

## **GAMMA RAY STERILIZATION STUDY ON A *Perna perna* MUSSEL REFERENCE MATERIAL**

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In monitoring programs that use bivalve mollusks as bioindicators, the use of validated analytical methods is fundamental if reliable and meaningful results are to be obtained. The practical approach for assessing the accuracy of analytical methods is the analysis of appropriate certified reference materials along with the unknown samples. One of the responsibilities of biological certified reference material producers is to guarantee the stability of the material, in order to assure that the certified value of the property of interest is constant during the validity of the material. The purpose of this study was to define the most suitable gamma ray dose for the sterilization of a new *Perna perna* reference material under preparation at IPEN - CNEN/SP. Subsamples of the material were irradiated with 1, 2, 3, 4, 5, 15, 25, 30 and 50 kGy gamma ray doses. The microbiological loads of the irradiated subsamples and of a non-irradiated control subsample were investigated in Petri dishes inoculated with diluted suspensions of the material, after a 1-week incubation period at 20°C. A  $3.3 \times 10^3$  cfu/g microbiological load was observed for the non-irradiated material, while for the 3 kGy dose, a 9 cfu/g was observed, indicating the efficiency of gamma ray irradiation for the sterilization of the mussel reference material, at least for the microorganisms that developed in the used culture medium. A 0.97 kGy decimal reduction value was observed and it was concluded that a 5 kGy dose is suitable for the sterilization of the mussel material, at a 1-log security assurance level.

Seções:

Bioindicadores

Contaminantes: análise, dispersão e especiação

Ecotoxicologia Aquática

Das seções acima, acho que a “Contaminantes...” é a mais adequada para esse trabalho, o que acham?