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ABSTRACT

Lysobacter enzymogenes C3, a bacterial biocontrol agent of fungal and oomycetous plant pathogens, produces an antimicrobial secondary metabolite complex (HSAF) as a mechanism for its antifungal activity. In this study, strain C3 was investigated for its activity against various life history stages of *Heterodera schactii*, the sugarbeet cyst nematode (SBCN), and *H. glycines*, the soybean cyst nematode (SCN), on roots. Strain C3 was applied to the roots of cabbage, sugarbeet, and soybean grown in growth pouches, sand, and a sand-soil medium, respectively, under growth chamber conditions. Cabbage and sugarbeet roots were subsequently challenged with SBCN, while soybean roots were inoculated with SCN. Treatment of sugarbeet with C3 reduced the number of SBCN nematodes in the roots compared to the no bacteria control, while treatment of cabbage roots with the bacterium reduced numbers of SBCN cysts and eggs per plant compared to the control. Similarly, application of C3 to soybean inhibited SCN egg