No Good Weed Goes

Some so-called "weeds" really aren't villains and actually serve a purpose in grasslands.

Story & photos by ***Troy Smith,*** *field editor*

Are there too many weeds in your pastures? Whether the answer is yes, no or maybe probably depends on your definition of the term. "Weed" is a word commonly applied to any kind of unwanted herbage — any plant that is out of place.

However, according to Chris Helzer: "One man's weed is another man's wildflower."

Helzer serves as director of science for The Nature Conservancy in Nebraska. A grazing advocate, Helzer says grazing by ruminants was a part of the evolution of grasslands, including the prairies of the Great Plains. He believes grazing remains important to grassland ecosystem function. Besides grazing, Helzer studies and shares information about other grassland management strategies, including prescribed fire and invasive plant species control.

Helzer says some so-called weeds get a bad rap and actually play significant roles in the ecology of grasslands. He goes so far as to say their roles are necessary to the health and resiliency of grasslands. That view might be hard to accept by landowners who dream of pastures filled, fence to fence, with only the best grasses. To them, any broadleaf plant, or forb, is an enemy. When the enemy is sighted, many landowners arm themselves with herbicides and go to war.

On many grazing operations, thousands of dollars are spent annually on broadcast spraying of herbicides for weed control. The goal is to remove those presumably no-good plants that compete with desirable forage species. However, this practice may not be profitable, considering the marginal improvement to forage production and livestock performance that often is achieved.

Additionally, because herbicides don't discriminate between problem plants and some other species, spraying can be detrimental to plants that have value for livestock production and wildlife habitat.

►These show the annual or common sunflower. Likely the most common wildflower in North America, this tap-rooted annual is one opportunistic weedy plant that is palatable to livestock and deer. The flower is highly attractive to bees and other pollinators. Sunflower plants provide wildlife cover and the seeds are a food source for quail, doves, pheasants, songbirds and small mammals.

Unpunished

As Helzer says: "No good weed goes unpunished."

When a landowner complains that weeds are taking over his or her pasture, Helzer is skeptical. Of course, there are invasive plant species that can become persistent problems. In the Great Plains region, for example, leafy spurge, sericea lespedeza and spotted knapweed are notorious invaders that can reduce forage production over time.

In the same region, however, hoary vervain, mare's tail and ragweed are examples of weedy plants that seldom present a serious threat to long-term pasture productivity. Others from the rather lengthy list include annual sunflowers, curlycup gumweed and snow-on-the-mountain.

According to Helzer, there is a critically important difference between "invasive plants" and "weedy plants" in grasslands. Invasive plants can out-compete and displace grasses and other forage plants in well-established pastures and rangeland. They may be rightly viewed as enemies of graziers and should be controlled. However, they should be distinguished from weedy plants that, in most situations, are not aggressive — just opportunistic — and do not warrant expensive control measures.

Helzer says opportunistic plants can't stand up to vigorous competition. This is why they may show up in pastures later in the growing season, after grass has been defoliated by grazing. Or they may show up the next year following heavy grazing or heavy defoliation by some other cause. Moderate defoliation may not change the plant community composition very much, but heavy defoliation opens the vegetation canopy and weakens the root systems of perennial grasses. Along with intensive grazing, drought, fire and other stressors diminish the competitive edge that perennial grasses and some dominant forbs normally enjoy, giving opportunists their chance.

According to Helzer, most opportunistic plants are annuals, or weak perennials that produce copious amounts of seed that lay in the soil, waiting for that chance to germinate and grow. When it occurs, they fill in the space left open after defoliation of truly dominant plants. They may flourish awhile, but they actually provide some benefits.

Weedy plants contribute to soil

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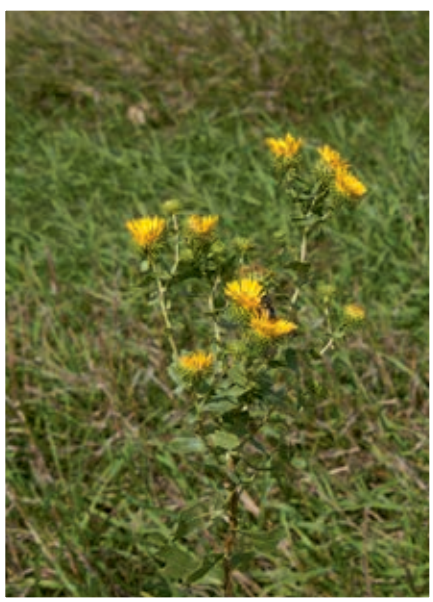

►Noted in the journals of explorers Captain Meriwether Lewis and Second Lieutenant William Clark were Native American medicinal uses for curlycup gumweed. A short-lived perennial native to all of the contiguous United States, excepting the southeastern states, it takes its name from its flower and the sticky, resinous substance secreted from flower buds prior to opening. Curlycup gumweed is highly attractive to pollinators, especially honey bees. Gumweed provides ground cover for wildlife and is a food source for sage grouse and other upland birds. This opportunistic plant has little livestock forage value after the rosette stage of growth.

►Hoary vervain (also called wooly verbena) is native to much of the contiguous United States and parts of Canada. Native Americans are said to have brewed its leaves to make a medicinal tea used as a remedy for fever and stomach ache. Not very palatable to cattle, vervain does provide browse for deer. Its showy flowers attract butterflies and bees, and vervain seeds are food for upland birds and small mammals.

stabilization and nutrition. They contribute to wildlife habitat, providing cover and seeds that feed upland birds and small mammals. Flowering weeds also serve as resources for pollinators and other insects. A few weedy species, such as annual sunflowers, also provide palatable forage to livestock.

Visually, opportunistic weeds may seem to dominate a pasture, but Helzer says that situation typically is short-lived. As grasses and other forbs regain vigor, the abundance of weedy species diminishes until the next opportunity. For that reason, Helzer says attempting to control opportunistic weeds with herbicides usually isn't cost-effective and often results in opening up additional space for the same weeds or different weedy species to grow. He advises landowners to learn to recognize which plants, in their respective parts of the country, are invasive species that should be controlled vs. opportunistic weeds that actually provide some benefit to grasslands.

Helzer also notes that grazing pastures hard enough to suppress grasses and allow weedy plants to flourish temporarily is not necessarily a symptom of poor management. However, a persistent abundance of weedy species may suggest that grazing management should be adjusted to relieve suppression of desirable grasses and allow for their recovery.

In his blog, *The Prairie Ecologist*, Helzer laments how, too often, opportunistic plants are scorned for doing exactly what they are meant to do. Poor, poor weedy plants — they suffer from a public relations crisis.

"They are the temp workers of the plant community — the substitute teachers, backup quarterbacks and housesitters that keep prairies humming along when dominant grasses are on sick leave," writes Helzer, noting how opportunistic plants help keep truly aggressive weeds from gaining a foothold, while also providing habitat for wildlife and pollinators and contributing to soil health.

When you look at it that way, maybe ragweed and its opportunistic cohorts aren't such villains. In Helzer's opinion, they're heroes.

Editor's Note: *Troy Smith is a freelance writer and cattleman from Sargent, Neb.*