Phytophthora cinnamomi is Capable of Colonizing Forestry Reclamation Approach Sites¹

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Abstract: Appalachian forests are threatened by a number of factors, especially introduced pests and pathogens. Among these is *Phytophthora cinnamomi*, a soil borne oomycete pathogen known to cause root rot in American chestnut, shortleaf pine, and other native tree species. This study was initiated to characterize the incidence of *P. cinnamomi* on surface mined lands in eastern Kentucky, USA, representing a range of time since reclamation. Incidence of *P. cinnamomi* was interpreted according to overall soil development, as indicated by a variety of measured soil physical and chemical parameters, especially accumulation of soil organic carbon. *P. cinnamomi* was detected in only two of the four sites studied, aged 15 and 20 years since reclamation. These sites were generally characterized by higher organic matter accumulation than the younger sites in which *P. cinnamomi* was not detected. These results demonstrate that *P. cinnamomi* is capable of colonizing reclaimed mine sites in Appalachia; additional research is necessary to determine whether *P. cinnamomi* is capable of causing disease in susceptible tree species on these sites.

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