Abstract

In the last few years more and more horseradish roots (*Amoracia rusticana* Gaert.) have been infected by the fungi *Verticillium album-atrum* or *dahliae* var. *longisporum*. Infection can be observed as a dark brown to black internal discoloration of the transport system of horseradish roots. Infected plants bring yield loss and poor quality of processed horseradish roots. Systemic fungicides are neither permitted nor successful. Physical treatments (thermal therapy) are to-date not in use. First experiments with hot water treatment (46°C, 10 min) of horseradish plantlets to reduce *Verticillium* disease were carried out by the authors in 2005. Hot water dipping of plantlets at 46°C for 10 min had no harmful influence on the development of horseradish plants. Temperature measurements inside the horseradish plantlets (different thickness) showed the desired internal temperature of 46°C after a treatment time of 2 min. *Verticillium* infected horseradish plantlets were hot water treated (46°C, 10 min) before planting in the field. After eight months of cultivation in the field horseradish roots were assessed for black discoloration caused by the fungus *Verticillium* sp. Three repetitions, each consisting of 30 horseradish roots of hot water treated and untreated control plantlets were cut horizontally to the roots and determined for discoloration. On average only 7.8% of horseradish roots from hot water treated plantlets showed a weak discoloration in comparison to 45.1% of control roots (no hot water treatment). Additional 6.6% of the control horseradish roots showed a strong development of cavities. These cavities could not be observed in horseradish roots of hot water treated plantlets.