

GROWTH OF AMERICAN CHESTNUT AND INCIDENCE OF CHESTNUT BLIGHT IN THE FOREST UNDERSTORY

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Three hundred individuals of American chestnut, *Castanea dentata*, at Mountain Lake Biological Station, elevation 1,160 m, were monitored over two field seasons for incidence and growth of cankers caused by the fungus *Cryphonectria parasitica*. Basal disks were collected from 150 individuals that died over the study period and their growth rings were measured for dendrochronological analysis. All individuals were understory trees, and all showed evidence of suppression with a release event occurring in the mid-1990s. Most trees exhibited significantly lower than normal growth for 1 to 3 years before death. Growth histories will be compared with individual disease histories for *C. parasitica* to see if reduced growth is an indicator of disease. Results will show whether local stem density, seasonality, or rate of tree growth affect infection probability, canker growth rate, and tree mortality.

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