TITLE: PRESERVATION AND MAINTENANCE OF THE COLLECTION OF MICRO-ORGANISMS OF INTEREST FOR TROPICAL AGROINDÚSTRIA

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ABSTRACT:

Faced with the need for biotechnological and scientific development, the preservation and maintenance of biological materials have been gaining prominence in the world scenario. The guarantee of survival of cultures as well as the preservation of their morphological, physiological and genetic characteristics is paramount in the adequacy of methods of preservation of microbial cells. The present work aimed to evaluate the viability and morphological and biochemical characteristics of bacterial cultures belonging to the genera *Salmonella, Staphylococcus* and *Escherichia* kept in the Collection of Microorganisms of Interest for Tropical Agroindustry by the cryopreservation method (- 20 °C and - 80 °C). The strains were randomly selected and 740 samples were evaluated, 436 (58.9%) of *Salmonella,* 276 (37.3%) of *Staphylococcus* and 28 (3.8%) of *Escherichia*. For thawing, the samples were taken from the freezer and transferred to a temperature of 7 °C for a period of 18 hours and thereafter to room temperature. Aliquots of the samples were transferred to test tubes containing brain and heart infusion broth (BHI broth) and incubated at 35 ° C for 24 hours. Those that presented positive response were transferred to Petri plates containing selective and differential media for each genus. For Salmonella, Hektoen agar and xylose lysine deoxycholate agar (XLD agar) were used; For Staphylococcus and Escherichia, Baird Parker agar and methylene blue eosin agar (BEM) were used, respectively. The typical colonies developed were subjected to Gram staining to confirm purity and morphology. Subsequently, the samples were transferred to cryogenic tubes containing BHI broth added with 20% glycerol. Five subsamples were preserved for each microorganism, three at -80 ° C and two at -20 ° C. Of the total samples evaluated, 43% of the strains were viable and had preserved morphological and biochemical characteristics.

Keywords: conservation, culture collection, maintenance.

Development Agency: CNPq, Embrapa.