



## DRAFT TANZANIA STANDARD

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Microbiology of the food chain - Whole genome sequencing for typing and genomic characterization of bacteria - General requirements and guidance

TANZANIA BUREAU OF STANDARDS

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FOR STAKEHOLDERS' COMMENTS

## **0 National Foreword**

The Tanzania Bureau of Standards is the statutory national standards body for Tanzania, formally established by the Act.No.3 of 1975, which was amended and repealed by Act.No.2 of 2009.

This draft Tanzania standard is being prepared by the Microbiology Technical Committee, under the supervision of the Agriculture and Food Standards Divisional Committee (AFDC).

This draft Tanzania standard is the identical adoption of ISO 23418:2022- Microbiology of the food chain - Whole genome sequencing for typing and genomic characterization of bacteria - General requirements and guidance, published by International Organization for Standardization (ISO).

## **Terminology and conventions**

The text of the International standard is hereby being recommended for approval without deviation for publication as draft Tanzania standard.

Some terminologies and certain conventions are not identical with those used in Tanzania standards; attention is drawn especially to the following: -

- 1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use "full point" on the baseline as the decimal marker.
- 2) Where the words "International Standard" appear, referring to this draft standard they should read "Tanzania Standard".

## **1 SCOPE**

This document specifies the minimum requirements for generating and analysing whole genome sequencing (WGS) data of bacteria obtained from the food chain. This process can include the following stages:

- a) handling of bacterial cultures;
- b) axenic genomic DNA isolation;
- c) library preparation, sequencing, and assessment of raw DNA sequence read quality and storage;
- d) bioinformatics analysis for determining genetic relatedness, genetic content and predicting phenotype, and bioinformatics pipeline validation;
- e) metadata capture and sequence repository deposition; and
- f) validation of the end-to-end WGS workflow (fit for purpose for intended application).

This document is applicable to bacteria isolated from:

- products intended for human consumption;
- products intended for animal feed;
- environmental samples from food and feed handling and production areas; and
- samples from the primary production stage.