Peningkatan Mutu Benih dan Pertumbuhan Vegetatif Semangka (*Citrullus lanatus* L) Kedaluwarsa Melalui *Priming* dengan Beberapa ZPT Alami (*Improving Seed Quality and Vegetative Growth of Watermelon (Citrullus lanatus* L*) Expiration Through Priming with Several Natural PGRs*) *Supervisor*: Putri Santika, S.ST, M.Si

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ABSTRACT

Watermelon (Citrullus lanatus L) is one of the fruits that is very popular with Indonesian people, but there are still watermelon seeds whose needs are not optimized so they are entering the expiry period and reducing the quality of watermelon seeds. This research aims to obtain organic growth regulators that can improve the quality of expired watermelon seeds by priming so that they can produce good germination. The research was carried out in September-December 2023 at Jember State Polytechnic. This research used a factorial Completely Randomized Design (CRD), with 2 factors repeated 3 times. Factor 1 is the age of the seeds (K) which consists of (K0) the watermelon seeds have not expired and (K1) the watermelon seeds have expired 8 months. Factor 2 is several organic PGRs, (Z0) soaking without treatment for 24 hours, (Z1) soaking with 15% tomato extract for 24 hours, (Z2) soaking with 15% young corn extract for 24 hours, and (Z3) soaking with 75% young coconut water for 24 hours. Data analysis uses the F test formula (ANOVA) and further tests use (BNT) with an error rate of 5%. The results showed that (Z3) 75% coconut water for 24 hours had a real effect on germination capacity, vigor index, maximum growth potential, growth speed, growth simultaneity, and hypocotyl length. Z3 treatment was able to increase the germination capacity of expired seeds by 25% from 72% to 97%.

Keywords*: Watermelon, Priming, Tomato Extract, Corn Extract, Coconut Water Extract*