
A BIOASSAY OF MONTANA GRASSLAND PLANT RESISTANCE TO CATECHIN: AN EXUDATE OF SPOTTED KNAPWEED, *CENTAUREA MACULOSA*

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Centaurea maculosa, or Spotted knapweed, is considered an invasive species in the Western United States, including Montana. It has established sizeable populations and displaced native plant communities through what is believed to be a result of the plant's exudate, catechin. Catechin is an allelochemical documented to have phytotoxic, antimicrobial, and chelating properties. Current methods of remediation (biological, mechanical, and chemical) have demonstrated limited degrees of success. It is hypothesized that the degree of resistance to catechin of neighboring plant species determines the degree of knapweed invasiveness. The goal of this research is to test Montana native grassland species for resistance to catechin. Assembling a bioassay on agar plates, Montana grassland seeds will be grown in the presence and absence of catechin. The degree of resistance for each respective grassland species will be assessed through percent germination, root length, and shoot length. In identifying a Montana native grassland species with catechin resistance, the species could provide potential means of remediation and prevention.