

Poster for The 2013 Northeast Pasture Consortium Annual Meeting



Alternative Forages Formerly Known as Weeds?

Rachel Gilker¹, Sid Bosworth², Jenn Colby¹, Kathy Voth³

¹ University of Vermont Center for Sustainable Agriculture, ² University of Vermont Plant and Soil Science Department, ³ Livestock for Landscapes, LLC



Abstract: Weeds are a part of many pastures throughout Vermont and the Northeast. Bedstraw, burdock, buttercup, Canadian thistle, chicory, and ground ivy have found homes amongst pasture plants that are considered desirable forage. Judicious management and healthy pastures can keep weeds in check. When weeds invade, chemicals that can be sprayed and plowing up pastures once, twice, or three times may reduce the number of weeds in a pasture.

But what if livestock ate plantains and multiflora rose as readily as they do clover and perennial ryegrass? And what if those weeds are just as nutritious as their companion forage plants? We set out to help farmers manage weeds by training livestock to eat non-toxic plants in their pastures. Along the way, we found out that those plants are truly alternative forages.

Training Livestock To Eat Weeds:

When livestock are not eating non-toxic weeds, it is often because they haven't been properly introduced. Once a herd is exposed to weeds as potential forage, they may find these plants as palatable and nutritious options.

When livestock were trained to eat weeds:

- Bedstraw dropped from 35% to 9% of pasture composition
- Speedwell dropped from 12% to 3% of pasture composition
- Yellow rattle dropped from 11% to 0

Poverty grass was never a target weed, but it seems to have been targeted by the grazing livestock once they expanded their grazing horizons.

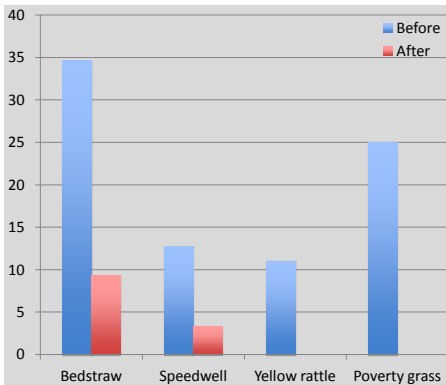


Figure 1. Presence of weeds as a percentage of pasture composition, before and after grazing by livestock trained to eat weeds. Data collected from two different pastures; bedstraw and poverty grass grazed by sheep, yellow rattle and speedwell grazed by cattle.



Figure 2. Bedstraw, speedwell and yellow rattle were readily grazed.



Figure 3. A point count method for determining weed composition using a beaded string transect.



Weeds/Alternative Forages:

It is critical that all target weeds are non-toxic. Toxic weeds should be avoided. But many other weeds are nutritious and can be considered alternative forages, including the following:

Plantain:

- Varieties being developed for pasture use in New Zealand
- Has high levels of protein, mineral nutrients (Fe and Ca) and digestibility
- Has biologically active compounds that may enhance rumen function and animal health
- Does well in low fertility, low moisture, and compacted soils



Spotted knapweed

- Has a nutrient content comparable to that of other native plants, with crude protein ranging from 6-19%
- As with most plants, these values change over the growing season, with protein levels dropping as the plant matures.



Curly dock

- Grows well in standing water and acidic soils and other soil types and settings
- Leaves are rich in vitamins, especially vitamins A and C



Chicory

- Chicory came to North America in the 1700s as a cultivated plant. In 1950 or so, it lost its crop status. While under cultivation, it escaped its planted fields and spread throughout southern Canada and the U.S. as a weed.
- Contains tannins valuable to address parasites in small ruminants.
- Leaf protein levels are between 20-30% and has a digestibility level of about 90%.
- Flowers and stems are lower quality forage but the plant as a whole is suited to rotational grazing management.



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For more information contact rgilker@uvm.edu