WASHINGTON STATE UNIVERSITY
KITTITAS COUNTY EXTENSION

Tipton D. Hudson
Rangeland & livestock management
507 Nanum Street, Room 2
Ellensburg, WA 98926
(509) 962-7507
hudsont@wsu.edu

Grazing for weed control – Tip Hudson

It doesn't take an agronomist to observe that rotationally-grazed pastures and well-kept lawns often have few weed problems. There are scientific reasons for this – principles that can be applied "prescriptively" for the explicitly identified goal of weed control. The application of these concepts can save you money in reduced frequency and extent of herbicide applications.

Grasses grow from the bottom up. Weeds grow from the top and sides. Although bunchgrasses with elevated growing points grow from the nodes and are susceptible to damage by grazing at certain times, they still grow from the bottom of each stem segment so that the oldest tissue is at the top. This is why the cut edges of grass, whether from a mower, swather, or grazing animal, remain cut but elevate following defoliation. Most weeds (broadleaf plants) have their growing points at the top and at some locations on the sides of the plant. Any action that removes these buds kills the plant.

In grazing to control weeds, we have to consider the three primary mechanisms involved in shifting plant composition toward desirable plants: increasing competitiveness of desirable plants, inhibiting seed production of annual weeds, and reducing plant vigor or killing the weeds. To increase competition against weeds, the grazier must time grazing to remove the growing point on weeds and allow adequate time for the desirable grasses (or forbs/shrubs/etc.) to recover. Competition occurs primarily below ground, so it is important to allow desirable pasture grasses to regain leaf area quickly – this translates into increased occupation of the soil profile by roots below ground. In an irrigated pasture with sod-forming grasses, well-managed grazing stimulates vegetative reproduction, or tillering, that helps fill in bare spots and causes the grass to spread. This works to crowd out weeds as long as the weeds are prohibited from reproducing, or in the case of perennials, are stressed such that they cannot produce seed or send out rhizomes or stolons (structures that are responsible for vegetative reproduction).

Figure 1. Defoliation effects on rough fescue roots.

Increasing animal density using electric fence to create smaller pasture units assists greatly in controlling weeds by reducing the selectivity of the grazing animal. At low densities animals will select their favorite plants and avoid many noxious weeds. Be aware that more intense grazing may cause animals to eat toxic plants as well – know whether you have toxic plants in your pasture!

A discussion of grazing for weed control is incomplete without discussing multi-species grazing. The different classes of livestock prefer different types of plants: cattle prefer grasses, sheep will select a diet high in forbs (broadleaf plants like weeds), and goats will readily consume shrubs and other woody growth referred to as browse. If you wish to control rubber rabbitbrush, cattle would not be the most effective tool – goats would be a good choice. For more information, take a look at "Multispecies Grazing" from the National Sustainable Agriculture Information Service.

Remember that many mature weed seeds will remain viable after passing through the rumen – if there are particularly undesirable plants you are controlling by grazing in one area, use a “quarantine pasture” for 3-5 days to allow seeds to pass through and be excreted prior to moving into the next main rangeland/forest/irrigated pasture unit. A quarantine pasture is usually a smaller area, perhaps a low quality or rocky pasture or even a drylot that you will plan to use chemical weed control on in order to prevent spreading weeds to other areas. This may require feeding hay for a couple days.

For more specific prescriptions for individual problem plant species there is an online publication from the University of Idaho called “Targeted Grazing: a natural approach to vegetation management”.