

# Effect of Substerilizing Doses of Radiation on Sperm Precedence in Fall Armyworm (Lepidoptera: Noctuidae)

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## Abstract

The effect of radiation on sperm priority and mixing patterns in the fall armyworm, *Spodoptera frugiperda* (J. E. Smith), was studied by sequentially mating females with irradiated (100 and 150 Gy) and normal males. Progeny of irradiated males were identified by visible chromosomal aberrations in the testes. Twice-mated females produced more progeny fathered by irradiated males when irradiated males received a 100-Gy dose than when males received a 150-Gy dose, and exhibited incomplete last-male sperm precedence with extensive sperm mixing. Mating sequence had no significant effect on the number of oviposition days in which sperm mixing occurred. Also, the day of oviposition (days subsequent to the last mating) had no significant effect on