

Abstract Submitted  
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**Effect of x-rays of different wavelengths on the mortality of insects** RAMANINDER BRAR, JACOB URQUIDI, New Mexico State University — Sterile Insect Technique (SIT) has been successfully used to eradicate insect populations. Different sterilization methods, ranging from chemo-sterilization to genetically modified male-sterile mosquito strains have been used, though sterilization with ionizing radiation from radioisotopes is the method of choice for effective sterilization for most species. Irradiating can result in high mortality rates and a decrease in competitiveness. New protocols for sterilization are needed to achieve a high percentage of sterility with few detrimental effects reducing breeding fitness. We have investigated the effect of x-rays of varying wavelengths on x-ray sterilized mosquito males. Our results suggest that wavelengths used during irradiation have a significant impact on males' longevity. The longer wavelength exposure delivered by the copper target shows a substantially steeper death rate than that delivered by the molybdenum target (shorter wavelength). We are currently studying the effect of different wavelengths of fluorescence-induced x-rays on insect mortality, and designing a simple, safe, economical x-ray device for SIT in remote areas.

Ramaninder Brar  
New Mexico State University

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