

ABSTRACT

The soursop plant (*Annona muricata* L.) is a plant that originates from the American continent, especially in areas that have a tropical climate, and is a plant that has fruit with a fairly high content of vitamins B and C. Propagation through seeds has an obstacle, namely soursop seeds require a long time to germinate or is called seed dormancy. The level of fruit maturity is one of the factors that can determine the quality of a seed. Soaking with KNO_3 can also speed up the seed germination process. This research was conducted at the Agroecotechnology Laboratory, Faculty of Agriculture, Malikussaleh University from January to March 2024. The research used a Completely Randomized Design (CRD) with a factorial pattern, consisting of two factors with three replications. The first factor of fruit maturity level consists of immature (T1), physiologically ripe (T2), overripe (T3). The second factor of KNO_3 immersion concentration consists of K0 (control), K1 (0.3%), K2 (0.4%), and K3 (0.5%). The results showed that there was no interaction between the maturity level treatment and the KNO_3 immersion concentration on all the variables observed. Maturity level treatment influences maximum growth potential, germination capacity, growth simultaneity, growth speed, and vigor index. The level of physiological ripeness of fruit gives the best value for all observation variables. The KNO_3 immersion concentration treatment affected the variables of maximum growth potential, germination capacity, growth simultaneity, growth speed, vigor index and dry weight. The KNO_3 immersion concentration of 0.4% was the best treatment for all the variables observed.

Key words: Dormation, KNO_3 Soaking Concentration, Maturity Level, Viability, Vigor.