

Emi Kholishotul Mafazah. (190311100055). Pengaruh Lama Perendaman dalam ZPT Auksin Terhadap Pertumbuhan Awal Benih Jagung (*Zea mays* L.) Kedaluwarsa. Dibimbing Oleh: Ir. Sinar Suryawati, M.Si dan Ir. H. Suhartono, M.P

ABSTRAK

Salah satu faktor yang menyebabkan penurunan produksi jagung (*Zea mays* L.), yaitu viabilitas benih yang rendah. Rendahnya viabilitas benih disebabkan terjadinya kemunduran benih akibat lamanya penyimpanan yang melebihi batas masa simpan yang berlaku. Oleh karena itu, diperlukan perlakuan terhadap benih kedaluwarsa sebelum tanam untuk meningkatkan pertumbuhan awal benih jagung. Penelitian ini bertujuan untuk mengetahui pengaruh lama perendaman dalam zat pengatur tumbuh (ZPT) auksin konsentrasi 2 mL/l terhadap pertumbuhan awal benih jagung kedaluwarsa 4 bulan. Penelitian dilaksanakan pada bulan Januari sampai April 2023, menggunakan rancangan acak lengkap yang terdiri dari 5 taraf perlakuan lama perendaman (0, 2, 4, 6, 8 jam) menggunakan ZPT auksin konsentrasi 2 mL/l. Data hasil pengamatan di analisis menggunakan Analysis of Varians dan Duncan Multiple Range Test taraf 5%. Penelitian dilakukan dua tahap, yaitu uji kecambah metode UKDdp (uji kertas digulung didirikan dengan plastik) selama 7 HST dan uji lapang pada polybag selama 40 HST. Hasil penelitian menunjukkan perlakuan lama perendaman berpengaruh nyata terhadap parameter daya berkecambah, potensi tumbuh, indeks vigor, dan panjang calon akar terpanjang berdasarkan uji kecambah metode UKDdp serta terhadap tinggi tanaman, jumlah daun tanaman, bobot kering daun, panjang akar terpanjang, bobot basah akar, bobot kering akar, bobot basah total tanaman dan bobot kering total tanaman. Perlakuan terbaik dihasilkan pada lama perendaman 2 jam.

Kata kunci: Jagung (*Zea mays* L.), lama perendaman, auksin.

Emi Kholishotul Mafazah. (1903111100055). Effect of Soaking Time in Auxin on Early Growth of Expired Corn (*Zea mays* L.) Seeds. Supervised By: Ir. Sinar Suryawati, M.Si and Ir. H. Suhartono, M.P

ABSTRACT

One of the factors that cause a decrease in corn (*Zea mays* L.) production is low seed viability. Low seed viability is caused by seed deterioration due to the length of storage that exceeds the applicable shelf life limit. Therefore, it is necessary to treat expired seeds before planting to increase the initial growth of corn seeds. This study aims to determine the effect of soaking time in auxin growth regulator (ZPT) at a concentration of 2 mL/l on the early growth of 4-month expired corn seeds. The research was conducted from January to April 2023, using a completely randomized design consisting of 5 levels of soaking time (0, 2, 4, 6, 8 hours) using 2 mL/l concentration of auxin ZPT. Observation data were analyzed using Analysis of Variance and Duncan Multiple Range Test at 5% level. The research was conducted in two stages, namely the UKDdp method sprout test (rolled paper test established with plastic) for 7 HST and field tests on polybags for 40 HST. The results showed that the soaking time treatment significantly affected the parameters of germination, growth potential, vigor index, and length of the longest prospective root based on the UKDdp method sprout test as well as on plant height, number of plant leaves, leaf dry weight, longest root length, root wet weight, root dry weight, total plant wet weight and total plant dry weight. The best treatment was produced at a soaking time of 2 hours.

Keywords: Corn (*Zea mays* L.), soaking time, auxin.