

## **ABSTRACT**

### **THE STUDY OF PHYSICOCHEMICAL CHARACTERISTIC ON NIXTAMAL CORN FLOUR AND IT'S APPLICATION AS RAW MATERIAL OF TORTILLA CHIPS**

**By**

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This research was conducted to improve the quality of corn flour, through nixtamalization process. Then it was followed by application of nixtamalization in the processing of tortilla chips as an effort to reduce the processing time of tortilla chips. This research consisted of two stages which were conducted separately. The first stage was conducted as factorial in a complete randomized block design with two factors and three replications. The first factor was a type of corn and the second factor was the steeping time. The second stage was conducted as factorial in a complete randomized design with single factors and four replications. The treatment was a type of raw material of nixtamal corn flour, consisted of six levels.

The results showed the steeping time significantly the water, amylose contents and water absorption of nixtamal corn flour. The type of corn only significantly affected the water absorption of nixtamal corn flour. The interaction between

steeping time and type of corn to amylose contents and water absorption of nixtamal corn flour. Microscopic visualisation with 1000 time magnification showed that the shape of nixtamal corn flour starch granule were varied from polygonal to oval. The solubility values of nixtamal corn flour were between 2.5 to 15.2% with the highest solubility value was Madura corn with 24 hours steeping time (4.9 - 15.2%). The swelling power values were between (2.094 - 11.637%) with the highest value was Lampung corn with 24 hours steeping time (3.336 - 11.637%). The results showed that the longer steeping time, the higher the water absorption of nixtamal Lampung corn flour. The tortilla chips, processed from nixtamal corn flour steeped 24 hour had the same quality with tortilla chips made from fresh nixtamal.

Key words: corn flour, tortilla chips, nixtamalization, steeping time.