**Honeysuckle leaf blight causes a growth decline in Amur honeysuckle seedlings**

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Amur honeysuckle (*Lonicera maackii*) is the most important invasive species in the Ohio River Valley. Previous work has shown extensive dieback of honeysuckle in the region, coupled with the appearance of the native fungal pathogen, honeysuckle leaf blight (*Insolibasidium deformans*). Our goal was to find if the blight causes growth decline or mortality. Seedlings were grown under greenhouse conditions. Blighted leaves were collected from the field, and treated seedlings were sprayed with a spore solution. Treated and control plants were placed into a growth chamber with conditions set for optimum spore growth (~100% relative humidity and 16°C) and then returned to the greenhouse after leaf blight began to develop. Growth and dark-adapted chlorophyll fluorescence were measured periodically, and blighted leaves had greatly reduced leaf area, chlorophyll fluorescence, and relative growth rates. A repeated-measures analysis of aboveground growth indicated that larger, more quickly growing plants were more likely to be infected, but their growth rates were subsequently reduced much more than uninfected plants. No infected plants died, but this experiment supports our hypothesis that leaf blight causes a significant growth decline in Amur honeysuckle.