

**Bioplastic Coating and Storage Period Application on Biochemical and Physiological Components of Peanut (*Arachis hypogaea* L.) Seeds**

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***ABSTRACT***

*Peanut are one of the legume commodities that are widely used as food because the high nutritional content. Fat content could trigger the deterioration rate due to the oxidation process during storage. Peanut seeds stored in pod form have bulky and voluminous properties causing an increase in seeds weight and volume. The objective of this research was to study the effectiveness of tapioca bioplastic coating on the peanut seeds to maintain biochemical and physiological components of peanut seeds during 12 weeks storage as effort to reduce the deterioration rate and find alternative replacement for peanut seeds pods which are bulky and voluminous. The research was conducted in state Polytechnic of Jember from September 2023 to February 2024. This research used a factorial completely randomized design which consist two factors. First factor was tapioca bioplastic coating consists of without coating (P0), 5% of tapioca bioplastic coating (P1), and 10% of tapioca bioplastic coating (P2). Second factor was storage period consists of 6 weeks storage (S1) and 12 weeks storage (S2). The result showed that the peanut seeds with 5% of tapioca bioplastic was able to keep moisture content, seed germination, growth speed, vigor index, and maximum growth potential for 12 weeks. Thenever, peanut seeds without coating showed higher result than peanut that treated by tapioca bioplastic coatings. Test results using GC-MS during 12 weeks storage period (S2) showed that the higher the tapioca concentration in the seed coating, the more palmitic acid is accumulated and the less oleic acid is accumulated.*

*Keywords: bioplastic coating, storage periode, peanut*