

ABSTRACTS

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VIRULENCE OF SPANISH ENTOMOPATHOGENIC NEMATODES STRAINS AGAINST INSECT PESTS

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Entomopathogenic nematodes (EPNs) are one of the best non-chemical alternatives for insect pest control and their use is widespread throughout the world. Nowadays, native strains adapted to local conditions are considered ideal candidates to be included in regional biological control programs. Virulence of 15 *Steinernema feltiae* (Filipjev) and 2 *Steinernema carpocapsae* (Weiser) (Rhabditida: Steinernematidae) strains against *Spodoptera littoralis* Boisduval (Lepidoptera: Noctuidae) and *Agriotes sordidus* (Illiger) (Coleoptera: Elateridae) larvae, and *Ceratitis capitata* (Wiedemann) (Diptera: Tephritidae) pupae, was assessed recording insect mortality percentage and time to larval death. Four strains were only active against the 3 insect species: 38, Rioja and 96, 98 from *S. feltiae*, and *S. carpocapsae*, respectively. Two-factor ANOVA were performed to assess effects of interactions between insect species and EPN strains treatments on insect mortality and number of days to death larvae. Both variables were differentially affected, with *S. littoralis* being the most sensitive insect, recording 91-100% mortality in 2.2-2.7 days if infected with *S. feltiae* strains and 71-82% mortality in 4.0 days with *S. carpocapsae* inoculation. Both *S. feltiae* strains were the most active against *C. capitata* pupae producing 33-35% mortality whereas *S. carpocapsae* strains only produced 12-28% mortality. All strains showed poor virulence against *A. sordidus* with *S. carpocapsae* producing 4-5% mortality in 7-4 days, and recording values of 7-9% mortality in 2-5 days with *S. feltiae* strains. *S. feltiae* Rioja strain was considered the most suitable native EPN strain, thus it killed insect pests in 2 days and produced 91, 33 and 7% mortality in *S. littoralis*, *C. capitata* and *S. sordidus*, respectively. Further laboratory and greenhouse studies might optimize their possible use as biological control agent.