b. Histopathology

Histopathological Events During the Development of Cankers on Chestnut Species Incited by Virulent (V) and Hypovirulent (11) Strains of *Endothia parasitica*

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The time-course of histopathological events following artificial inoculation with Endothia parasitica was studied in highly resistant *Castanea*

"Nanking" and in a fully susceptible and a partially resistant Castanea dentata. In all three types, a necrotic region, ca. 0.5 cm larger than the inoculation wound, formed when a virulent or hypovirulent strain of Endothia parasitica was present. Ten days after inoculation, this lesion, or wound of the uninoculated check, was surrounded by a lignified zone. For all species and treatments, wound periderm formation had commenced by 14 days at the nonnecrotic border of the lignified zone. At 10 days, the necrotic regions of all host-parasite combinations were infiltrated with individual hyphae; mycelium build-up had commenced by 14 days in the necrotic region of the compatible combination (e. g. virulent and fully susceptible) but was delayed in incompatible combinations (e.g. hypovirulent and highly resistant). By 18 days, an advancing mycelial fan had penetrated the lignified zone and developing wound periderm in the compatible combination; this was de]ayed in less compatible combinations (e.g. hypovirulent and fully susceptible and virulent or hypovirulent and partially resistant) and did not occur in incompatible combinations. The results suggest that the crucial component of a compatible reaction is the ability of *Endothia parasitica* to obtain nutrition from, and not be inhibited by, dying tissue of *Castanea* species.