Extended Abstract

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Evaluation of the Radioprotective efficacy of feed enriched with Spirulina against gamma radiation in freshwater fish (Pangasius sutchi)

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Exposure of radiation leads to cell death and also leads to cancer. Compare to other toxicants, ionizing radiation is especially challenging because contaminated animals cannot be definitively identified without the use of specialized detection equipment. Since radionuclides released accidentally or during a nuclear disaster can contaminate inland water bodies, biomonitoring methods are required for assessing the impacts of high and low levels of radiation that may ultimately result in ionization radiation exposure to both human and non-human biota. The present study was conducted to investigate the radioprotective efficacy of Spirulina through feed in comparison with standard compound Silymarin (500 mg/kg) and Spirulina (cyanobacterium). The species Pangasius sutchi exposed to Gamma Radiations (60Co), at the dosage of LD50 and LD70 from the source of 60Co. Blood samples were collected at the differentperiod of time 2nd day, 4th day, 8th day, 16th day and 28th day and analyzed micronucleus assay. The abnormalities were observed as micronuclei, cytoplasmic bridge, cytoplasmic division, vacuolated cytoplasm, binucleated, lobed cell, enucleated and trinucleated cells. And no single base pair DNA damage has been observed in erythrocytes after different time intervals, by doing single cell gel electrophoresis. Furthermore research is needed in this study to determine the actual mechanism of radioprotection of Spirulina for the application as radioprotective agent.

Key words: Radiation, Radionuclides, Biomonitor, Silymarin, Spirulina, Micronucleus and Comet assay.