

ABSTRACTS

**BIMONTHLY INOCULATIONS OF VIRULENT AND HYPOVIRULENT
ISOLATES OF ENDOTHIA PARASITICA**

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ABSTRACT.--One virulent and seven hypovirulent isolates of *Endothia parasitica* were inoculated at 2-month intervals for 1 year into healthy American chestnut trees, to determine whether date of initiation affects subsequent canker development. Each isolate was inoculated individually at one of six points on each of nine trees at each inoculation date, by insertion of fungal mycelium into a 0.5 cm bark wound. Initial inoculations were made in August 1979, with subsequent inoculations at 2-month intervals, through June 1980. Growth measurements (length and width) and estimation of sporulation were recorded every 2 months for each inoculation, from initiation through August 1981. Invasion of host tissue was significantly greater when cankers were initiated during the growing season (April, June, August, and October), as compared to the winter inoculations (December, February) where little or no growth occurred. Asexual sporulation was not observed until April 1980 on cankers initiated in August and October 1979, and perithecia were first observed on those cankers in August 1980. Cankers initiated in April and June 1980 generally began sporulation in August 1980 and produced perithecia by October. Bark samples were taken from all 432 inoculation sites to determine if the isolates used for canker initiation could still be recovered from the inoculation sites. Recovery rates ranged from 94 percent for the virulent isolate, to only 16 percent for the hypovirulent isolate EP-43. The remaining six hypovirulent isolates were recovered on an average of 73 percent. Reisolation from inoculations made during the 2 winter months was comparable to recovery from the other four inoculation dates, indicating that although the fungus is still viable, winter inoculations do not result in canker formation.