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### *EVALUATION OF EXTRACTION EMPLOYING TETRAMETHYLAMMONIUM HYDROXIDE FOR TRACEABILITY OF BRAZILIAN MEAT*

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Bovine traceability is an important tool for the control of quality of the meat. It can assist in the identification of disease outbreaks, well-being of creation, fraud control and still ensure the origin of meat, adding value to the product in front of a consumer market increasingly demanding. This work was to objective the applicability of extractions employing tetramethylammonium hydroxide (TMAH) and scanning spectral m/z using inductively coupled plasma mass spectrometry (ICP-MS) for possible applicability using chemometrics in the control of traceability. For optimization of system a factorial design 2<sup>4</sup>, with a total of sixteen experiments were performed with the use of NIST 8414 - Bovine Muscle Powder certified reference material. The sample mass varied from 0.050 (normalized -1) and 0.075 g (normalized +1). The volume of TMAH varied from 1.0 (-1) to 2.0 mL (+1) and the TMAH concentration changed 6.25 (-1) to 12.5 % (+1). The extraction time with agitation changed from 1 (-1) to 6 (+1) hours, in order to evaluate the recuperation of As, Ba, Co, Cd, Mo, Sr, Se and Pb using ICP-MS. Spectral scans were performed (0-300 m/z) with analytical blank and samples. After evaluation, the generated spectra will be used as the basis to propose the chemometrics model (construction and validation) for forecast of samples of unknown origin. The sample preparation methodology has proved to be adequate for the proposed procedure, which employ a huge number of samples.

A fast method for the determination of 16 elements in hair samples by inductively coupled plasma mass spectrometry (ICP-MS) with tetramethylammonium hydroxide solubilization at room temperature. *Journal of Analytical Atomic Spectrometry*, v. 23, p. 992-996, 2008.