Amur honeysuckle is an invasive weed species that is present in a majority of the United States. This weed has the ability to displace native plant species and develop monocultures in undisturbed areas. Little is known about the biology and control options for this plant. The objectives of this research were to: a) describe the efficacy of various herbicides mixtures on Amur honeysuckle; b) determine viability and predation of Amur honeysuckle seeds; c) determine if seed germination of other species is affected by allelopathic or light variables. Research was conducted during 2010, 2011, 2012, and 2013 at multiple locations throughout central Missouri. Control of Amur honeysuckle was achieved with a foliar application of glyphosate or a mixture containing aminocyclopyrachlor. Greater than 83% viability was observed for seeds harvested in October and later in the year. Greater than 90% of berries were found to be predated from shrubs from September through March. Understory light intensity was reduced by shrub cover in the spring (92%), summer (86%), and fall (75%). Lettuce germination (44%) was reduced in shrub infested versus uninfested soils in the spring 12 days after planting (DAP), but not in any other season.