A novel rhizosphere bacterium for management of powdery scab and associated root disease

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Management of root and tuber diseases of potato caused by *Spongospora subterranea* infections is challenging and often ineffective. There is need for new management options that can augment current systems, to increase disease control and mitigate against the impacts of these diseases. In this paper selection and testing of a bacterium are described. When applied as a seed tuber dressing, the organism resided in potato plant rhizospheres. There it interfered with natural chemical signalling processes in the soil, reducing capacity for *S. subterranea* to detect potato host plants, for resting spores to germinate, and for zoospores to chemotactically locate host roots. This resulted in reduced root and tuber disease caused by the pathogen. The bacterium also has plant growth promoting ability, and its establishment within potato rhizospheres resulted in increased plant root mass and tuber yields. This dual activity assisted disease management and mitigation of the impacts of infections on potato plant productivity and yield.