Conducted to Evaluate the Suppression of Phytophthora cinnamomi Activity on Rhododendron × PJM Elite' by Different Composts Incorporated into Growing Media.

(57) Bioassays and Small-scale Greenhouse Experiments Conducted to Evaluate the Suppression of Phytophthora cinnamomi Activity on Rhododendron × PJM 'Elite' by Different Composts Incorporated into Growing Media

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Abstract

Composts vary in their ability to suppress disease activity when incorporated into growing media. Bioassays that enable a reliable and quick assessment of compost’s ability to suppress disease activity can save time, funds and space. A bioassay using Lupinus × 'Russell Hybrid' seedlings was evaluated as a short-term test for gauging the ability of three composts to suppress activity of P. cinnamomi. Colonized millet seeds were prepared via the V-8 agar method. The colonized millet seed were incorporated into the potting media at 0, 50, 100, 200, and 400 colonized millet seed/200 cc of the media used. Three composts, including composted sewage sludge, brewer’s waste and cow manure, were incorporated into the media (50% sand: 50% sphagnum peat, by volume) at rates of 0%, 10%, 25%, and 50%, by volume. The media, including the inoculated millet seed, were placed in small plastic pots (7.6-cm-diameter and 6.7 cm high), after which 10 Lupine seeds were sowed in each pot. Percentage of seedling loss was determined after 43 days of observation. The composted sewage sludge and the cow manure proved...
suppressive at the 50% incorporation rate and the 10% and 25% rate of the latter compost. The brewer's waste compost proved ineffective in this regard; thus, research with this product was discontinued. In a greenhouse study the same inoculation and compost incorporation rates were used, but rooted cuttings of *Rhododendron* × PJM 'Elite' were plotted into the various treatments. Suppression of disease activity by the composts was significant 2 and 4 months after initiation of treatments. Significance in disease suppression noted between these treatments decreased significantly during the fifth month of the experiment.