

Grazing as a Management Tool for Perennial Pepperweed

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Introduction

Perennial pepperweed (*Lepidium latifolium*) is a Eurasian weed that spreads from seed, as well as from new stems arising from its creeping root system. It invades productive habitats such as flood meadows, riparian areas, and wetlands in most western states, where it displaces desirable forage species. It is possible that grazing may be used to control perennial pepperweed. Live-stock may be especially effective in areas that are inappropriate for chemical or mechanical control, such as riparian areas and wetlands.

Current research is comparing the effects of grazing perennial pepperweed-infested flood meadows by cattle, sheep, and goats at different times of the year. The goal is to determine which animal species and which season of grazing best controls perennial pepperweed while favoring desirable forage species. Preliminary observations show that all three animal species will eat perennial pepperweed before, during, and after flowering. If livestock are used in control efforts, there is a concern that the animals may ingest seeds that may then be spread to uninfested areas. The goal of this study was to determine the viability of perennial pepperweed seeds after passage through the digestive tract of ruminants.

Experimental Protocol

Prior to performing a standard germination test, perennial pepperweed seeds were incubated in the rumens of fistulated steers for 48 hours. Germination tests also were conducted on seeds that were soaked in water for 48 hours and seeds that were not soaked.

Results and Discussion

Ruminal incubation or soaking in water increased germination more than 10-fold compared to seeds that were kept dry prior to the germination test. Germination of seeds that were ruminally incubated was similar to that of seeds soaked in water. If livestock graze perennial

pepperweed that has gone to seed, they should be held on weed-free forage for about 1 week prior to being moved to uninfested areas; otherwise, viable perennial pepperweed seeds may be deposited in their dung. The spread of perennial pepperweed may be reduced by controlling it in areas where its seeds may be transported by water (riparian areas, flood meadows, and irrigation ditches).

Management Implications

Ideally, it may be best to graze perennial pepperweed at or before flowering to reduce the likelihood that animals ingest their seeds.

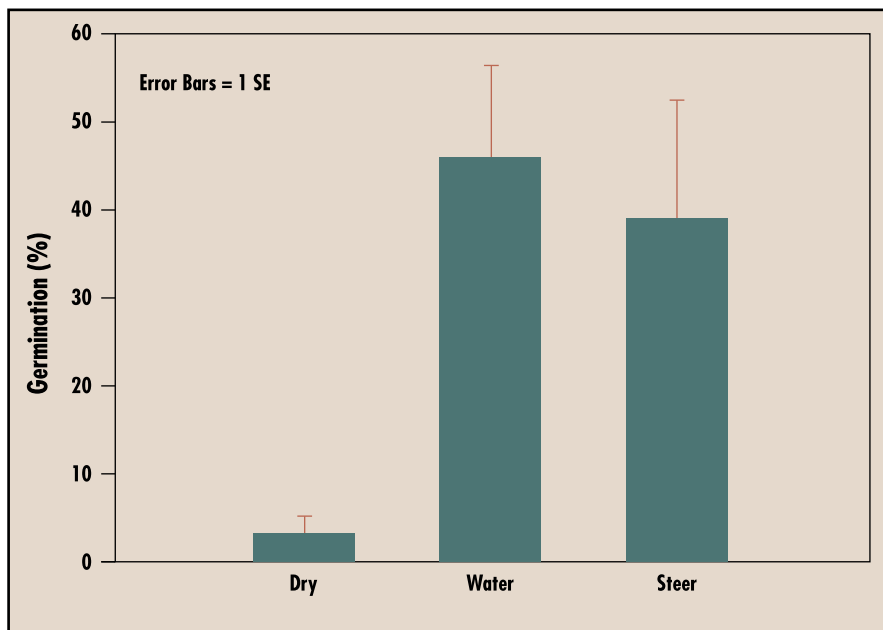


Figure 1. Germination of perennial pepperweed seeds that were soaked in water or ruminally incubated increased about 10-fold compared to seeds that were kept dry prior to being tested for germination.