

**Title** Irradiation as a methyl bromide alternative for postharvest control of *Omphisa Anastomosalis* (Lepidoptera: Pyralidae) and *Euscepes Postfasciatus* and *Cylas formicarius elegantulus* (Coleoptera: Curculionidae) in sweet potatoes

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**Citation** Journal of Economic Entomology, 99(1) p. 32-37, 2006.

**Keywords** Pyralidae; Ipomoea batatas; Sweet taste; Roots; *Euscepes postfasciatus*; Vines; Pest control; Radiation; *Solanum tuberosum*; Curculionidae; Quarantine; Methyl bromide; Borers

### Abstract

Irradiation studies were conducted with three sweet potato, *Ipomoea batatas* (L.) Lam., pests to determine an effective dose for quarantine control. Dose-response tests indicated that the most radiotolerant stage occurring in roots was the pupa of sweetpotato vine borer, *Omphisa anastomosalis* (Guenee), and the adult of West Indian sweetpotato weevil, *Euscepes postfasciatus* (Fairmaire), and sweetpotato weevil, *Cylas formicarius elegantulus* (Summers). In large-scale confirmatory tests, irradiation of 60,000 *C. formicarius elegantulus* adults, 62,323 *E. postfasciatus* adults, and 30,282 *O. anastomosalis* pupae at a dose of 150 Gy resulted in no production of F sub(1) adults, demonstrating that this dose is sufficient to provide quarantine security.