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Assessment of the cyanogenic potential, physico-chemical and microbiological quality of cassava flour produced in Ruhango and Kamonyi Districts

Nayabo A, Laswai H S and **Shayo N B**
University of Rwanda, Rwanda

Consumption of cassava products, which are not adequately processed, has been linked to diseases such as Konzo. The need to assess the cyanogenic potential, physio-chemical and microbiological quality of cassava flour in Kamonyi and Ruhango Districts was necessary. Flours from local processors of cassava and modern industries were screened for cyanogenic potential, physio-chemical and microbiological quality using official methods of analysis. The analytical results showed that the cyanogenic potential from wet processed cassava flours ranged between 0 and 10 ppm, which was within the EAC recommendations (10ppm). Cassava flour from chips (cocottes) processed by modern methods 1 and 2 had moisture content within the EAC recommendation of 13% (max). The results from local processing methods (1 and 2) showed high moisture content (19.3 – 26.2%) above that recommended by EAC. This explains the high microbial count (bacteria, 2.6 – 5.5 log CFU/g and coliforms, 2 – >1600 MPN/g) but fungal count was within the WFP recommend value of 5log CFU/g. The pH (6.19 – 7.49) and TTA (0 – 1.05%) for both methods (local and modern) indicated microbial activity taking place. The cyanide in cassava flour was within the permissible limit of less than 10 ppm, thus not a health problem. The microbiological quality of cassava flour in studied districts confirmed that the processing methods used did not follow the good hygienic practices and thus affecting safety of cassava flour. Use of tap water and modern driers for processing and close monitoring to ensure strict compliance is recommended.

e: nalice80@gmail.com