

# Are Annual Forbs an Invasive Threat?

Forage specialists say unappreciated annual forbs are not cause for worry.

by **Troy Smith**, field editor

In 2012, much of the rangeland across the Great Plains had turned brown by early summer. Some areas really didn't green up at all.

What a difference a year can make. Areas receiving relief from intense drought saw a return of green foliage in 2013. While the rain was welcome, range managers were not enthusiastic about some of that greenery. In a considerable portion of the Nebraska Sandhills, the green slopes turned yellow in August. Native Sandhillers claimed, in dismay, they had never seen

► **Background photo:** The density of sunflowers in pastures this fall should not be a cause for worry, says Jerry Volesky, NU range and forage specialist. While unappreciated by many range managers, the proliferation of sunflowers illustrates the role of forbs in grassland ecosystems.

sunflowers in such terrible abundance.

While unappreciated by many range managers, University of Nebraska (NU) Range and Forage Specialist Jerry Volesky says the proliferation of sunflowers illustrates the role of forbs (flowering broadleaf plants) in grassland ecosystems. Volesky tells ranchers that it's probably not cause for worry.

"It's the result of a disturbance to the range. It can happen after hail or fire, but in this case the disturbance was drought," explained Volesky.

In 2012, between April and September, the Gudmundsen Sandhills Laboratory was blessed with little more than 4 inches of rain. This year the Nebraska research ranch received about three times that amount by the middle of August.

"The rain brought on weeds, weeds and more weeds," Volesky says, noting that most were annuals — plants that germinate from seed in the spring, grow and flower during the summer, and die at season's end. "We saw some increase in perennials, too, but mostly annual forbs, including sunflower, lamb's-quarter, horseweed and others."

Volesky says an explosion of annual forbs should not be too surprising when rain returns to moisture-starved rangeland. A similar thing occurred in the Sandhills in 2003 following the previous year's drought. That year, instead of comprising a more

typical 10%-12% of total vegetation produced during the growing season,

► **Below:** Jerry Volesky says forbs provide cover and food for wildlife, create litter to help retain soil moisture, and attract insects that serve as plant pollinators.



PHOTO BY TROY SMITH

PHOTO COURTESY JERRY VOLESKY

forbs accounted for 25% of the vegetation produced on well-managed ranges.

It is because annual forbs are opportunistic. Most produce copious amounts of seed and many germinate each year, but many resulting seedlings do not survive against stiff competition from strong perennial plants with established root systems. Not only do perennials have the advantage in claiming soil moisture and nutrients, their vegetative growth often shades out the weaker annual forbs.

While not all forb seeds germinate the year after they were produced, seeds may remain viable for years. During drought, and particularly prolonged drought, perennial plants are weakened. Their hindered growth leaves more open space and a less competitive environment for annual forbs to flourish as soon as adequate moisture is received. It's in the annual forb's job description to provide ground cover where there is none.

### Positive qualities

"I wouldn't worry too much about an increase in annual forbs following drought," said Volesky. "It's nature's way, and the good generally outweighs the bad."

Granted, higher populations of forbs will use moisture otherwise available to more desirable forage plants. Since they are often considered weeds, the presence of ample

annual forbs is not aesthetically pleasing to many farmers and ranchers. However, Volesky says forbs provide cover and food for wildlife. They create litter that aids soil moisture retention. Flowering forbs also attract insects that serve as plant pollinators.

Colorado State University (CSU) Forage Specialist Joe Brummer says increases in populations of annual forbs often occur when western short-grass ranges receive above-normal precipitation. Forbs do have some value as forage. Cattle find some species quite palatable, eating blossoms and leaves. It is not uncommon for cattle, when moved to a new pasture, to show a preference to certain species, like sunflowers. Not all animals seek them out so readily, though, so animal preference is a factor.

"Normally, annual forbs don't contribute much to total forage production (volume), but they can contribute a lot to range nutrition. Many are high in both protein and digestible energy content. Lamb's-quarter and kochia are two examples that actually make pretty good-quality feed," states Brummer.

"Annual forbs come and go all season long," he adds, noting that some species are most abundant in the spring, while

others are better suited to summer or early fall. Usually, their window of palatability is fairly short," he adds. "I say a plant is not really a weed if cattle eat it and it doesn't present a toxicity problem."

### Temporary

Hopefully, relief from drought will spread across western ranges. When it does, and whenever abundant moisture is received, range managers should not be surprised if annual forbs respond vigorously. They don't necessarily represent an invasive threat. In most cases, it is a temporary condition, resulting from a combination of weather factors. It should be temporary, say Brummer and Volesky, if producers are practicing good grazing management.

Managers should match stocking rates to levels of available forage, making sure the volume of annual forb vegetation isn't masking what kind of forage really is available. Monitoring of key desirable forage species is advised. Managing the range so perennial grasses have the greatest possible competitive edge allows less opportunity for annual plant species to become established.



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

PHOTO COURTESY JOE BRUMMER



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