

Blodgett, J. T., and Lundquist, J.E. 2005. Distribution, Species, and Ecology of *Armillaria*-Fungi in Wyoming.

*Armillaria* root disease is associated with various forest tree declines worldwide, and commonly plays a role in tree mortality attributed solely to bark beetles. Our field survey is designed to examine the geographic distribution of *Armillaria* species causing root disease in various forest types throughout Wyoming, and to characterize relationships among hosts, site conditions, and *Armillaria* species. Plots were selected, site-unseen, across the state using GIS. Variables recorded for plots include: location; altitude; slope; aspect; forest cover type; organic matter thickness; frequency of rhizomorphs in the soil; number of stumps, snags, and logs per plot; and tree species and diameter at breast height (DBH) for all live trees per plot. Soil samples will be analyzed for organic matter content, pH, and texture. Variables recorded for host trees include: species, DBH, host condition (living or dead), crown position, percentage live crown, and associated stress/mortality agents. We completed 132 plots in 2004 and expect to finish 280 plots by the end of 2006. To date, *Armillaria* was found at 33 locations. Forty-four isolates were collected, and these will be identified to species. Many consider *Armillaria* to be a major driver of forest structure and composition; therefore monitoring this disease is vital for good forest management.