Public Abstract

First Name:Carl

Middle Name:Andrew

Last Name:Woodard

Adviser's First Name:Reid J.

Adviser's Last Name:Smeda

Co-Adviser's First Name:

Co-Adviser's Last Name:

Graduation Term:SP 2008

Department:Agronomy

Degree:MAcc

Title:POISON HEMLOCK (*Conium maculatum* L.): BIOLOGY, IMPLICATIONS FOR PASTURES AND RESPONSE TO HERBICIDES

Poison hemlock is a biennial, toxic and invasive plant that grows along roadways, in pastures and low-disturbed areas. Poison hemlock grows wild in nearly every state across the U.S. and is considered noxious in eight states. The plant is extremely toxic if ingested and is of most concern in pastures where livestock graze. Little information is available in the literature regarding biological factors that may favor establishment, as well as management of this plant with herbicides. Research was conducted to determine poison hemlock seed production, viability and germination, as well as plant growth through the early spring, and the effectiveness of several herbicides for control. This research indicates that poison hemlock is a prolific and viable seed producer; contributing large amounts of seed to the soil where populations exist. In addition, portions of seed produced have no dormancy restriction allowing seedlings to become established at different times during the year. Growth of poison hemlock in the early spring is a concern because at times it is the only green forage available and livestock may resort to eating. This research shows that poison hemlock plants were actively growing at times in the early spring when other forages were just initiating new growth, justifying control in pasture situations. Many pasture and roadside herbicides tested, when applied in the early spring, were effective in eliminating poison hemlock rosettes. However, due to continued seedling emergence several weeks after application, repeated treatments may be required to completely eliminate infestations.