

## **ABSTRACT**

### **FLAVONOID AND POLYPHENOL TEST ON NANOENCAPSULATED PURPLE SWEET POTATOES LEAVES EXTRACT (*Ipomoea batatas* L.) ANTIN-3 VARIETY**

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*Antin-3 leaves contain flavonoids and polyphenols as alternative natural antioxidants are unstable to the effects of temperature and light intensity so that they are easily oxidized. Chitosan nanoparticles are nanoparticles that are often used through the coating process. The study was conducted to determine the differences in the levels of nano-encapsulated flavonoids and polyphenols in Antin-3 leaf extract, which was then made into nanoencapsulation form using the ionic gelation method and testing for total flavonoids and polyphenols using spectrophotometry. UV-Vis. Antin-3 leaf extract flavonoid test results (30.6026 ±2.978257 mg QE/g) nanoencapsulation of Antin-3 leaf extract (30.0384±1.5895 mg QE/g). The results of the Independent Sample t test showed a result of sig.0,787 ≥ 0,05 that there was no difference in total flavonoid content between the Antin-3 leaf extract and the nanoencapsulation Antin-3 leaf extract. Test results for polyphenol content of Antin-3 leaf extract (385.42±3.08831 mg GAE/g) nanoencapsulation of Antin-3 leaf extract (86.82 ±8.96625mg GAE/g The results of the Mann-Whitney U test showed a result of sig.0,046 ≤ 0,05 that there was a difference in total polyphenol levels between the Antin-3 leaf viscous extract and the nanoencapsulation Antin-3 leaf extract. In the study of the polyphenol content between Antin-3 leaf extract and Antin-3 leaf extract nanoencapsulation, there was a possibility that the polyphenolic components trapped in the nanoencapsulation compared to the flavonoids. It is necessary to prove the total levels of flavonoids and polyphenols in the viscous extract of Antin-3 leaves and the nanoencapsulation of Antin-3 leaf extract by calculating the entrapment efficiency.*

**Keyword :** *sweet potato leaves, nanoencapsulation, flavonoids, polyphenols*