

Eliminating weeds could put more cows on the pasture

April 28 2010

A weed calculator developed by an Agricultural Research Service (ARS) scientist tells ranchers the number of additional cows they could raise if they eliminated one or two widespread exotic invasive weeds.

Rangeland ecologist Matt Rinella at the ARS Fort Keogh Livestock and Range Research Laboratory in Miles City, Mont., created a [computer model](#) that predicts weed impacts on [forage production](#).

Data for developing the model came from 30 weed researchers working throughout the western United States. In addition to developing the calculator so that ranchers can calculate what weeds are costing them on any given site, Rinella used the data to estimate what weeds are costing ranchers in a 17-state region. He calculated that if leafy spurge were eliminated, ranchers in that entire region could graze up to 200,000 or more cows a year and save tens of millions of dollars.

Spotted knapweed is another exotic invasive weed whose elimination would greatly increase the number of [cows](#) ranches could support, and the calculator also predicts its impacts.

All the rancher needs is a datasheet, a clipboard, a pencil, a yard stick, and homemade sampling frames of any size, rectangular or circular. Ranchers can download datasheets for recording weeds. They tally weeds in each frame, grouping them by their heights. The necessary data can be gathered in about 30 minutes.

When the numbers are entered into the calculator, the ranchers learn how many pounds of weed they are producing per acre and how many more cattle they could raise per acre if those pounds of weeds were replaced by forage plants.

It is important to quickly spray or hand-pull small weed infestations before they expand. But with large weed infestations, the calculator reflects a fundamental principle of [integrated pest management](#): It is only worth controlling a pest if the profits from doing so outweigh the costs.

Provided by United States Department of Agriculture

Citation: Eliminating weeds could put more cows on the pasture (2010, April 28) retrieved 12 May 2024 from <https://phys.org/news/2010-04-weeds-cows-pasture.html>

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