

POSTER ABSTRACT

Distribution, Species, and Ecology of *Armillaria* Fungi in Wyoming

J.T. Blodgett¹, and J.E. Lundquist²

¹Forest Health Management, USDA-Forest Service, 8221 S Highway 16, Rapid City, SD 57702.

²USDA-Forest Service, 3301 'C' Street, Suite 202, Anchorage, AK 99503.

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 was 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 are being 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 300 plots in 12 different forest cover types. *Armillaria* was found at 89 locations. One hundred and thirty three isolates were collected, and these are being identified to species. Four *Armillaria* species have been identified so far, with *A. sinapina* being the most common, followed by *A. ostoyae*, *A. gallica*, and *A. cepistipes*. Many consider *Armillaria* to be a major driver of forest structure and composition; therefore monitoring this disease is vital for good forest management.