AN EVALUATION OF THE BREWING ATTRIBUTES OF MAIZE (ZEA MAYS)

Olaniyi Jacob Olugbenga and Folorunsho Aberuagba*

Department of Chemical Engineering, School of Engineering and Engineering Technology, Federal University of Technology, PMB. 65, Minna, Niger State, Nigeria

ABSTRACT

An evaluation of the brewing attributes of maize was investigated, with the aim of providing the best substitute for barley which is an expensive and scarce ingredient in brewing industry, particularly in the tropics. White maize kernels (sourced from Minna central market, Nigeria) were malted to activate amylase enzymes in the grains, and the malted grains were subjected to non enzymatic mashing process. Analysis of the selected physico-chemical parameters of the resulting samples were carried out using standard analytical methods. The malting analysis showed that maize has 98 % germinative power, 99.0 % germinative capacity and 0.91 % per hour water uptake characteristics. The maize malt was found to have moisture content of 8.05 %, a diastatic power of 28.2 °Lintner, crude protein of 10.03 %, fat (ether extract) content of 1.82 %, malting loss of 4.02 %, nitrogen content of 1.7 %, and carbohydrate content of 80.07 %. On mashing, analysis of the wort obtained shows that it has the following characteristics; good clarity, pH of 5.61, colour of 8.5 EBC, gravity of 4.15 °Plato, humid and dry extract yields of 35 % and 38 % respectively. The study revealed that maize is endowed with good brewing attributes, and can be substituted for barley effectively, but requires the use of external source of amylase enzymes as supplement to its enzymatic power; and a reduction of the malted maize moisture content to curb slack characteristics.

Keywords: Brewing, attributes, maize

*Corresponding author

Email: folorunshoaberuagba@yahoo.com

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