

ABSTRAK

Cocoa plants are one of the best plantation crops in Indonesia which have an important role in national economic growth. Cocoa is classified as a recalcitrant seed, which is a seed that cannot be stored for long. One effort to increase the viability of cocoa seeds is by providing invigoration treatment. This study aims to determine the effect of the concentration of shallot extract on the viability of cocoa seeds, to determine the effect of the duration of soaking shallot extract on the viability of cocoa seeds to determine the interaction of concentration and duration of soaking shallot extract on the viability of cocoa seeds. This research was conducted on in West Reulet Village, Muara Batu District, North Aceh Regency. The research lasted for 1 month, namely October 2024. This study used an experimental method with a completely randomized design (CRD) factorial. Which consists of 2 factors and 3 replications. The first factor is the concentration

(K) of shallot extract which consists of 4 levels, namely 0%, 30%, 50%, 70%. The second factor is the soaking time (L) of shallot extract which consists of 3 levels, namely 6, 9, and 12 hours. Overall, there are 12 treatment combinations that are repeated 3 times with a total of 36 experimental units. The treatment of shallot extract concentration has no significant effect on maximum growth potential, germination power, vigor index and growth simultaneity. However, it has a significant effect on growth rate and also has a very significant effect on plant height on days 7, 14 and 21 HST, and the length of cocoa plant roots. The treatment of shallot extract duration has no significant effect on maximum growth potential, germination power, vigor index and growth simultaneity. However, it has a significant effect on growth rate and also has a very significant effect on plant height on days 7, 14 and 21 HST, and the length of cocoa plant roots. There is an interaction between the administration of concentration and the soaking time of shallot extract on the benchmark of vigor index and plant height on days 14 and 21 HST. The best concentration treatment was found in the concentration treatment (K3) 70%. The best soaking time treatment was found in the soaking time treatment (L1) 6 hours. From the results of this study, further testing is needed to determine the effect of concentration and soaking time of red onion extract with different seeds.

Keywords: ZPT, recalcitrant seeds, vigor