

TIPST 25

Evaluation of LIBS Technique, in the Detection of Heavy Metals in Tilapia (*Oreochromis niloticus*)

M. Sosa, T. Flores
Centro de Investigación en Ciencia Aplicada y Tecnología Avanzada, Unidad Altamira.
Instituto Politécnico Nacional
Km. 14.5 Carretera Tampico-Puerto Industrial Altamira, Altamira Tamaulipas C.P. 89600
marce.882009@hotmail.com

ABSTRACT

We present experimental results of the analysis by LIBS technique for the sampling of elements in freshwater fish tilapia species. As excitation source, we used a Nd: YAG laser emitting in multi-pulse Q:Switch regime. In our results, the LIBS spectra taken in the scales, shows abundance of K, Ca, Ba and C, as well as a strong emission for molecular C-C bands. In contrast, for the spectra taken in the skin, we see an intense emission of Fe and also strong H emission related to the water. Finally, also in the skin, an intense emission is detected in the 500.54 nm line related to Pb. which allows in principle, to check quickly and in-situ, the presence of this contaminant in this food product.

Key words: LIBS, Nd:YAG, Multi-pulse, Q:Switch, Tilapia.