Physiochemical, Microbial and Sensorial properties of “Kisra” made from fresh Sorghum paste and “Kulcap”: A comparative study

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Fermented cereals play a significant role in human nutrition in all parts of the world which started spontaneously or there have been traditional techniques developed in order to keep starter cultures for these processes alive. The aim of the study is to investigate approximate analysis (Moisture, Fat content, Protein content, Crude fiber, Ash, Total Carbohydrates) and Physiochemical analysis (pH and Acidity) of dry sorghum dough starter “Kulcap” (dried traditional sorghum starter) and “Khammar” (wet traditional sorghum starter).

The experiment was laid out in a complete randomize design of two treatments replicated three times. The source of sorghum “White sorghum flour” was obtained from “Dal company” products, Sudan and wheat flour “al-awwal” was obtained from “Dal company” products, Sudan. The water was obtained from clean tape water boiled for several minutes. The traditional wet sorghum starter “Khammar” and dry traditional starter “Kulcap” were prepared by from overnight back slope of sorghum dough.

The moisture content was determined according to the method described by AOAC (2005), total Carbohydrates calculated by difference according to Pearson (1976), the pH was measured according to method 14.022 of the Official Methods of AOAC (2000) and The acidity was examined according to the method described by Pearson chemical analysis of foods as cited by Egan *et al.*, (1981).

The results showed that the approximate analysis contain moisture content of wet starter “Khummar” (45.83) and “Kulucap” (11.22), fat content of “Khummar” (1.37) and “Kulucap” (4.48), protein content of “Khummar” (6.51) and “Kulucap” (18.92), crude fiber content “Khummar” (0.31) and “Kulucap” (0.95), ash content of “Khummar” (0.3) and “Kulucap” (1.01) and total carbohydrates content of “Khummar” (40.02), and “Kulucap” (57.73). And physiochemical analysis (pH, Acidity) showed that pH of wet “Khummar” (4.3) and dry sorghum Starter “Kulucap” was (4.17) and Acidity of wet “Khummar” (1.36) and dry sorghum Starter “Kulucap” was (1.52).

The results concluded that all approximate and physicochemical analysis except moisture and pH where highest in in dry starter compare to wet one.



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I am passionate about food technology since first lecture in university, additionally the factories experience guaranteed this tendency in me. I am enthusiastic, creative, and a great team player as well as leader, I am able for hardworking and i can also handle work under stressful conditions. Regarding my career, I am very committed to job ethical considerations. My career aim is to achieve professionalism and to such thing, i chase every possible opportunity to promote my knowledge. As i believed that food technology is not a just job, it is a way of life for me, Iam looking forward to gaining experience and delivering high-quality evidence-based care through research and development work. .