

## **ABSTRAK**

### **PENGARUH KOMBINASI LAMA PERENDAMAN AIR PANAS DAN AUKSIN TERHADAP PERKECAMBAHAN BENIH AREN (*Arenga pinnata* Merr.)**

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Tanaman aren (*Arenga pinnata* Merr.) memiliki nilai ekonomi tinggi, namun budidayanya terhambat oleh rendahnya tingkat perkecambahan akibat dormansi fisik kulit benih yang tebal dan keras. Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi lama perendaman air panas dan auksin terhadap perkecambahan benih aren. Metode eksperimental dilakukan menggunakan Rancangan Acak Lengkap (RAL) non-faktorial dengan 9 kombinasi perlakuan durasi perendaman air panas (20, 30, 40 menit) dan auksin (10, 20, 30 menit) yang diulang sebanyak tiga kali. Data dianalisis menggunakan sidik ragam dan dilanjutkan dengan Uji Jarak Berganda Duncan pada taraf nyata 5%. Hasil penelitian menunjukkan bahwa kombinasi perlakuan berpengaruh terhadap persentase perkecambahan, indeks vigor, dan panjang plumula, namun tidak berpengaruh terhadap laju perkecambahan dan panjang akar. Perlakuan terbaik diperoleh pada kombinasi perendaman air panas selama 30 menit dan auksin selama 20 menit yang menghasilkan persentase perkecambahan sebesar 68,00% dan indeks vigor 0,35. Hasil penelitian dapat disimpulkan bahwa kombinasi durasi tersebut paling efektif untuk mematahkan dormansi benih aren dan disarankan penelitian lebih lanjut mengenai penggunaan teknik skarifikasi tambahan.

Kata Kunci: Air panas, aren, auksin, dormansi, perkecambahan.

**ABSTRACT**

**THE EFFECT OF COMBINED HOT WATER SOAKING DURATION AND  
AUXIN ON ARENGA PALM (*Arenga pinnata* Merr.)  
SEED GERMINATION**

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The arenga palm plant holds significant economic value, yet its cultivation is often hindered by low germination rates caused by physical dormancy from its thick and hard seed coat. This study aimed to determine the effect of combining hot water soaking duration and auxin application on breaking the dormancy of arenga palm seeds. The experimental method used a non-factorial Completely Randomized Design (CRD) consisting of 9 treatment combinations of hot water soaking (20, 30, and 40 minutes) and auxin immersion (10, 20, and 30 minutes), replicated three times. Data were analyzed using analysis of variance (ANOVA) and followed by Duncan's Multiple Range Test (DMRT) at a 5% significance level. The results indicated that the treatment combinations affected germination percentage, vigor index, and plumule length, but had no significant effect on germination rate or root length. The most effective treatment was the combination of 30 minutes of hot water soaking and 20 minutes of auxin immersion, which yielded the highest germination percentage of 68.00% and a vigor index of 0.35. It can be concluded that this combination of treatment durations was the most effective in breaking the dormancy of arenga palm (*Arenga pinnata*) seeds. Further studies are recommended to evaluate the effectiveness of additional scarification techniques in improving seed germination.

Keywords: Arenga palm, auxin, dormancy, germination, hot water.