Rangeland Drought Contingency Planning

10 Common questions and answers for ranchers.

Q: How severe is the drought in my pastures?
A: NRCS offers several drought tools to help:
1. Current forage production drought status map and Projected July 1 peak production map
2. South Dakota Drought Tool and User's Guide. This useful Excel spreadsheet will monitor the current and near-future drought status of grasslands specific to your operation—to assist in making management decisions in drought years. The internet-based program accesses local precipitation data to predicts the percentage of normal forage production at different times of the year. If you record your own precipitation data, the Drought Tool will adjust the values for your operation.

Access these tools at USDA-NRCS South Dakota Range & Pasture: Drought Resources page:
https://www.nrcs.usda.gov/wps/portal/nrcs/main/sd/technical/landuse/pasture/

Q: How useful is a pasture inventory before a drought?
A: A good grasslands conservation plan (offered for free by USDA Rangeland Management Specialists) identifies grassland species, overall production and condition. It is critical to determine proper stocking rate to maximize forage production and livestock performance. Over-utilized pastures take years to recover plant vigor and production. Simply adding fertilizer has unintended consequences of changing plant communities and is often not economical.

Q: How can I calculate my stocking levels in a drought?
A: The South Dakota Grazing Tool will give you stocking rates based on the land you want to graze and production values. It helps organize forage inventory, keeping track of Animal Unit Months (AUM) available and grazed forage production by month.

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Q: What is the benefit of setting a trigger date to make decisions?
A: As part of a drought management plan, setting trigger dates will help ensure that actions happen before pasture grasses are beyond recovery and livestock health is compromised.

Experienced ranchers know April, May and June are critical months for forage production and what type of plant community will occur. An early summer trigger date based on weather and forage growth is needed to implement options in your plan. This trigger date helps make critical decisions to add or cull, find alternative pastures or forages, change grazing and resting schedules or other strategies.

Ranchers also start early on the upcoming year with a fall trigger date, after September and October rainfall, to understand moisture availability for the upcoming spring. It allows time to build relationships with producers around you with different needs, like corn stalk or cover crop grazing, feed surpluses, or irrigated ground that could help you survive a drought situation.

Q: What is the best way to increase flexibility during a drought?
A: Some producers use a flexible stocking rate where yearlings become a regular addition to their base cattle herd strategy. When a drought occurs, selling yearlings based on pasture production doesn't

reduce the base herd. Another alternative may include adding annual forage crops or cover crops on croplands.

Ranchers who custom graze successfully protect their pastures with a flexible agreement. If drought limits forage and reduce cattle performance, the rancher can give a two-week notice to remove the livestock.

Other options are available to help provide flexibility during drought situations. Talking to a SD Grassland Coalition mentor may help determine best strategies for your operation. Visit their website to find mentor contact information: https://sdgrass.org/mentoring-network/.

Q: Is there a cost-effective method to improve rotational grazing?
A: In the words of Highmore rancher Jim Faulstich: "Initially, I thought only of the expenses when shifting to rotational grazing plans to manage drought. While some pastures did require expense like adding water, the real surprise was how much more profitable it made our operation. With more resilient grass came greater sustainability and profitability."

Q: What is the difference between a drought management plan and a grazing plan?
A: A drought contingency plan is part of an overall grazing management plan, based on targeting appropriate forage utilization, and rotating and resting pastures to allow plants and their roots time to recover.

South Dakota ranchers with the most experience in drought planning say 1) make a complete inventory of land, water resources, and livestock 2) plan each year for why and where your livestock will be grazing, when, and for how long, and how many will be there, and 3) base that plan on its ability to rotate, rest, and provide adequate recovery for grassland plants.

With that framework established, detailed planning can begin, using grazing concepts such as "take half, leave half" and trigger dates. The plan includes evaluating forage conditions and using flexible stocking rates that can take advantage of good times with more livestock with the ability to liquidate quickly in a drought. When you encounter trigger dates during drought conditions, be decisive and disciplined when executing your plan as conditions warrant.

Q: Why is diversity in grassland plant species important?
A: A good diversity of native species not only provide forage for livestock but give benefit to critical natural resources like soil health, wildlife, water/snow retention, pollinators and nutrient cycling. Proper grazing management is key to a healthy and resilient pasture to reduce the invasion of non-native grasses like smooth bromegrass, Kentucky bluegrass, crested wheatgrass or cheatgrass. Diverse plant communities are like an insurance policy against drought, and provide for improved livestock performance.

Q: What is soil health in rangeland, and how will it benefit my grazing plan?
A: The same principles used to develop healthy cropland soils apply to rangelands. Keeping the soil covered with robust living plants and residual litter on the soil surface, little soil disturbance, is vital. So is a diversity of plants that promotes more continual root growth throughout the year. Those growing roots feed microbes in the soil, resulting in building aggregated soils below ground with higher organic matter levels.

Healthier soils maximize rainfall infiltration and store water more efficiently. The resulting higher level of stored soil moisture reflects the soil's resilience and supports more diverse, healthy forage above ground during a drought. Managing for grass allows for more cattle and more profits per acre.

Q: What principles should I keep in mind for grazing?
A: The long-term key to less severe drought impacts on grasslands is developing resilient soils. The pathway to that resilience is to Remember the R's: Rotate, rest and recover.

For More Information
Contact your local Natural Resources Conservation Service Office for free assistance to develop a Grasslands Conservation Plan. Visit your local USDA Service Center
https://www.nrcs.usda.gov/wps/portal/nrcs/main/sd/contact/local/

USDA-NRCS South Dakota Range & Pasture: Drought Resources
https://bit.ly/SDGrasslands

South Dakota Governor's Drought Task Force
http://sdresponse.gov/drought/droughtmonitor.aspx

South Dakota 2021 Grasslands Planner e-Calendar
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/sd/newsroom/releases/?cid=NRCSEPRD1735026

NRCS South Dakota Growing Resilience with Soil Health (Cropland)
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/sd/soils/?cid=nrcseprd1559420

GROWING RESILIENCE
THROUGH OUR SOILS

Remember the R's:
Rotate – Rest – Recover