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Functional Properties of Starch from Garut (*Maranta arundinacea*) Tubers Using Microwave Assisted Extraction (MAE)

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Abstract. Arrowroot tuber is of type of tubers that is so far still cultivated widely by community. This tuber provides quite high starch in the rhizome. In addition, this tuber also contains functional compounds that become the source of polyphenols and have the function as antioxidants. Functional compounds from tuber starch can be preserved for long time if the extraction process is carried out properly. One of the modern extraction methods that can be used to extract this starch is Microwave Assisted Extraction (MAE). This extraction does not need heat to work but it uses electromagnetic waves instead.

This study used a completely randomized design (CRD) employing 5 treatments, namely the length of the extraction and 3 replications, and as the control variable was the extraction done without using MAE. For further tests, they were carried out by using Duncan's New Multiple Range Test (DNMRT) at a 5% significance level, and the observation was carried out by using WHC, OHC, swelling and solubility. Based on the research results, the value of WHC, OHC, swelling and solubility increased.

Keywords: starch, MAE, functional, tuber

CERTIFICATE OF ACHIEVEMENT



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