan dan pertumbuhan bibit kakao terbaik. Perlakuan zat pengatur tumbuh GA3 memberikan perkecambahan dan pertumbuhan bibit kakao terbaik.

Kata kunci: GA3, invigorasi, kakao, media simpan, NAA, PEG 6000.

**INVIGORATION OF COCOA SEEDS (*Theobroma cacao* L.)
THROUGH A COMBINATION OF STORAGE MEDIA + PEG 6000 AND
PLANT GROWTH REGULATORS (PGR) ON GERMINATION AND
SEEDLING GROWTH**

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ABSTRACT

Cocoa (*Theobroma cacao* L.) is an important plantation crop in Indonesia; however, its seeds are recalcitrant, resulting in a short storage life and a rapid decline in viability. This study aimed to determine the optimal combination of storage medium + PEG 6000 and plant growth regulator, to identify the most suitable storage medium. The study was conducted from January to March 2026, with seed storage at the Plant Breeding and Seed Technology Laboratory, and germination and polybag planting in the greenhouse at the Faculty of Agriculture, UPN Veteran Yogyakarta. The study employed a Factorial Design (3x3) + 1 Control (without storage medium and plant growth regulator), using a Completely Randomised Design (CRD). The first factor was the storage medium, namely cocopeat + PEG 6000, sawdust + PEG 6000, and rice husk + PEG 6000, and the second factor was the plant growth regulator, namely no PGR, GA3, and GA3 + NAA. The data obtained were analysed using Analysis of Variance (ANOVA) and further tested using Duncan's Multiple Range Test (DMRT) at the 5% level. Differences between the control and treatments were analysed using the orthogonal contrast method (OCM) at the 5% level. Results of the analysis of the best combination of treatments involving rice husk charcoal + PEG 6000 and no growth regulator on the parameter of maximum growth potential. The treatment using cocopeat + PEG 6000 as the growing medium produced the best germination and growth of cocoa seedlings. The treatment using the growth regulator GA3 produced the best germination and growth of cocoa seedlings.

Keywords: Cocoa, invigoration, storage media, GA3, NAA PEG 6000.