

COUNTING PLANTS AND RAINDROPS

Monitor now for grazing decisions this summer.

BY JOHN MADAY
JMADAY@DROVERS.COM



Of all the tools available for monitoring range and pasture productivity, one of the most useful, especially during the spring, is a rain gauge.

In drier areas of the Northern Plains, says South Dakota State University Extension range specialist Roger Gates, precipitation during April, May and June is perhaps the best indicator of forage productivity through the rest of the growing season. Producers with the ability to accurately measure and record rainfall on their own pastures, and compare the data to historical records, can make informed decisions regarding grazing plans, stocking rates and cattle marketing.

Science supports the idea that spring rainfall is an excellent predictor of the season's forage production. Justin Derner, a USDA researcher at the High Plains Grasslands Research Station near Cheyenne, Wyo., recently outlined results of the final 16 years of a 25-year study on grazing systems and stocking rates at the station.

Comparing wet, dry and average years, data from the study show a clear relationship between inches of spring precipitation, forage production and beef production per acre for the grazing season from mid-June through mid-October. And the relationship remained the same for season-long versus short-duration rotational grazing systems and for moderate versus heavy stocking rates.

In this study, researchers found neither stocking rates nor grazing systems affected vegetative production in wet, dry or normal years. Precipitation during April, May and June made the difference.

Rainfall measurements, of course, are just one piece of the range-management puzzle, Gates notes, as he encourages producers to implement comprehensive range-monitoring systems and apply the information to decisions that affect profit-

ability. Fixed costs in grazing land, Gates says, truly are fixed. Monetary returns depend on managers optimizing productivity of the existing resource in terms of forage and beef production per acre.

START LAST YEAR

Ideally, Gates says, land managers made some assessments of pasture and range conditions last fall. Knowledge of last year's trends — whether forage conditions were declining, improving or steady in specific areas — supports future planning significantly. Without that information, producers are limited to basing their plans on last year's grazing patterns and stocking rates. They can, for example, avoid spring grazing in pastures that were grazed heavily or grazed late last season.

While historical grazing information is useful on its own, Gates stresses that it becomes much more useful when combined with records on forage conditions and weather trends. So if you haven't established a rangeland-monitoring system, now is a good time to start.

The monitoring process, he says, includes these steps:

- Develop an inventory of forage resources and assessment of conditions.
- Set short- and long-term objectives.
- Develop strategies and tactics for achieving those objectives.
- Maintain records documenting management decisions such as stocking rates and grazing intervals.
- Monitor the results of management, turning data into information for future decisions.

In simpler terms, Gates describes the process as asking these questions: "Watcha got? Watcha want? Watcha gonna do? Wadja do? Did watcha did do watcha wanted?"

Changes in the range landscape and forage plant species tend to occur slowly, Gates notes. Without a monitoring system, the changes can go unnoticed and unaddressed. While some producers might be discouraged by a perceived need for extensive knowledge of plants and range ecology, Gates says you do not need to be a botanist to find success in rangeland monitoring. On most rangeland, he says, grasses account for 75 to 85 percent of plant populations, with broadleaf forbs and shrubs making up the balance. As for the grasses, most sites have just five or six dominant species. "You probably already know most of your important grasses and weed species, or can find out," he says.

PICK YOUR TOOLS

Gates notes that producers have access to a variety of monitoring tools and methods ranging from simple to sophisticated. Methods include "point techniques" such as measurements of plant cover along a measured transect and "plot techniques" such as measuring plant density or species frequency within a unit area.

While these and other methods have valuable applications, a survey of range managers identified the use of photo points as the most user-friendly monitoring method. Taking and filing photographs of the same piece of ground at the same times each year help document the effects of management decisions on plant types and density. GPS technology, he adds, can help managers repeatedly find the same site for photos or other measurements. This can be especially useful for monitoring specific locations such as patches of invasive weeds.

Gates also suggests developing a scoring system for range health and productivity. Just as observing body-condition scores in cattle can identify trends and help with nutritional decisions, a consistent scoring system for rangeland provides a tool for grazing decisions.

MARKET BASED ON MONITORING

Getting back to that rain gauge, Gates says measurements of spring rainfall, coupled with historical precipitation records for the ranch, help build flexibility into marketing decisions. Spring rains below a certain threshold could, for example, trigger decisions to wean calves early or sell more cull cows. Making these decisions early, especially in the case of drought, prevents long-term damage to the forage resource. It also allows owners to get ahead of market trends by selling calves or cull cows before prices drop when other producers are forced to do the same. On the other side of the coin, higher-than-normal spring rainfall might suggest an opportunity to purchase stocker cattle.

The important thing in establishing a monitoring system, Gates says, is to try something, such as photo monitoring. "At the bare minimum," he says, "conduct an end-of-season assessment of range conditions to understand the impact of your grazing decisions. Set a date. And once you've done something, try it again and stay consistent. Be patient, as improvements can be slow. Keep learning and stay organized." ✓



Charlie Orchard of Land EKG demonstrates methods for monitoring rangeland condition along a fixed transect, using measurements and photographs.

FOR LINKS TO ADDITIONAL ARTICLES, RESEARCH REPORTS AND RESOURCES ON RANGELAND MONITORING, GO TO WWW.DROVERS.COM/RANGE.