

Pengaruh Bahan Osmoconditioning PEG (Polyethylene Glycol) 6000 Terhadap Mutu Benih dan Pertumbuhan Vegetatif Benih Kedelai (*Glycine max* (L) Merrill) Kedaluwarsa. (*Effect of PEG (Polyethylene Glycol) 6000 as an osmoconditioning agent on seed quality and vegetative growth of outdated soybean (*Glycine max* (L) Merrill) seeds*).
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ABSTRACT

Invigoration is a treatment that can be used to improve the quality and viability of seeds that have suffered a setback. This research was conducted to determine the best treatment of osmoconditioning using PEG-6000 on soybean seeds of the Biosoy-1 variety. This research takes place at the Jember State Polytechnic, from November to December 2022. This study used a completely randomized factorial design (RALF) and factorial randomized block design (RAKF). There are two factors, namely the concentration of PEG-6000 (K) with 3 levels, namely K1 = 10%; K2= 15%; K3 = 20% and immersion time (P) with 2 levels, namely P1 = 6 hours and P2 = 12 hours. The data analysis used was the ANOVA test and continued with the BNT test at the 5% level. The results showed that the osmoconditioning invigoration treatment had an interaction with the imbibition intensity parameter on K1P2 (55.63), growth rate on K2P2 (15.45%), mean germination time (MGT) on K3P2 (5.04 days), plant height on the 14 hst K2P1 (13.77 cm), 21 hst K2P1 (18.23 cm), 28 hst (20.38 cm), stem diameter 14 hst K2P1 (1.51 mm), 21 hst K2P1 (2.80 mm), 28 hst K2P1 (3.08 mm). PEG-6000 concentration treatment gave the best results on K2 germination (60.38), K2 growth synchrony (16.63), K2 vigor index (21.50), number of leaves 14 hst K3 (7.35), 21 hst K3 (12.70), 28 hst K3 (19.45). All treatments had no effect on flowering age parameters.

Keywords: *Invigoration, Soybean, Osmoconditioning, PEG-6000*