

## ***Phytophthora infestans* in a tropical region: survival, temporal dynamics of airborne sporangia and alternative hosts.**

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Little is known about inoculum dynamics of late blight (*Phytophthora infestans*) in tropical/subtropical areas, particularly in Brazil. Survival of *P. infestans* on stems, leaflets and tomato fruits, either buried or not in soil; assessment of the pathogenicity of *P. infestans* to different plant species, mostly solanaceous, commonly found in Brazil and the temporal dynamics of airborne sporangia are reported in the present study. *P. infestans* survived in tomato plant parts less than 36 days under greenhouse and field conditions. In greenhouse tests, pathogen structures were more promptly formed on crop debris kept on dry than on wet soil conditions. Isolates of two clonal lineages of *P. infestans*, US-1, from tomato, and BR-1, from potato, were inoculated on 43 plant species. Plants of two species, *Petunia x hybrida* and *Nicotiana benthamiana*, were susceptible to the pathogen. Airborne inoculum was monitored with Rotorod and Burkard spore traps as well as with tomato and potato trap plants. Sporangia were sampled in most weeks throughout 2004 and in the first two weeks of 2005. Under tropical/subtropical conditions, airborne inoculum is abundant and is more important to late blight outbreaks than inoculum from crop debris or alternative hosts.