

## عنوان مقاله:

Effect of Electron Beam Irradiation on Viability of Sarcocystis spp. in Beef

## محل انتشار:

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## خلاصه مقاله:

Background: Sarcocystosis is one of the most distributed parasitic diseases over the world, caused by Sarcocystis spp. In this study, we assessed the effect of electron beam irradiation on the viability of Sarcocystis spp. in beef. Methods: Experimental beef groups were irradiated by four different electron beam doses of 1, 2, 3, and 4 kGy, at intervals of 0 and 24 h after irradiation, then the samples were transferred inside a sterile microtube containing RNAlater solution and stored at -20 °C till next steps. RNA extractions and cDNA synthesis were done using the related kit in order to detect the presence of the 18S ribosomal RNA region. Relative quantification was carried out using SYBR Green Real time Polymerase Chain Reaction. The statistical analysis was done using SPSS 16.0 by Tukey's and Kruskal-Wallis tests. Results: Irradiation at zero time was not effective on viability of Sarcocystis, but at 24 h, irradiation doses of 3 ( $p=0.003$ ) and 4 kGy ( $p=0.008$ ) caused a significant reduction in Sarcocystis viability. Irradiation doses of 1 and 2 kGy had no significant ( $p>0.05$ ) effect on Sarcocystis viability reduction. Also, no significant differences ( $p>0.05$ ) were observed between irradiation doses of 3 and 4 kGy. Conclusion: Electron beam radiation at dose of 3 kGy was effective as the optimal dose for the elimination of Sarcocystis spp. in beef. DOI: 10.18502/jfqhc.7.4.4846

## کلمات کلیدی:

Radiation, Sarcocystis, Red Meat, Survival, Microbial Viability, Real-Time Polymerase Chain Reaction

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