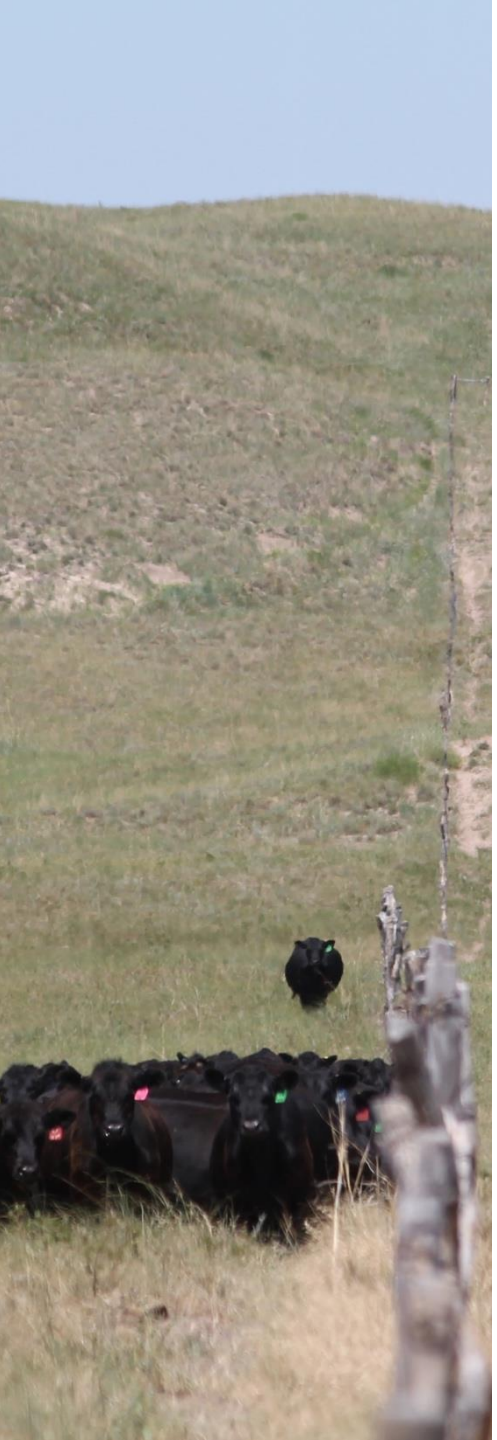
Triggering Management Decisions Before a Drought

Ryan Benjamin, T.L. Meyer, Randy Saner

Nebraska Extension Beef Educators

EXTENSION
Beef Systems



Today's plan

Drought Planning Trigger Dates

Weather-past and forecast

Drought affects plants how?

Adjust stocking rates- what does this look like?

Trigger dates: what to look for and management options

Resources

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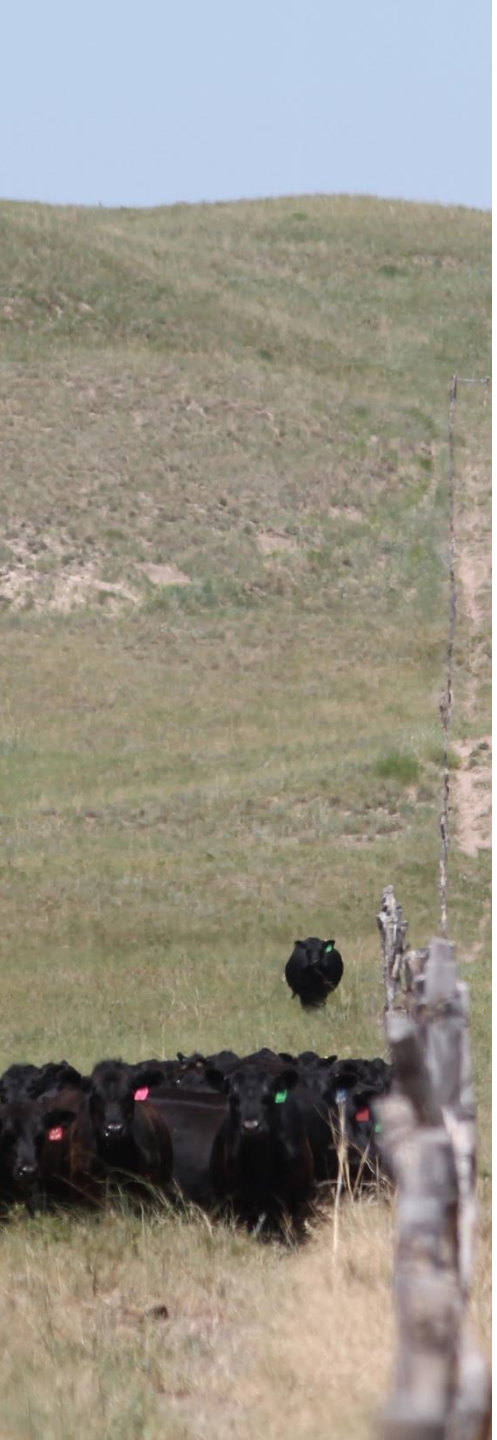

Drought Prep for Cattle Producers
Tues, April 15, 6:30PM MT

SCAN ME

Topics

Conditions and Outlook
Rangeland Response to Drought
Annual Forage Options
Summer Dry Lot Feeding Pairs
Programs for Producers

Online or In-Person

Rushville
Scottsbluff
Kimball
Thedford
O'Neill

More info

go.unl.edu/april15droughtprep
or
308-235-3122

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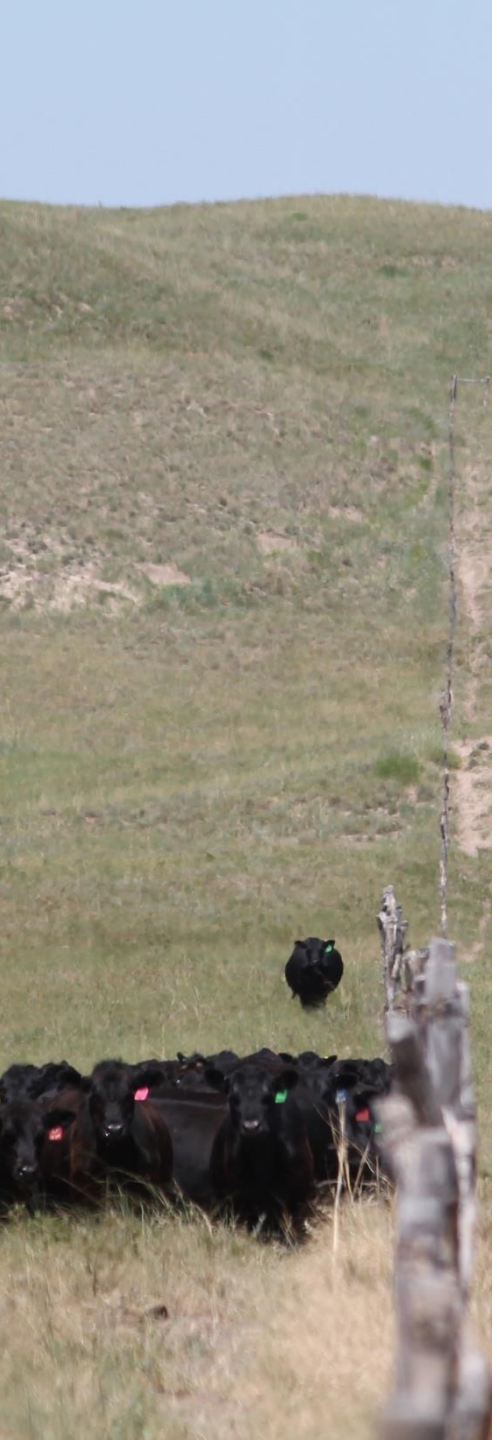

Disclaimer

Options presented today will not work for everyone

Your goals and resources will determine your management.

Will talking about drought make it rain?

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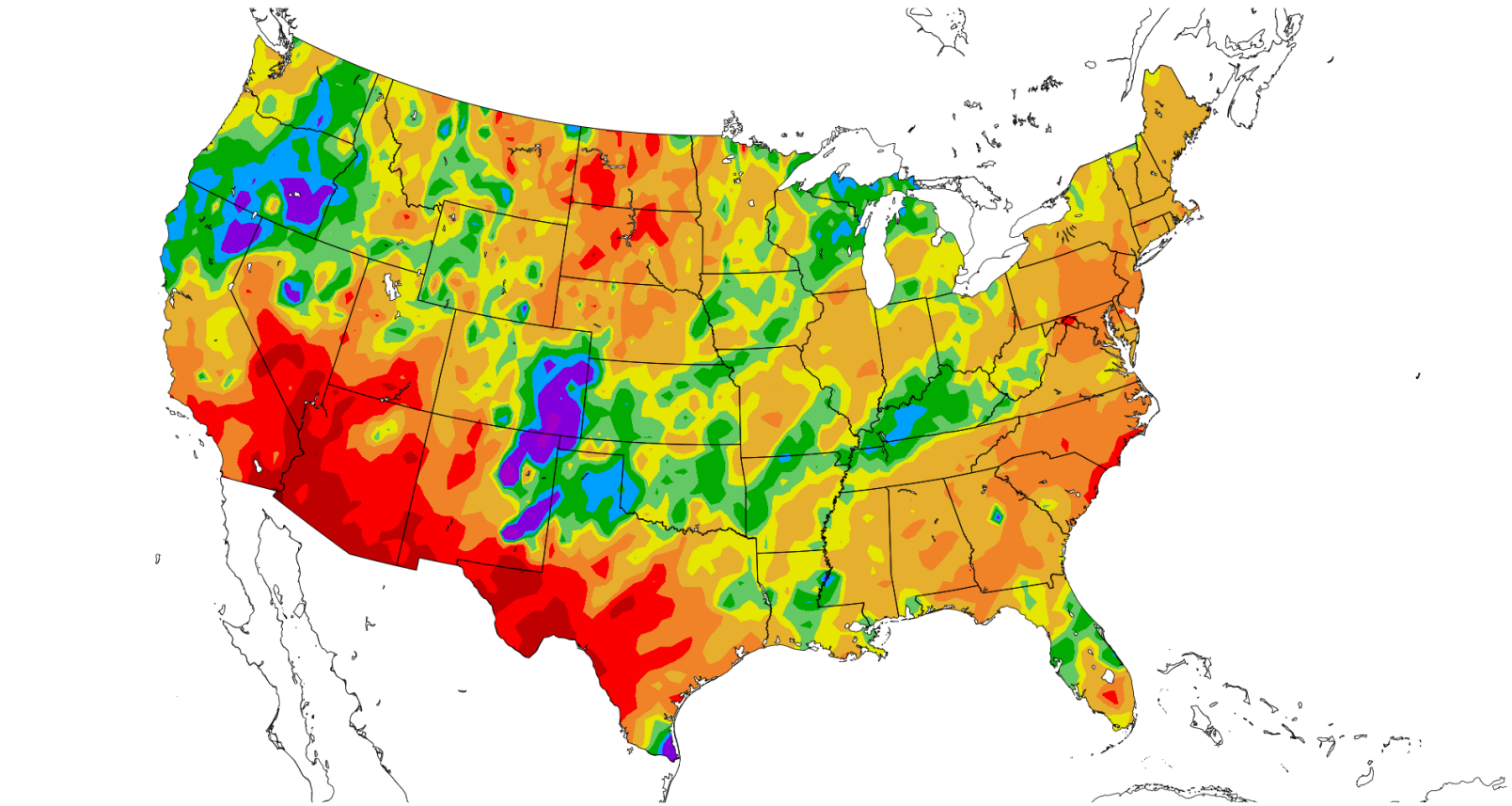
Percent of Normal Precipitation (%)
10/1/2024 – 4/3/2025



Generated 4/4/2025 at HPRCC using provisional data.

NOAA Regional Climate Centers

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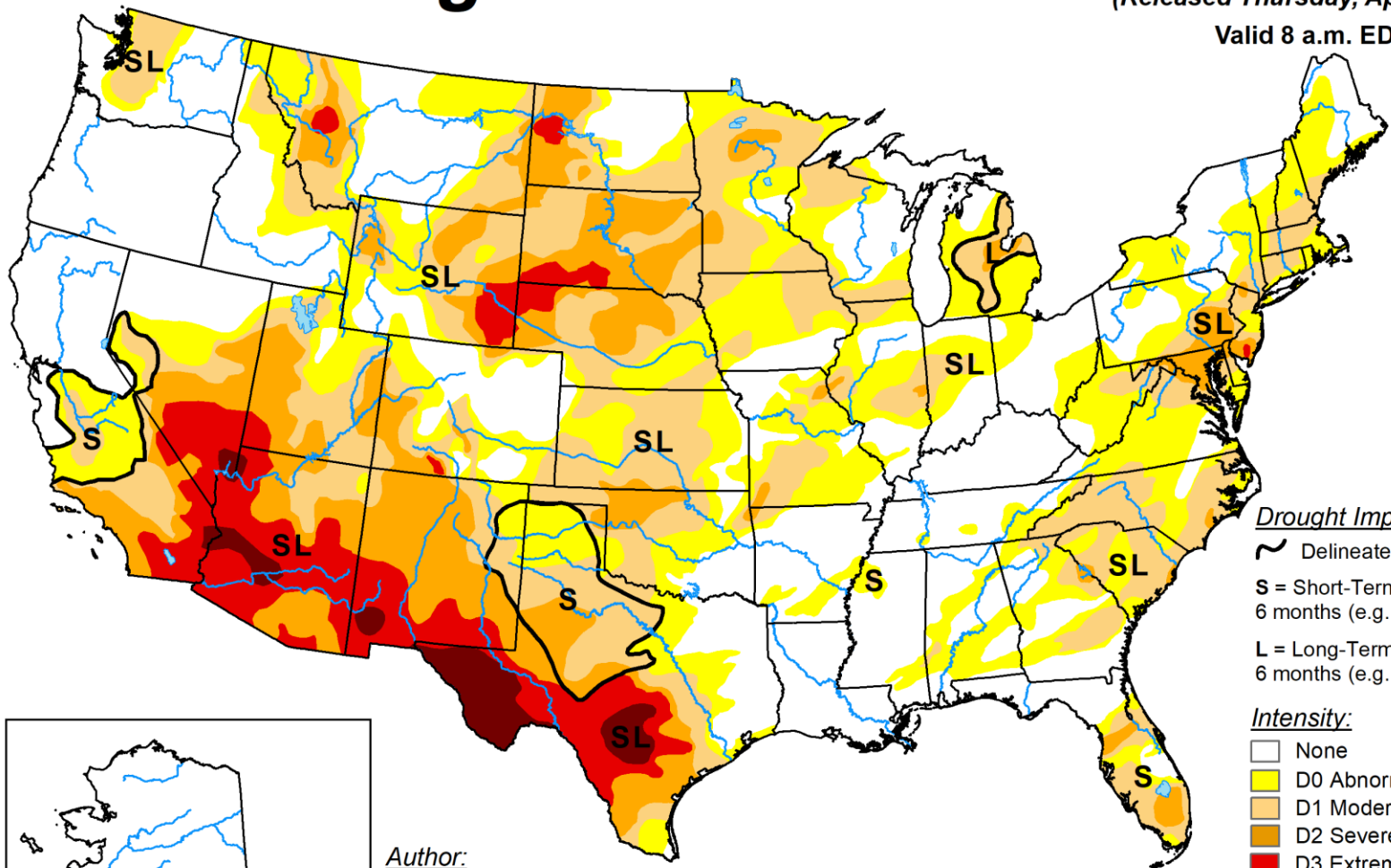
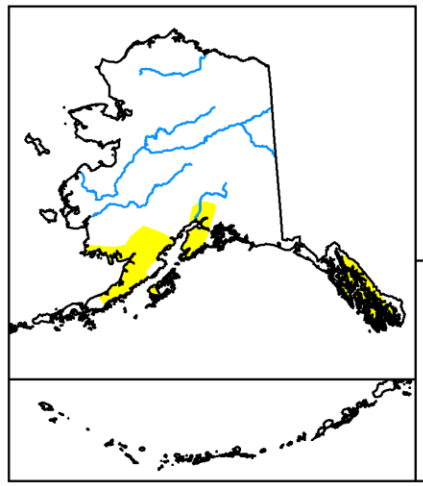
U.S. Drought Monitor

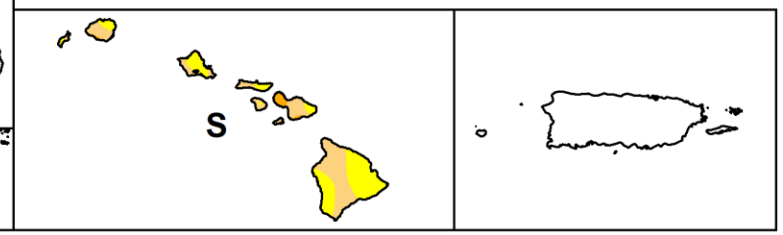
April 1, 2025

(Released Thursday, Apr. 3, 2025)

Valid 8 a.m. EDT







Drought Impact Types:

~ Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

Author:

David Simeral

Western Regional Climate Center

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

USDA NDMC NOAA

droughtmonitor.unl.edu

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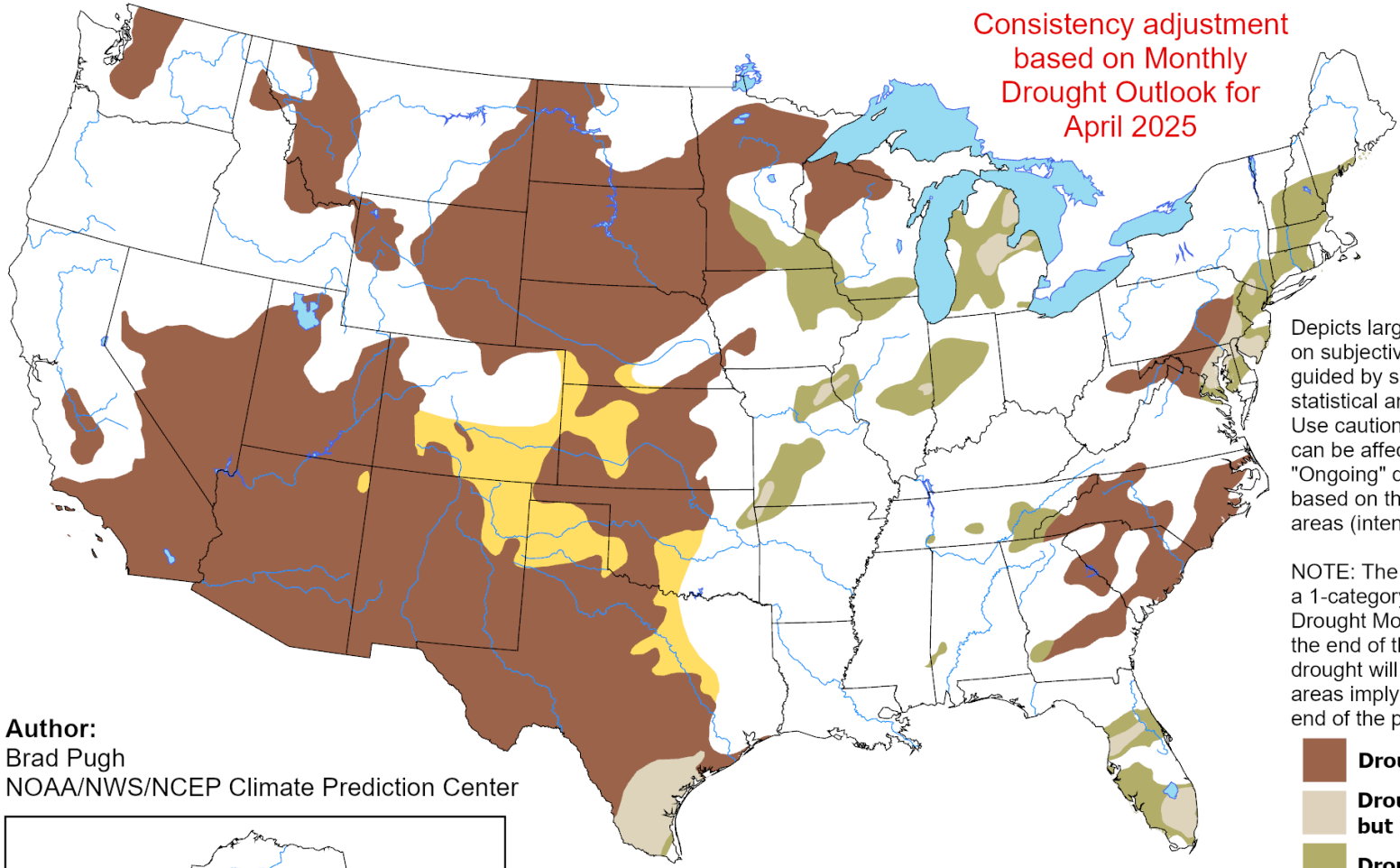
U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for April 1 - June 30, 2025
Released March 31, 2025

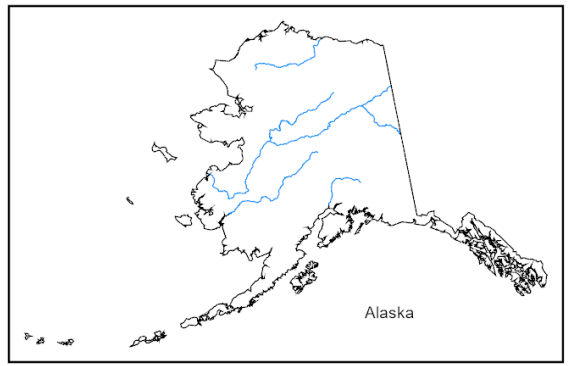


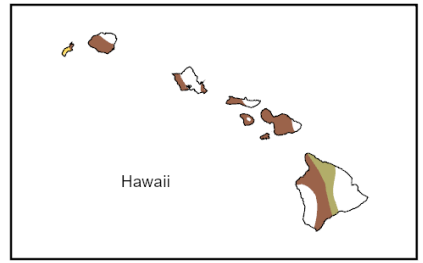
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

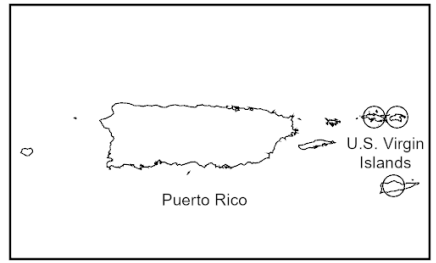
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- **Drought persists**
- **Drought remains, but improves**
- **Drought removal likely**
- **Drought development likely**
- **No drought**

Author:
Brad Pugh
NOAA/NWS/NCEP Climate Prediction Center







https://go.usa.gov/3eZ73

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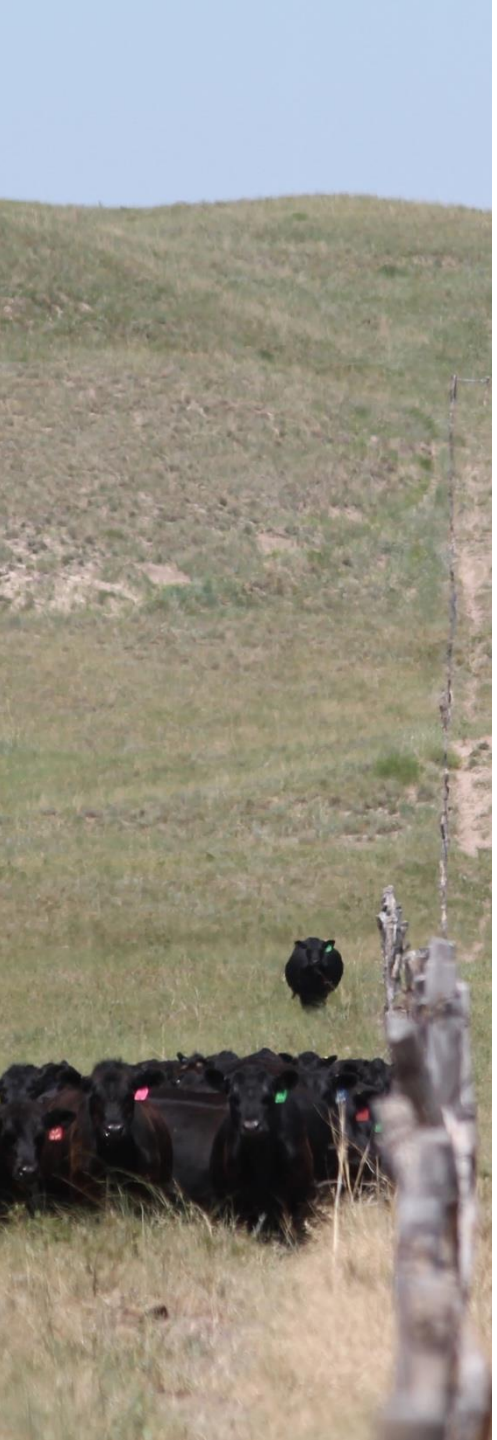

Proactive > Reactive

Planning provides more options and flexibility

Keep a current inventory of animals and feed resources

Decisions based on facts, not emotions

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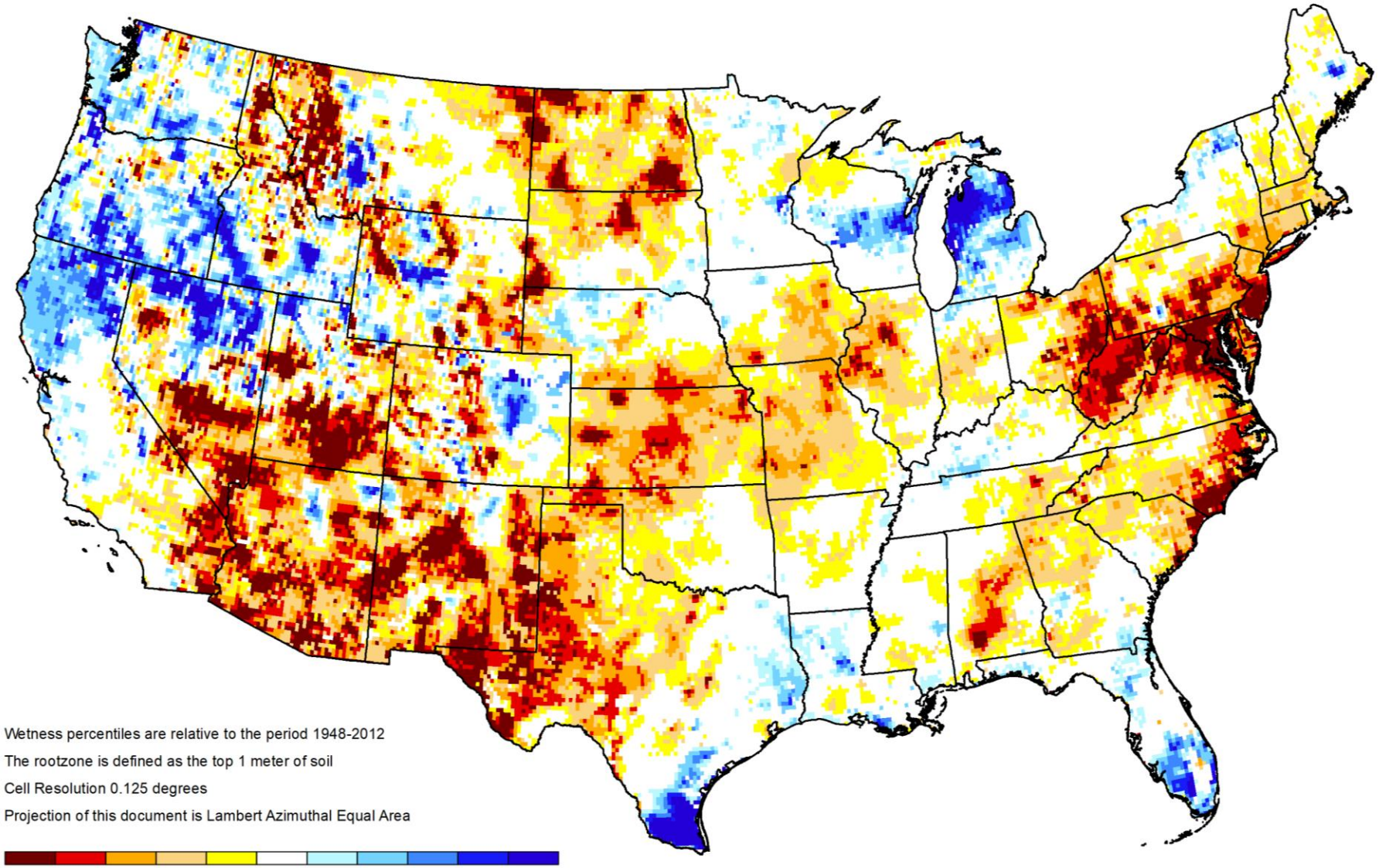
GRACE-Based Root Zone Soil Moisture Drought Indicator

March 31, 2025



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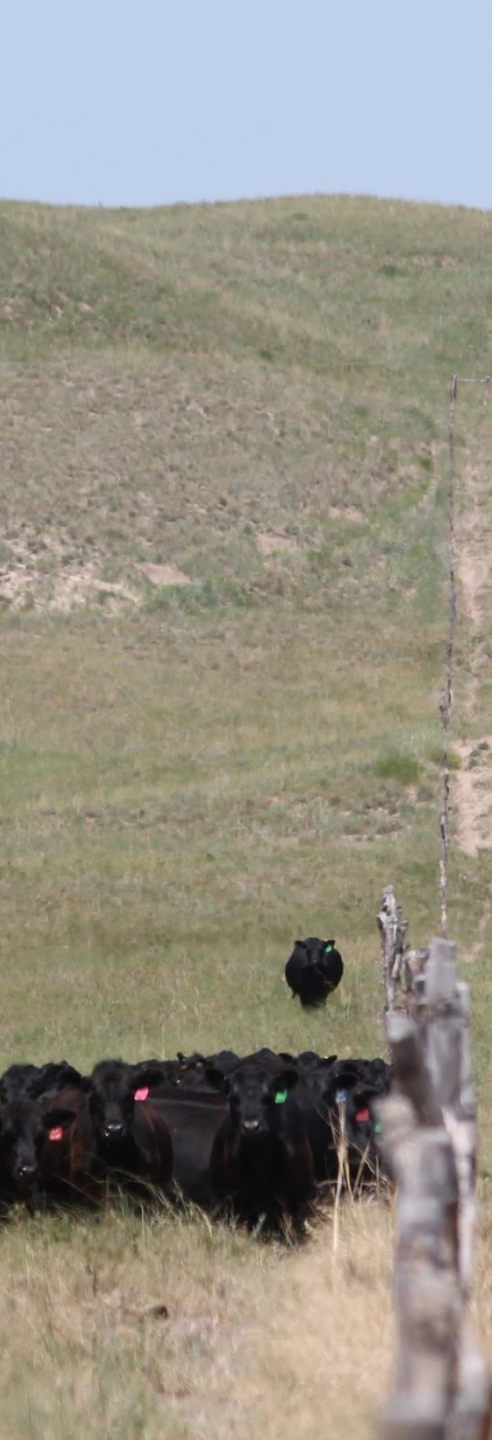
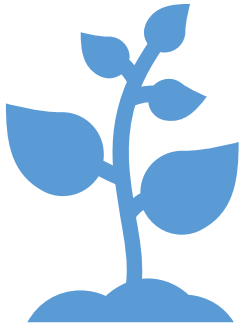
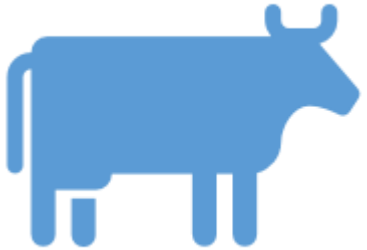


How do plants work?



As drought progresses soil becomes drier holding onto water more tightly



If we don’t feed cows enough protein, they metabolize muscle. Same thing with plants using water & carbohydrates.

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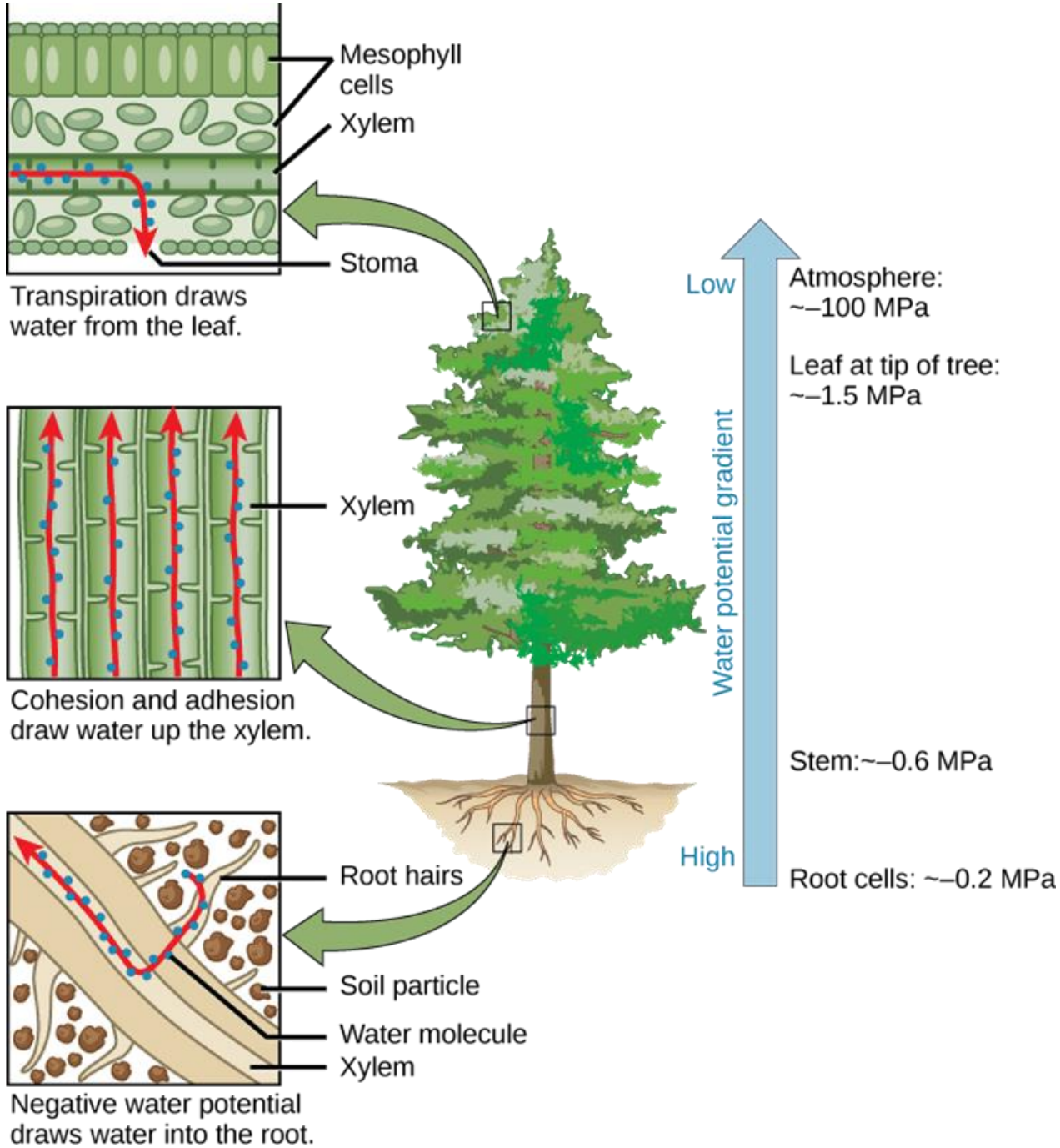

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Roots

- When plants go dormant, due to drought, they use carbohydrates in roots
- Root mass shrinks, fewer roots to take up water after drought
- Overgrazing does the same thing
- If compounded by overgrazing in drought it can have long-term plant health impacts

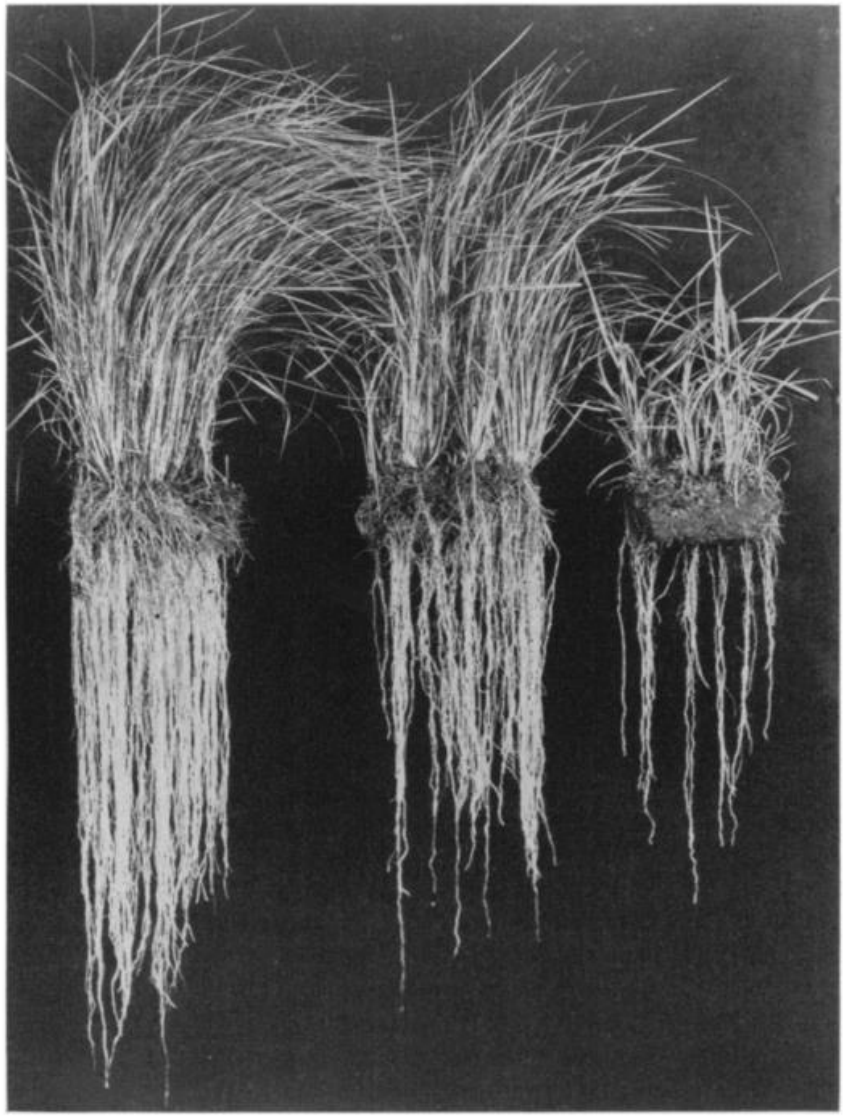

FIG. 7. New growth of roots and tops of little bluestem six weeks after transplanting the sods on May 17. The sods were each 6 inches long, 4 inches wide, and 3 inches deep but taken from a high-grade, mid-grade, and low-grade pasture, respectively.

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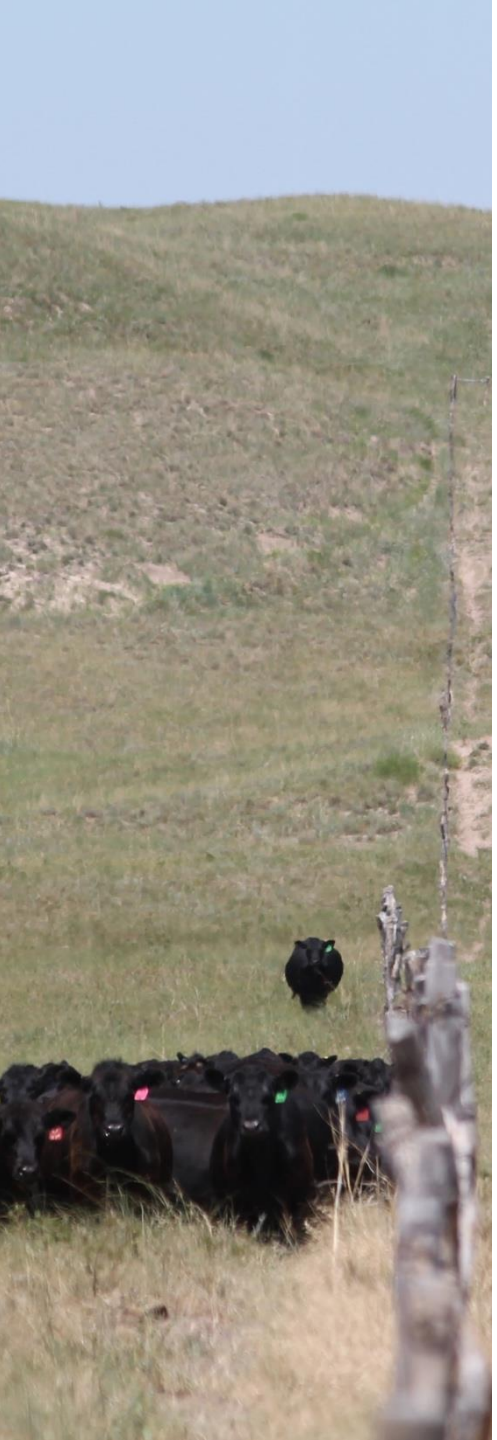
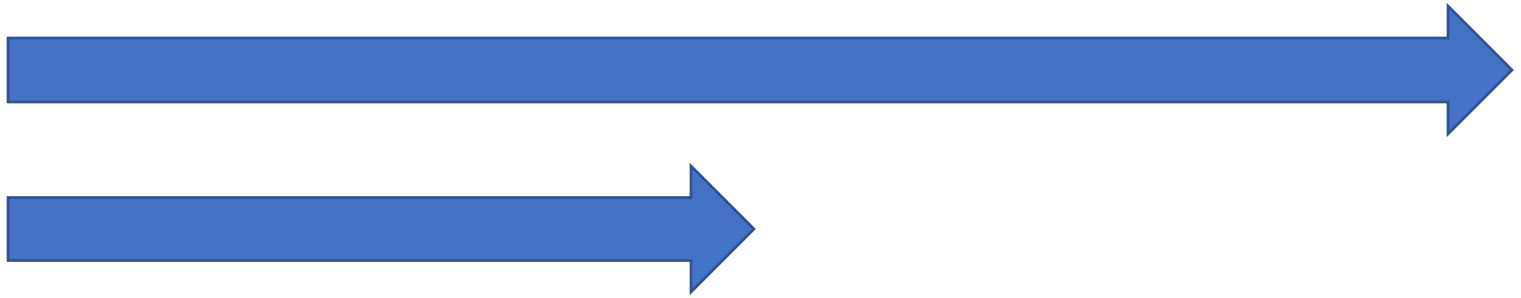
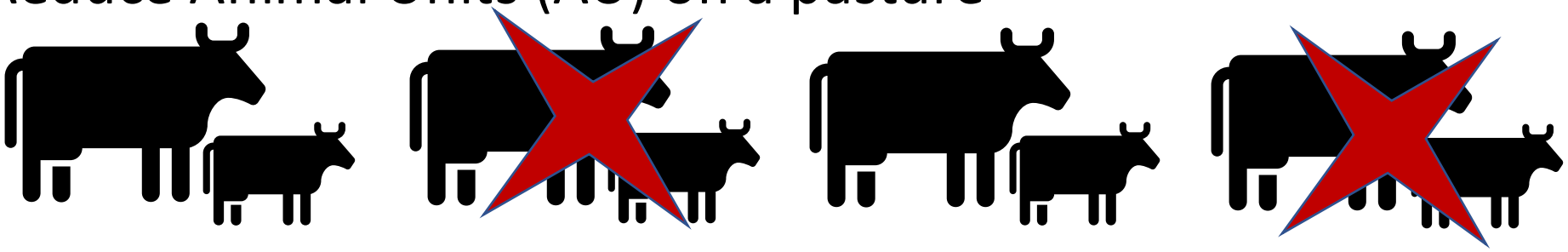


Reduce Stocking Rates

- Reduce grazing time on a pasture



- Reduce Animal Units (AU) on a pasture



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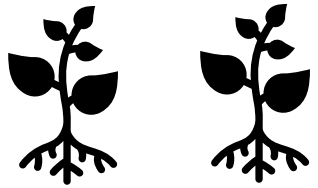
Smaller AU's

1 Animal Unit (AU) =
1,000 lb animal



1 AU consumes 26 lb
of dry forage a day

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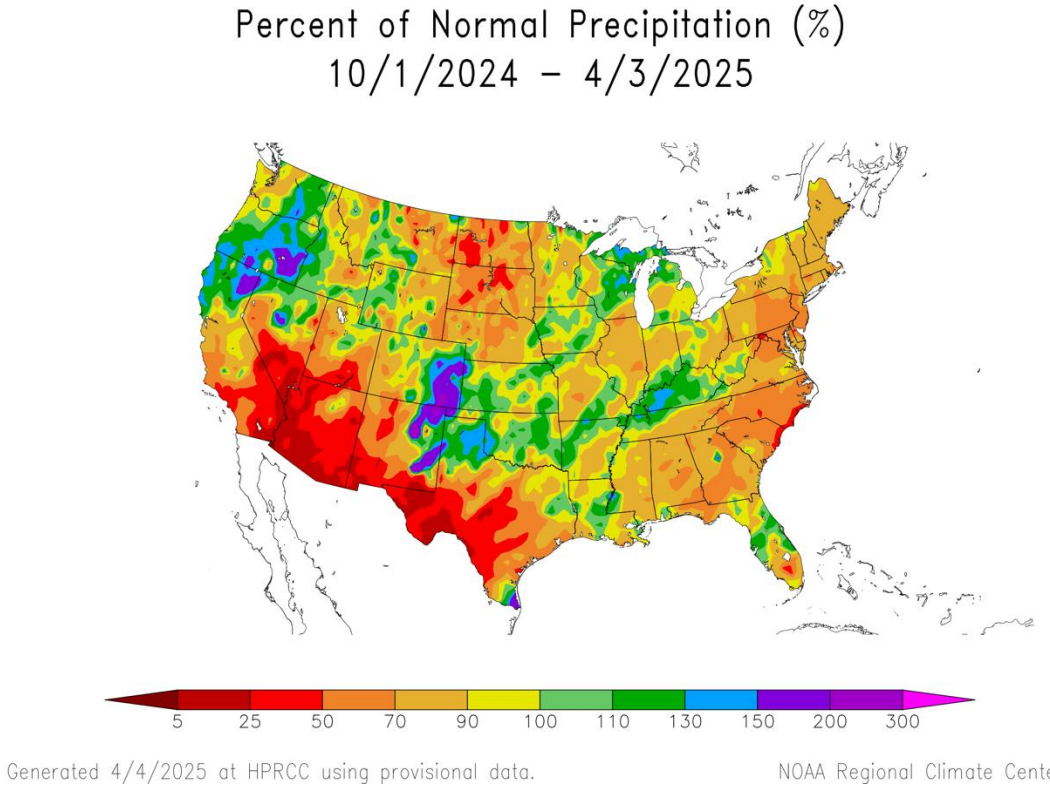
April 1… Look At

- Soil moisture - previous growing season & dormant season moisture
- Lack of moisture reduces cool-season grass growth



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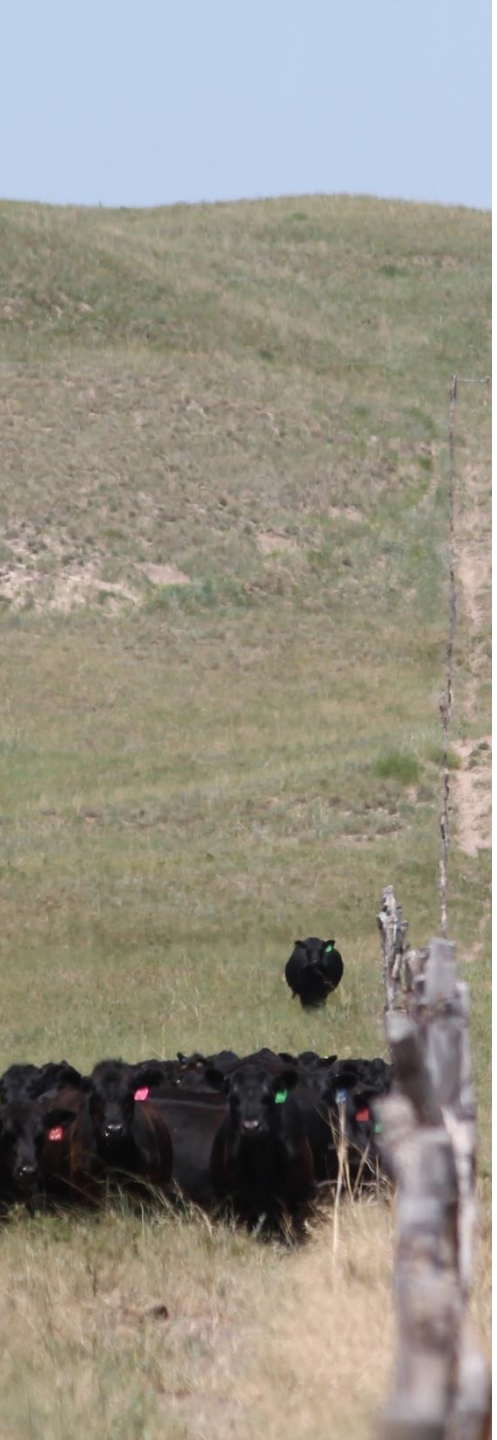

April 1… Management

If exceptionally dry, reduce stocking rates 10-20% cool season rangeland

Inventory all cattle & feed resources- what can go first?

Cull late calvers, opens

Keep smaller AU's: heifers vs pairs

Pastures leases – evaluate drought clause, find more pasture

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April 15 to May 10… Look At

- 30-45 day forecasts
- Cool season grass green-up

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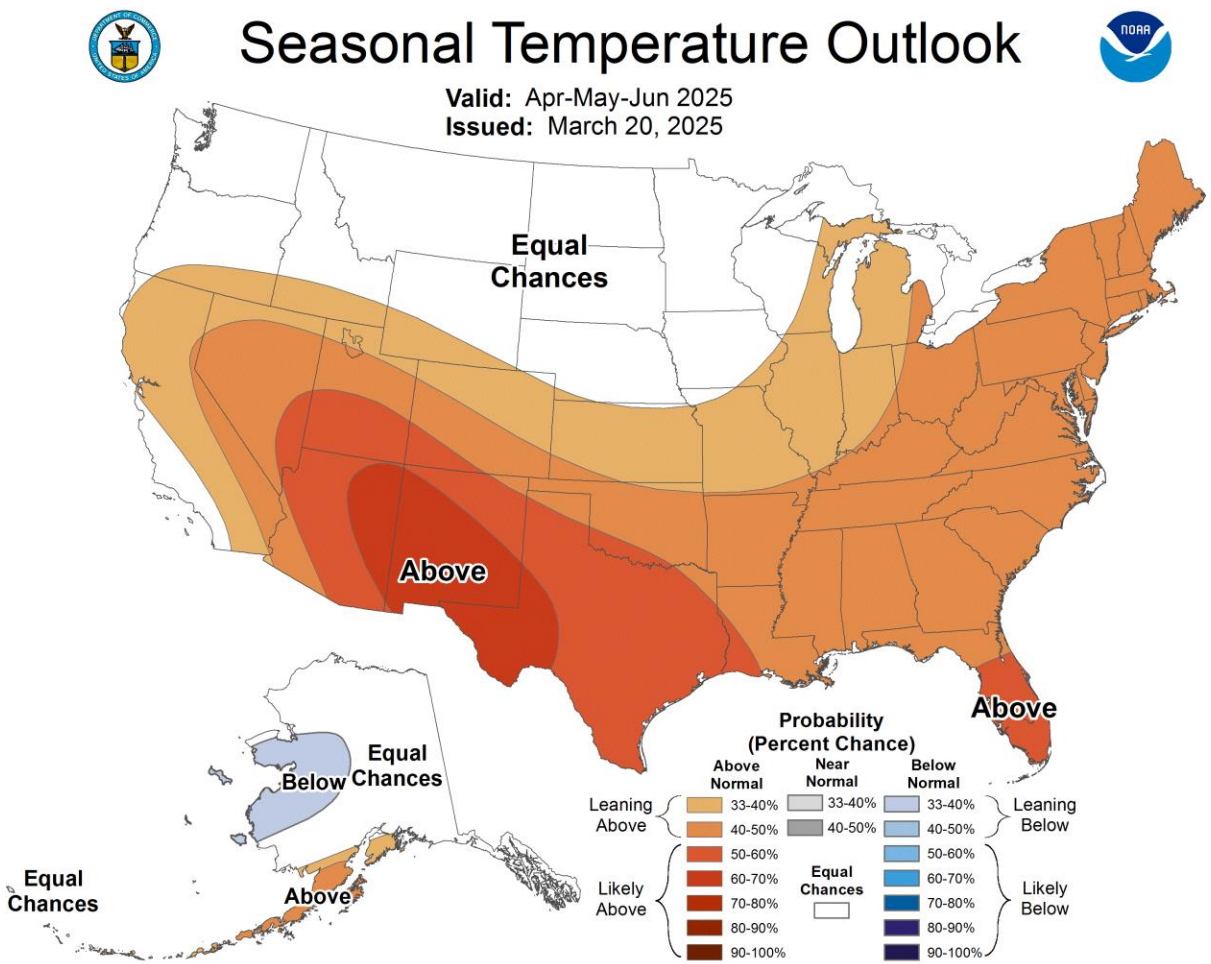

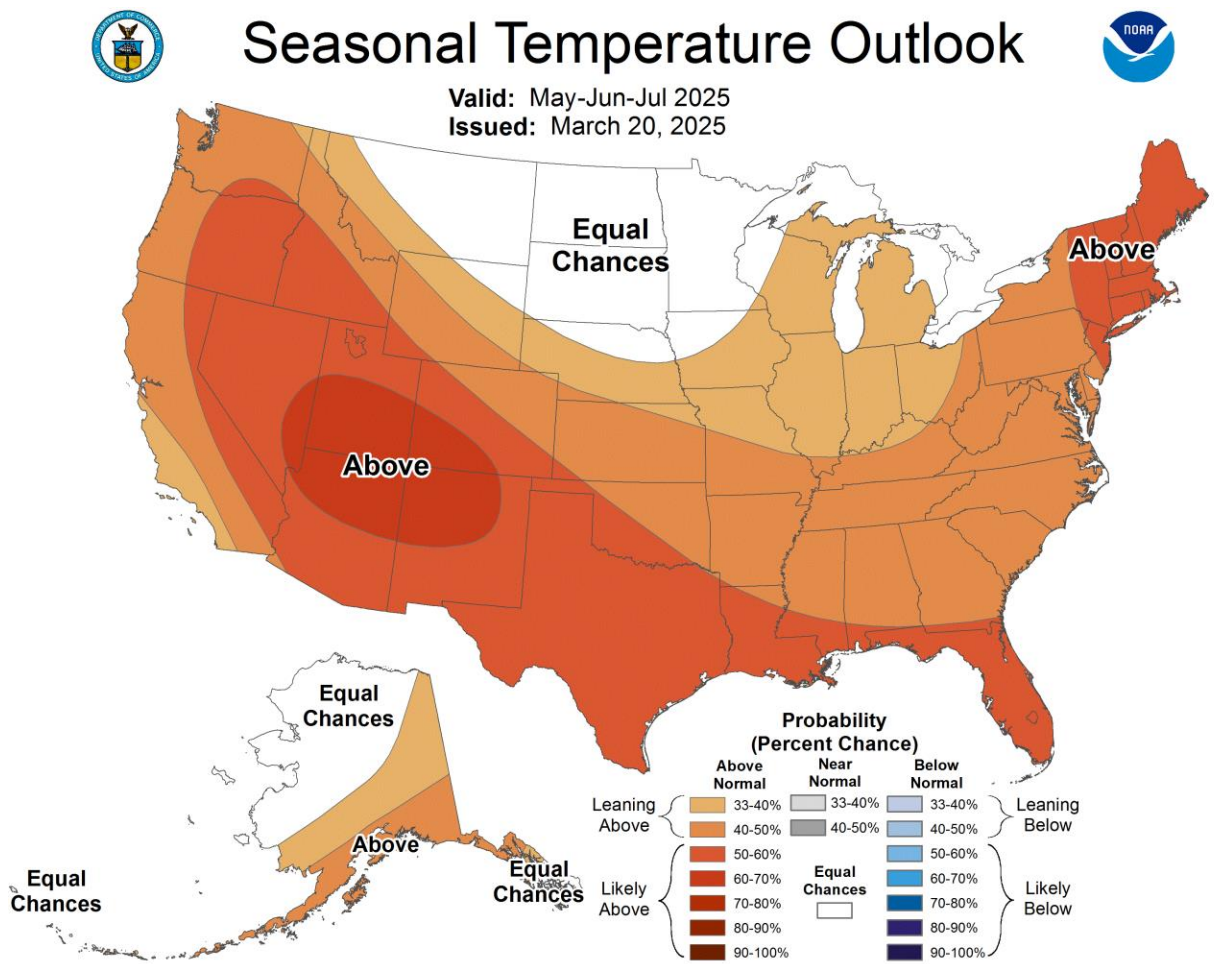

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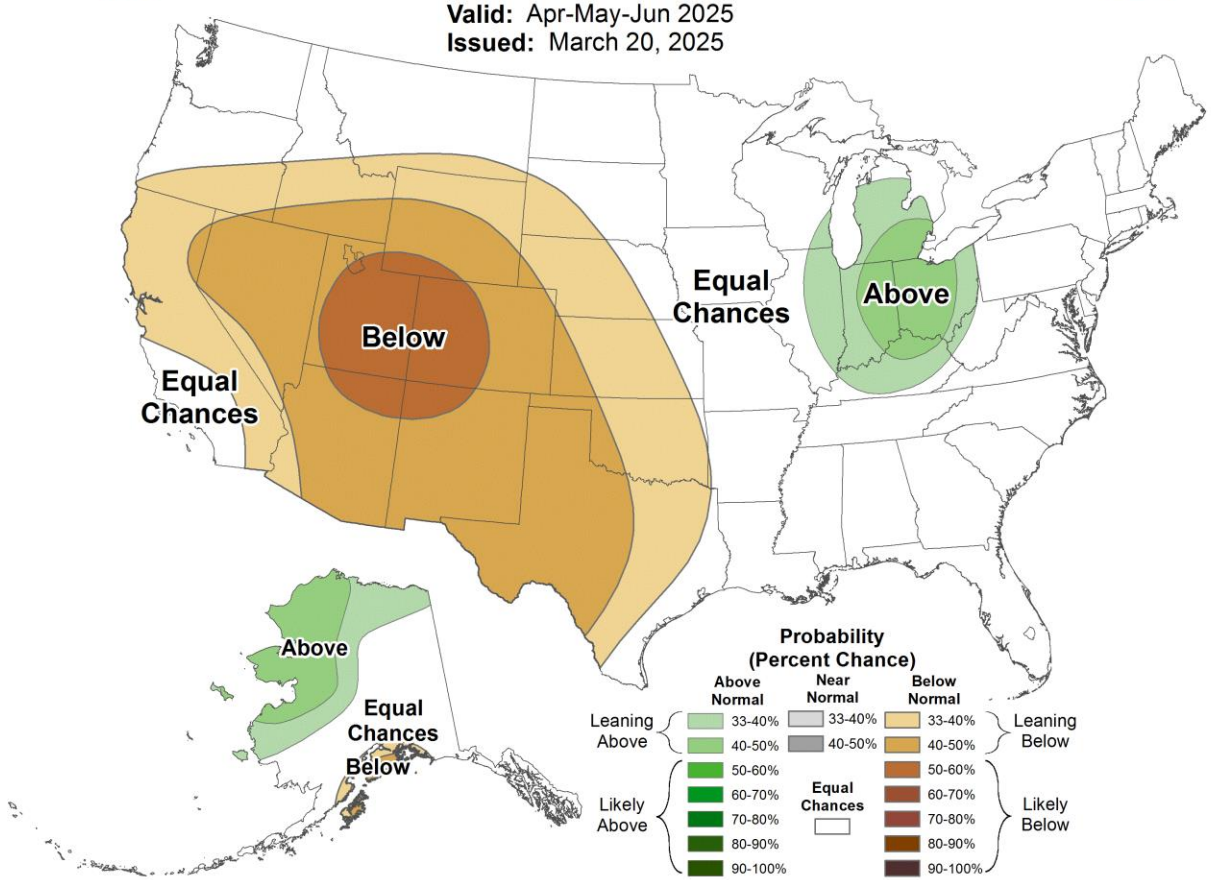
Seasonal Precipitation Outlook

Valid: Apr-May-Jun 2025
Issued: March 20, 2025



Seasonal Precipitation Outlook

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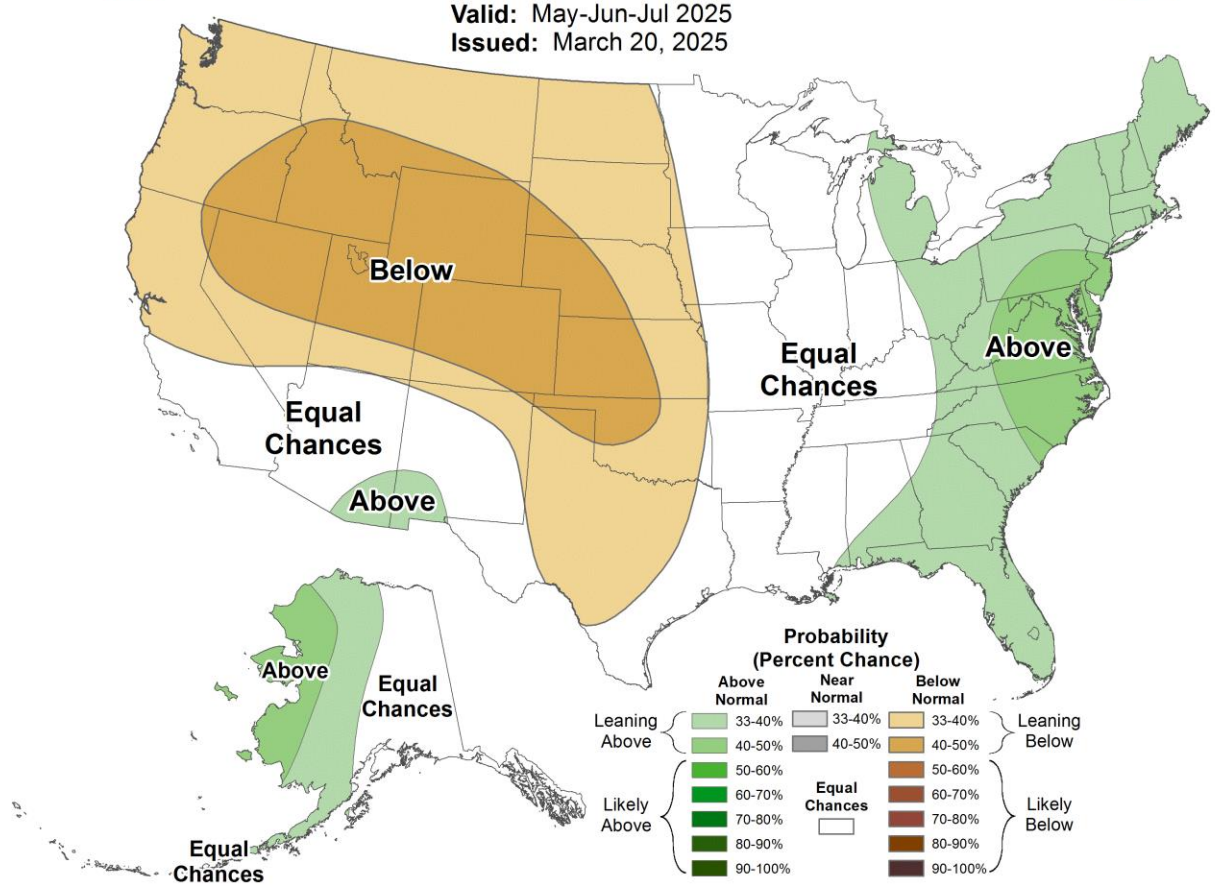

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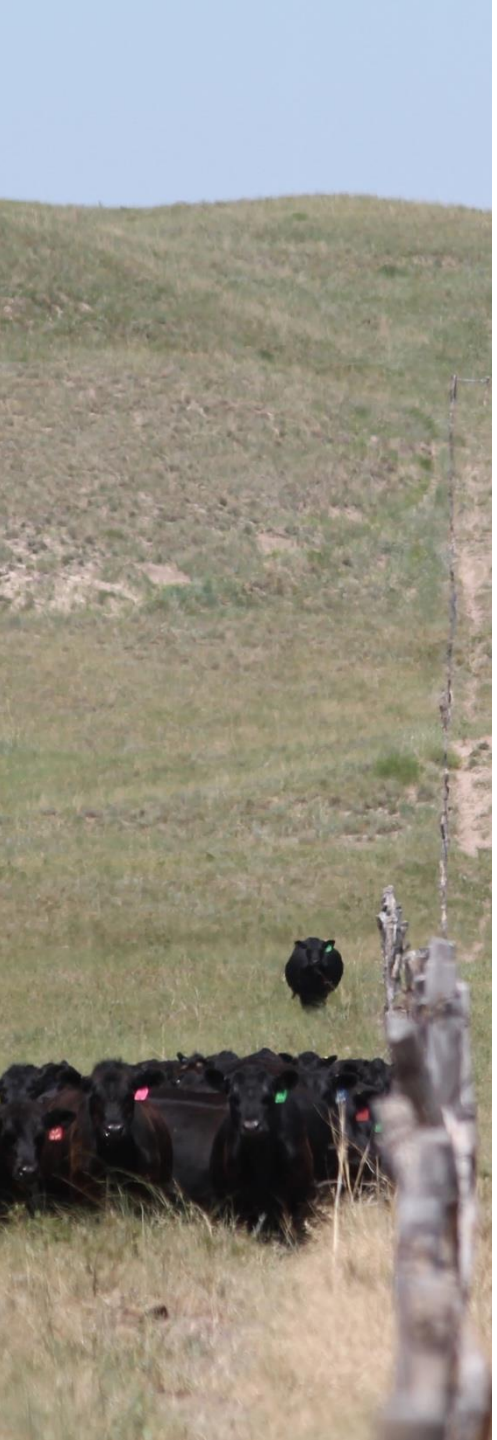

April 15 to May 10… Management

Decrease stocking rate more

Cull late calvers, opens

Delay turn out, know your hay/feed inventory

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May 20 to June 10… Look At

- Needlegrasses finishing growth
- Wheatgrasses rapid growth window
- March-May precipitation compared to average

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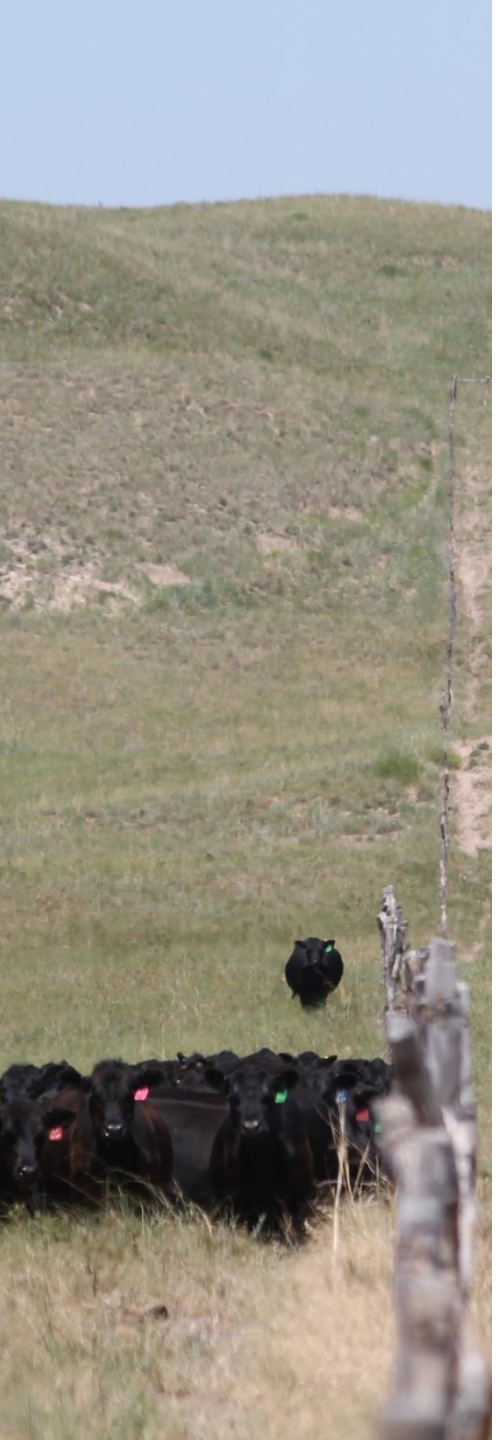

May 20 to June 10… Management

- Reduce stocking rates 30-40% or more
- Cull late calvers, opens
- Shorten breeding season, depending on calving season, sell bulls
- Heifers vs pairs

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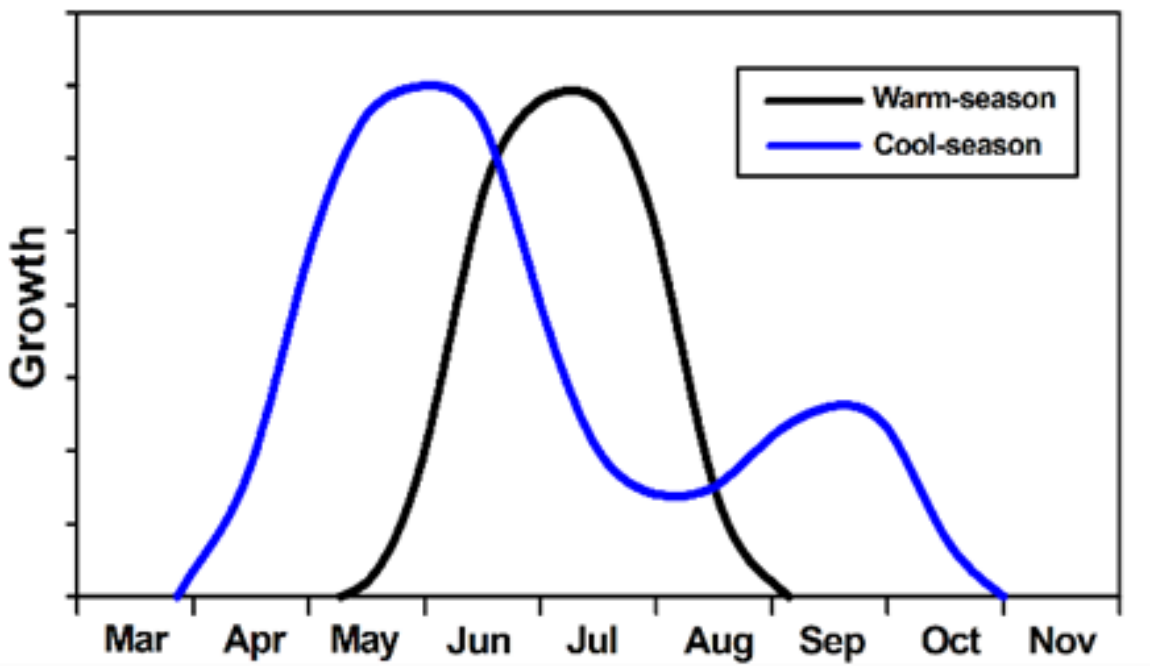
June 15 to June 30… Look At

- Cool-season grass done growing, unless irrigated
- 50% of warm-season grass growth
- Rainfall after late June may benefit warm-seasons



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June 15 to June 30… Management

- Reduce stocking rates
- Shorten breeding season, sell bulls
- Preg check, cull lates & opens

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June 15 to July 15… Look At

- Precipitation and available soil moisture important for warm-season grass
- Most warm-season growth by July 15
- Some shortgrass warm-seasons may benefit from precipitation

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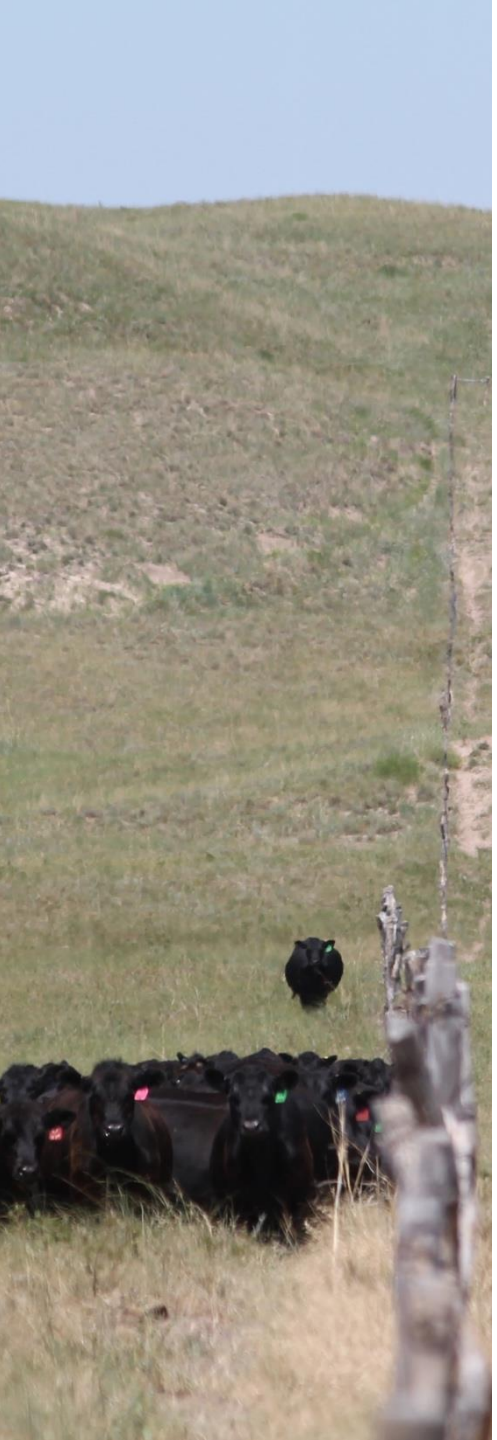

June 15 to July 15… Management

Reduce stocking rate; remove from pasture

Shorten breeding season

Cull late calvers, opens, bulls

Early wean, creep feed, etc. (Creep feed ↓ calf forage consumption, but does not ↓ cow milk)

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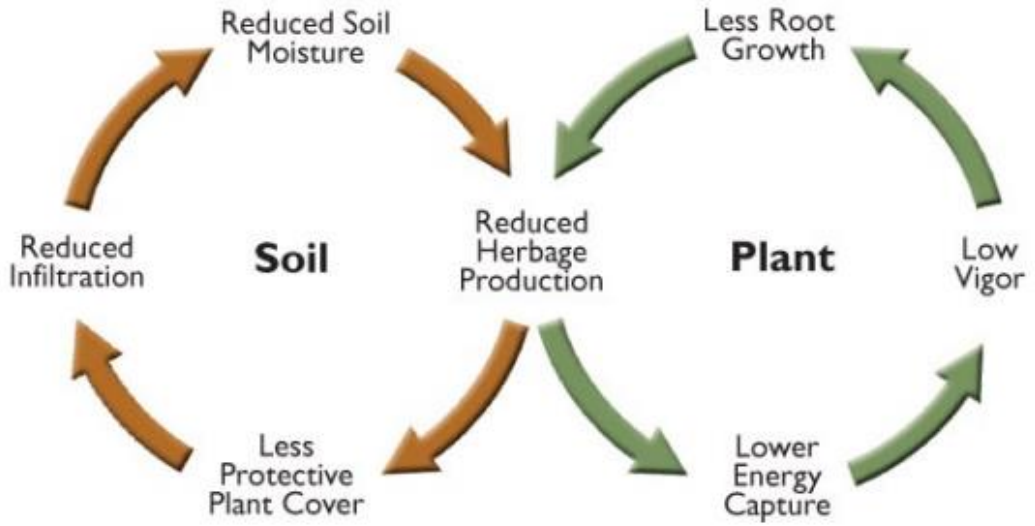
Sept 1 to Sept 15… Look At

- Cool-season pasture regrowth if adequate moisture now
- Temperature & precipitation forecasts



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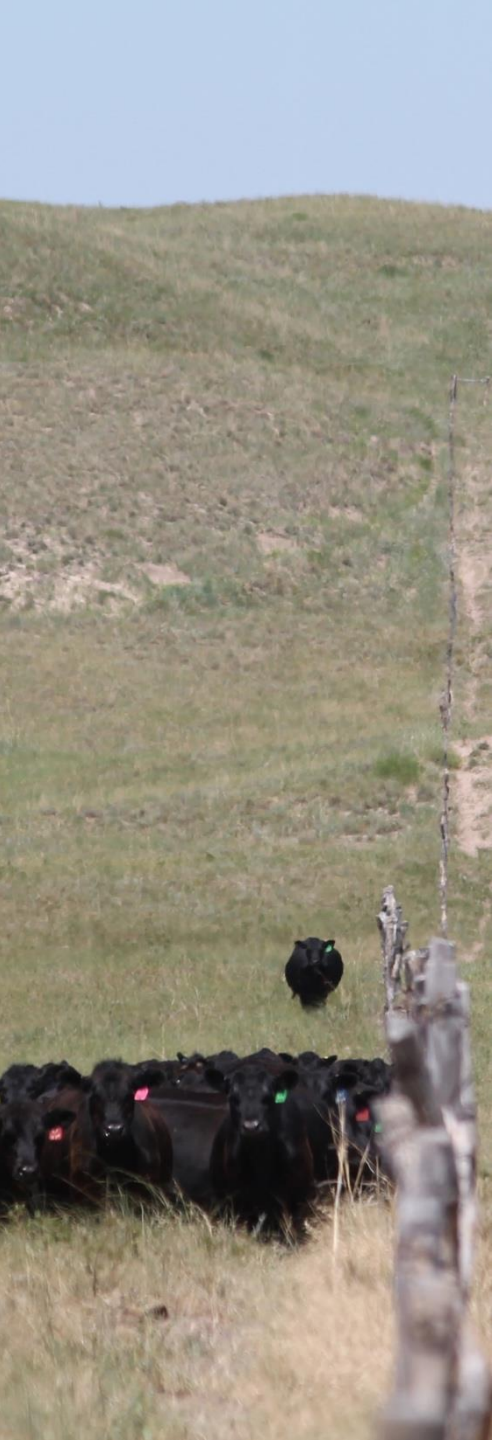

Sept 1 to Sept 15… Management

Start planning for next year

How will drought affect production

Early wean/marketing calves

Cornstalk leases

Acquire feed

- If bringing in feed watch for weeds/invasive plants where fed
- Fescue toxicity

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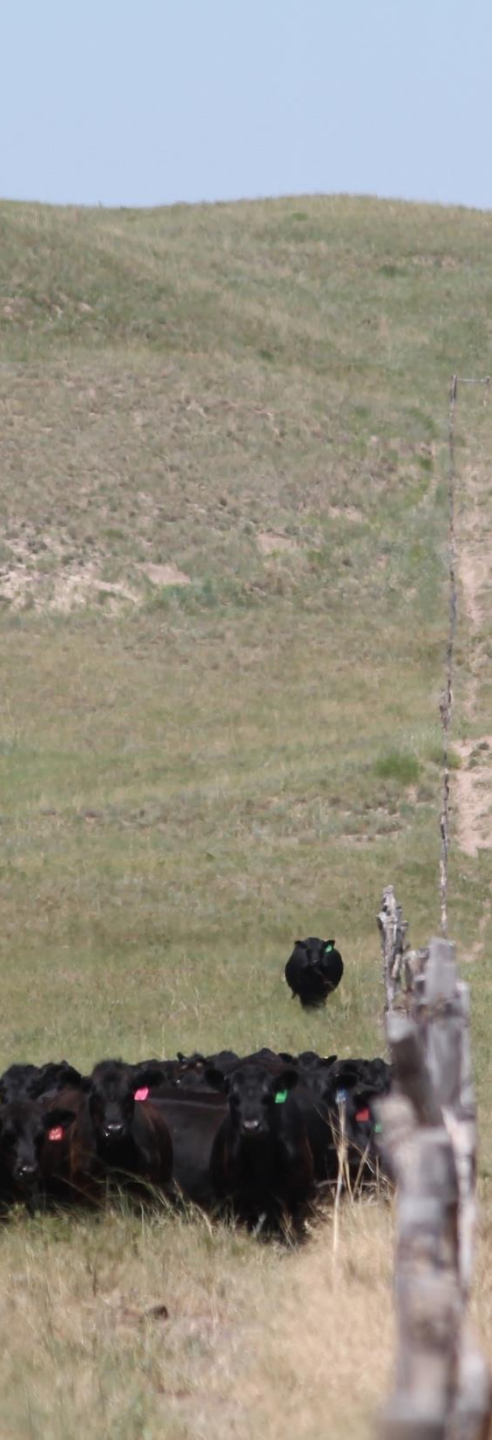

Summary

Drought is in the forecast

Plan now or react later; use trigger dates to manage

To reduce stocking rates, reduce time or AU’s

Be flexible

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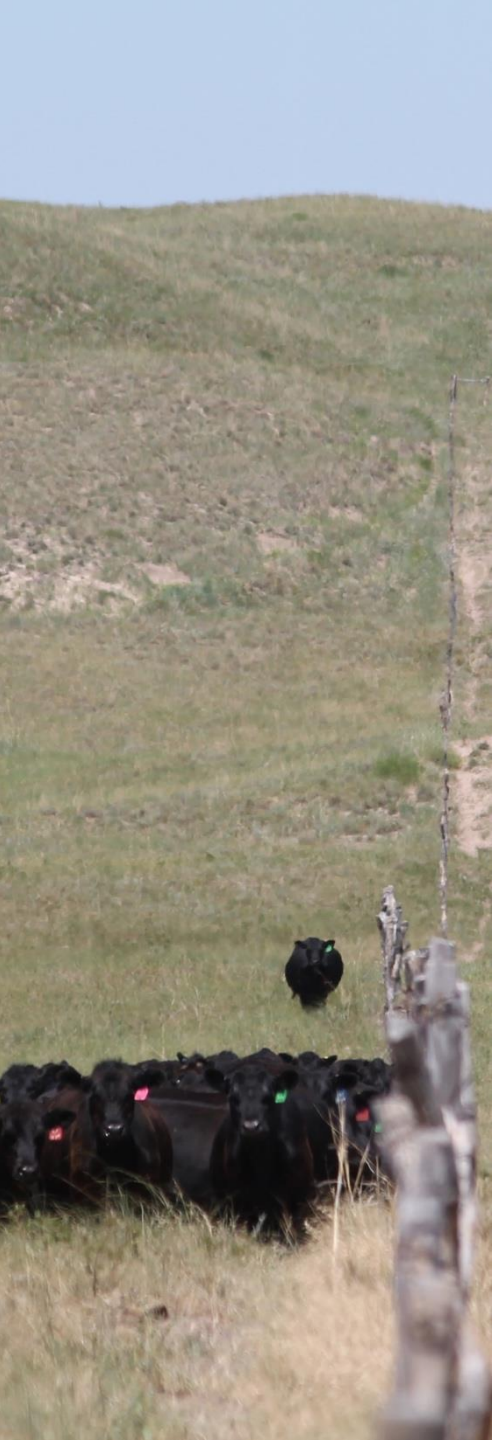

Resources

FSA/NRCS drought programs

- keep records
- visit w/ local office

GrassCast: Grassland Productivity Forecast

National Weather Service Climate Prediction Center

- Short and long term precip and temp forecasts

NebGuide: Skillful Grazing Management on Semiarid Rangelands

DROUGHT.UNL.EDU

- Managing Drought Risk on the Ranch

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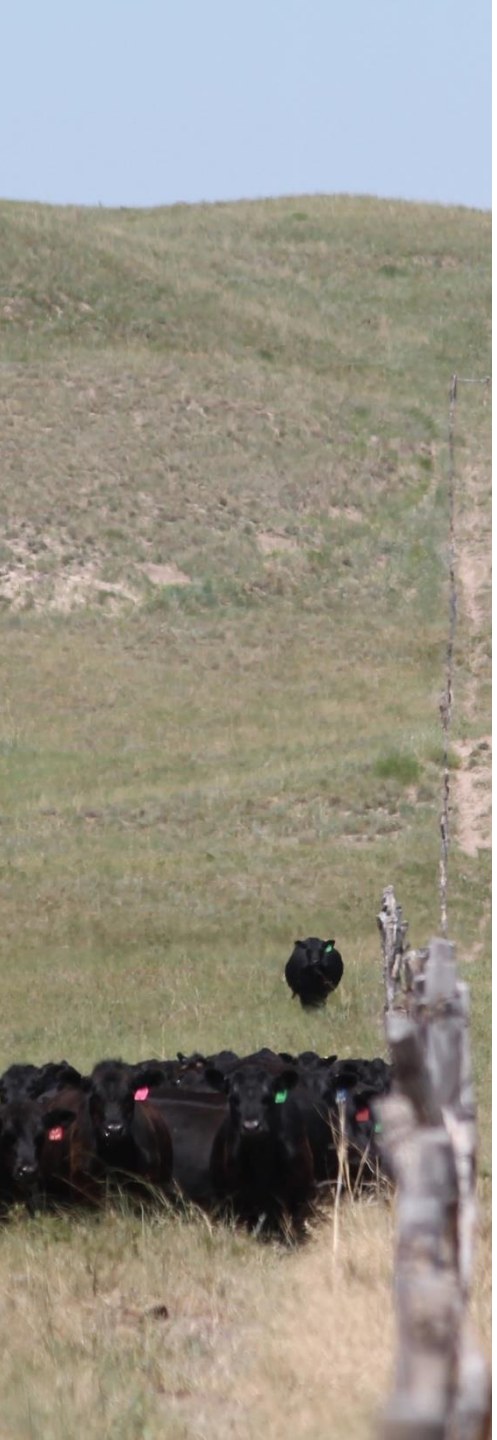

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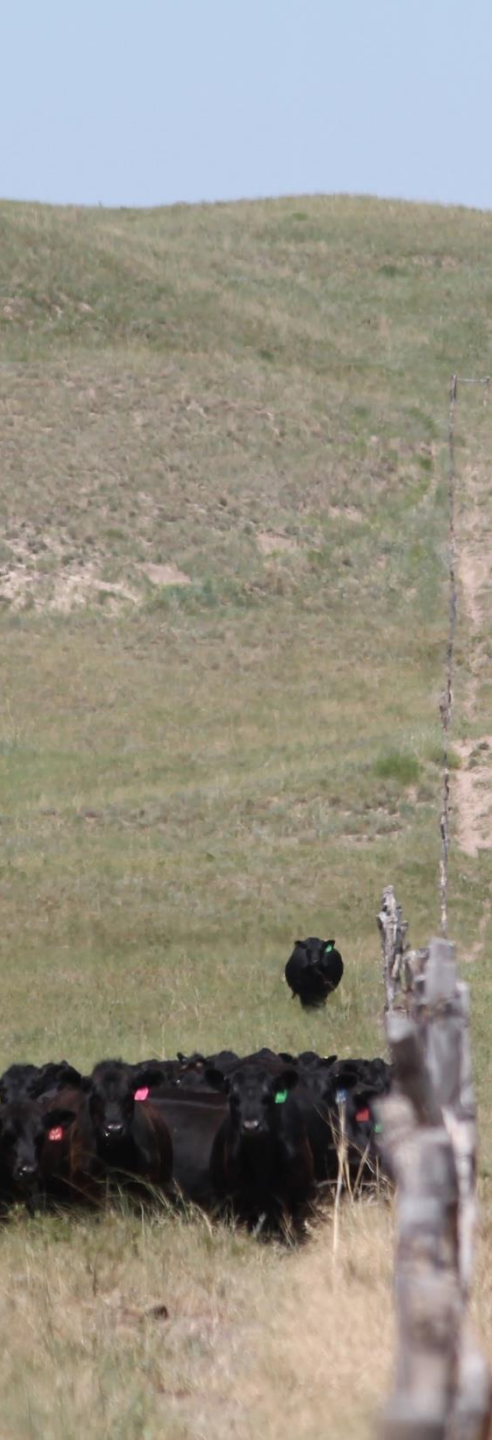

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Online or In-Person

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More info

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or
308-235-3122

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