FIRST REPORT OF INK DISEASE ON CHESTNUT CAUSED BY *PHYTOPHTHORA KATSURAE* IN KOREA

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Phytophthora is well known as a destructive pathogen on crops and nursery stocks. In the late 1990s *Phytophthora* species, newly described or suddenly lethal to mature forest trees, have appeared in the United States and Europe. Some cultivars of chestnut (*Castanea crenata C. mollissima*) in Korea have also died without knowing the causal agent in last two years. The typical symptom was black-oozed, reddish, sunken tissue on trunk. When bark was peeled off, a distinct necrotic region on basal trunk and the vertical spread of the discoloration were observed. In November 2006, we were able to isolate the agent from the necrotic areas, and thirteen isolates were obtained from three different areas. The isolates produced numerous homothallic oogonia (34.0~46.2 □ 21.9~26.7 um) with warty protuberance on the surface and a long, funnel-shaped stalk enclosed by antheridium (amphigynous) at the base. No chlamydospores were observed, but the formation of papillate, ovoid to obpyriform sporangia (17.0~38.9 □ 14.6~29.2 um) were induced by cold treatment in filtered creek water or de-ionized water. Based on morphological characteristics and rDNA ITS sequencing, the isolate showed 99.6% similarity with *P. katsurae* (AF266771) indicating three base pair differences. All isolates from 3 different areas were completely identical in the comparison of rDNA ITS sequence. Resistance or susceptibility of different cultivars of chestnut against the isolate showed variations among cultivars, resulting in potential impact on chestnut plantations with many cultivars in Korea.