



# Ranch Drought Planning

**Jameson Brennan**, Assistant Professor and SDSU Extension Livestock Grazing Specialist  
**Krista Ehlert**, Assistant Professor and SDSU Extension Range Specialist  
**Jessalyn Bachler**, SDSU Extension Range Field Specialist

**August 2021**

## Drought isn't a matter of if but when...

### Northern Great Plains

Drought Duration	Drought Frequency
3-5 Months	Every 5 years
6-8 Months	Every 10 years
9-11 Months	Every 20 years

### Make a Plan

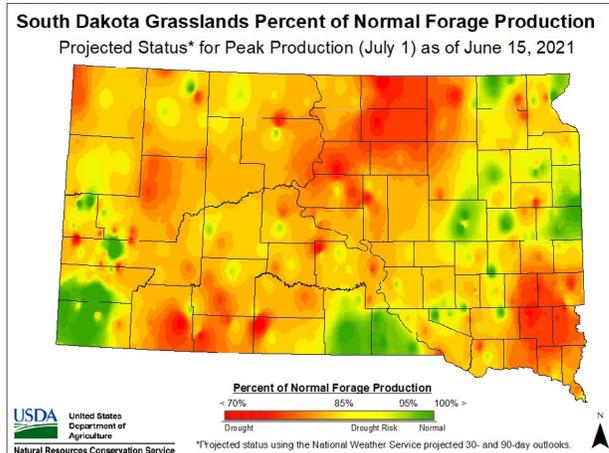
Natural resources are the foundation of a ranch, making it imperative to break the cycle of simply reacting to drought conditions and instead, implementing proactive ranch planning. Creating a drought plan during the good years can help you prepare for the bad years, to ensure you are not reacting to drying conditions when forage and management options are limited. Having a plan in place will help mitigate some of the financial losses of drought, while minimizing the impacts of overgrazing, which can affect overall forage production for the next growing season. Adaptive management strategies can help livestock producers manage some of the year-to-year variability in forage production and can be incorporated into drought decision-making processes. Adaptive strategies often focus on increasing flexibility within an operation and actively monitoring changing conditions to influence decision making.

### Identify Trigger Dates

Identify critical dates for your operation to match when critical management decisions need to be reviewed. For example: If spring precipitation is 20% below normal on June 1, then consider selling yearling steers. By having a plan in place and sticking to it, producers can avoid expensive lessons in 'coulda, shoulda, woulda.'

## Utilize Climate Tools

Drought monitoring tools can help producers anticipate low forage production and thus adjust grazing plans and stocking rates before cattle are put on pasture. If drought conditions are predicted, consider purchasing or pre-contracting alternative feeds early in the season when prices are lower. One example of an available tool for drought monitoring is the Natural Resources Conservation Service (NRCS) projected peak forage production maps that are released throughout the grazing season:



## Spring Turnout

Grazing too early can reduce forage production for the whole season. If there is an option, consider feeding livestock later into the spring to allow grasses time to grow. This allows them to utilize photosynthesis for growth, instead of relying on costly root reserves. In addition, graze tame grass pastures with introduced

species such as Kentucky bluegrass, crested wheatgrass and smooth brome earliest and native grass pastures later in the season, as native grasses are more sensitive to grazing pressure. Grazing readiness is important to ensure grasses are able to reach their full production potential. Introduced grasses should be at the 3-leaf stage as shown below with a crested wheatgrass plant before being grazed; native grasses at the 3.5-4-leaf stage before being grazed.



## Water Quality

Water is the most important nutrient for livestock. Good water quality has been shown to positively impact overall production and weight gains (0.24 pounds per day in yearling beef steers, 0.33 pounds per day in beef calves). Poor quality water can negatively impact growth and reproduction of the animal; in serious cases, poor quality water has caused livestock deaths. Monitoring water quality and quantity is essential during drought as increases in salt and mineral components of water are common, and there also can be an increased risk of blue-green algae. SDSU Extension offers free on-site water testing services to help producers. Make a plan to monitor water resources for livestock.



## Livestock Management

**Yearlings:** Including yearlings as one type of grazing species in your operation allows for flexibility to avoid destocking your main cow or ewe herd when drought occurs and preventing the loss of decades of built up herd genetics.

**Culling early:** Instead of waiting for fall pregnancy checking and culling, cull low producing livestock sooner to save forage resources in the summer.

**Early weaning:** Once cows or ewes are weaned from their calves or lambs, they consume much less forage. An SDSU study found that early weaned cows (90 days early, August) saw an increase in body weight and body condition score compared to normal weaned cows (November). About one month of grazing was saved per animal unit over the 90-day period. Calves or lambs can be sold or moved to a feedlot to reduce grazing pressure on pastures and reduce the need to cull the cow or ewe herd (forage demand) to balance forage supply.

## Forage Considerations

**Nitrate testing:** In addition to limiting forage production, drought conditions can result in high levels of nitrates in forages. Nitrate poisoning in livestock can result in loss of animal productivity and death. SDSU Extension offers free Nitrate QuikTests for drought affected forages throughout the state.

**Alternative forages:** If available in your area, grazing cover crops, crop residue or annual forages as an alternative to grazing pasture is an option to alleviate pressure on pastures.

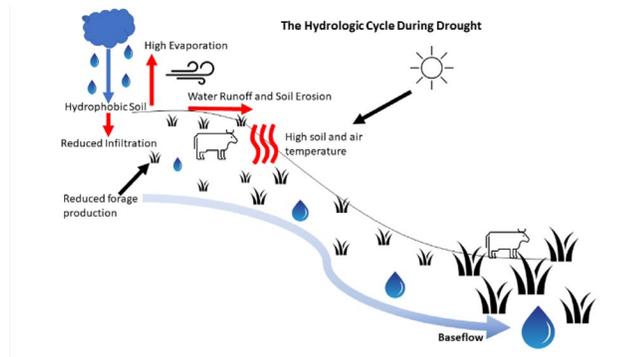
**Livestock Forage Program (LFP):** This program can help producers dealing with drought and other grazing losses. Contact your local Farm Service Agency (FSA) to determine eligibility.

**Conservation Reserve Program (CRP):** When a county is designated under D2 drought conditions, Conservation Reserve Program (CRP) land can be released for emergency and non-emergency grazing and haying. Check with your local FSA for eligibility.

## Manage the Grazing System

Grazing systems are complex and involve the interaction of soil, water, forage and livestock. Though drought may last through a season, grazing management decisions can have lasting consequences on the health and productivity of the ecosystem for years. For example, overgrazing during drought years can reduce ground cover that can heighten wind erosion, and increase soil temperatures and evaporation rates that can lead to decreased soil moisture. This can cause reduced water infiltration in the soil resulting in water runoff and

soil erosion when precipitation does occur. Unhealthy soils will lead to lower forage production, and thus less available forage for livestock species. Understanding these interactions on the landscape can help to develop 'systems-level' grazing management plans for favorable or unfavorable years.



**SOUTH DAKOTA STATE  
UNIVERSITY EXTENSION**

**SOUTH DAKOTA STATE UNIVERSITY®  
ANIMAL SCIENCE DEPARTMENT**

SDSU Extension is an equal opportunity provider and employer in accordance with the nondiscrimination policies of South Dakota State University, the South Dakota Board of Regents and the United States Department of Agriculture.

Learn more at [extension.sdstate.edu](http://extension.sdstate.edu).

© 2021, South Dakota Board of Regents