

**Changes in abundance and infectivity of powdery mildew conidia from cucumber plants treated systemically with lithium chloride**

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Systemic treatment of cucumber plants with lithium chloride reduced the numbers of conidia produced by colonies of powdery mildew, *Sphaerotheca fuliginea*, growing on leaves, and lowered the infectivity of conidia produced from those leaves when they were applied to leaves of untreated plants. Production of conidiophores was lower in both lithium-treated and calcium-deprived plants, and lithium slightly decreased the calcium content of leaves. When the lithium-containing growth medium was supplemented with phosphate, conidiophore production was still markedly reduced, although leaves had normal levels of calcium. Fungal development was not correlated with either the calcium or phosphorus content of leaves. It is concluded that, although severe calcium deficiency can inhibit fungal development, the inhibitory effects of lithium are not mediated through alterations in calcium or phosphorus uptake by host tissues.