

**PENGARUH LAMA PERENDAMAN DAN KONSENTRASI
KALIUM NITRAT (KNO_3) TERHADAP VIABILITAS
BENIH KOPI ROBUSTA (*Coffea canephora*)**

SKRIPSI



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ABSTRAK

Kopi Robusta membutuhkan waktu yang cukup lama untuk berkecambah karena memiliki kulit biji yang keras sehingga air dan oksigen sulit menembus kulit biji yang menyebabkan proses perkecambahan menjadi terhambat. Oleh karena itu, diperlukan cara untuk mempercepat perkecambahan kopi Robusta yaitu dengan melakukan pengupasan kulit biji yang keras dan melakukan perendaman benih kopi dalam larutan kalium nitrat (KNO_3). Penelitian ini bertujuan untuk mengetahui interaksi antara lama perendaman benih dalam KNO_3 dan konsentrasi KNO_3 terhadap viabilitas benih kopi Robusta, mendapatkan lama perendaman yang terbaik terhadap viabilitas benih kopi Robusta dan mendapatkan konsentrasi kalium nitrat yang terbaik terhadap viabilitas benih kopi Robusta. Penelitian dilaksanakan di Laboratorium Teknologi Benih Kampus III UNAND Dharmasraya pada bulan September sampai dengan November 2022. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan dua faktor perlakuan. Faktor pertama adalah konsentrasi kalium nitrat dengan 4 taraf yaitu 0 %, 1,0 %, 2,0 % dan 3,0 %, faktor kedua yaitu lama perendaman dengan 3 taraf yaitu 24 jam, 36 jam dan 48 jam. Parameter pengamatan adalah *first count test*, daya kecambah benih, potensi tumbuh maksimum, panjang plumula dan radikula. Hasil penelitian menunjukkan bahwa terdapat interaksi antara lama perendaman benih kopi Robusta dalam KNO_3 dan konsentrasi KNO_3 terhadap viabilitas benih kopi Robusta pada parameter *first count test*. Lama perendaman terbaik yaitu pada perendaman 24 jam yang berpengaruh terhadap persentase benih hidup, potensi tumbuh maksimum, panjang akar primer dan plumula benih kopi Robusta. Konsentrasi kalium nitrat yang terbaik yaitu 2,0 % yang berpengaruh meningkatkan daya kecambah benih, benih hidup, potensi tumbuh maksimum, panjang akar primer dan plumula benih kopi Robusta.

Kata kunci : Benih, Interaksi, Perkecambahan, Plumula, Radikula

THE EFFECT OF SOAKING TIME AND POTASSIUM NITRATE(KNO_3) CONCENTRATION ON THE VIABILITY OF ROBUSTA COFFEE (*Coffea canephora*) SEEDS

ABSTRACT

Robusta coffee requires a long time to germinate because it has a hard seed coat so it is difficult for water and oxygen to penetrate the seed coat which causes the germination process to be obstructed. Therefore, need a effort to accelerate the germination of Robusta coffee, by stripping the hard seed coat and soaking the coffee seeds in a potassium nitrate (KNO_3) solution. The objectives of this research were to determine the interaction between the seeds soaking duration in KNO_3 and the concentration of KNO_3 on the viability of Robusta coffee seeds, to get the best soaking duration on the viability of Robusta coffee seeds and to get the best concentration of potassium nitrate on the viability of Robusta coffee seeds. This research was carried out at the Seed Technology Laboratory, the 3rd Campus UNAND Dharmasraya from September until November 2022. This research used a Completely Randomized Design (RAL) with two treatment factors. The first factor is the concentration of potassium nitrate with 4 levels, i.e., 0 %, 1,0 %, 2,0 % and 3,0 %, the second factor is the soaking duration with 3 levels, i.e., 24 hours, 36 hours and 48 hours. Observation parameters were first count test, seed germination capacity, maximum growth potential, plumule and radicle length. The results of this research showed that there was an interaction between the soaking duration Robusta coffee seeds in KNO_3 and the concentration of KNO_3 on the viability of Robusta coffee seeds in the first count test parameters. The best soaking duration was 24 hours which affects the percentage of live seeds, maximum growth potential, length of primary radicle and plumules of Robusta coffee seeds. The best concentration of potassium nitrate was 2,0 % which has the effect of increasing seed germination, seed viability, maximum growth potential, length of primary radicle and plumules of Robusta coffee seeds.

Key words: Seed, Interaction, Germination, Plumule, Radicle