

BOVINE KIDNEY REFERENCE MATERIAL PREPARATION PROPOSAL TO BE USED IN QUALITY ASSURANCE OF CHEMICAL MEASUREMENTS IN MEAT PRODUCTS

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Quality assurance of chemical measurements is a very important issue, because appropriately accurate analytical information is a prerequisite for decision-making in many different areas of knowledge. The comparability of measurement results is a key requirement for both international trade, which requires that the necessary conditions for product certification and quality assurance measurements can be accepted globally, and for the implementation of international environmental and public health regulations. The use of reference materials is a fundamental tool in the achievement of this aim.

Focusing in the food production and consumption field, Brazil is the major exporter country of bovine meat in the world. On the other hand, the consumption of bovine meat per capita in Brazil is in the second place in the South American region.

Taking all this into account, it is evident the importance of preparing new reference materials with meat matrix in Brazil, to ensure the quality and safety of the products consumed by the population, to support the national industry and also to facilitate trade within the region.

In this context, a proposal for the preparation and certification of a new local reference material of bovine kidney was elaborated. The concentration of major and minor elements will be determined, as well as some parameters of nutritional interest as total fat and proteins.

The present work describes all the necessary steps to produce this material. Elements such as Ag, As, Ca, Cd, Co, Cr, Cu, Fe, Hg, Mg, Mn, Na, Pb, Se and Zn will be analyzed by the methods of Neutron Activation Analysis, NAA, and Atomic Absorption Spectrometry, AAS.

A test sample was prepared for a feasibility study and to test all the proposed steps. Some of the inorganic constituents were determined in this test sample in concomitance with Certified Reference Materials and the obtained results indicated the feasibility of the production and certification of the new kidney reference material.