



Preparing to Ranch in a Drought

*Tracy Schohr, Dan Macon, Josh Davy, Grace Woodmansee and Leslie Roche;
University of California Cooperative Extension*

**Updated from March 2018 Article in California Cattleman Magazine*

No one wants to talk about drought, but it is evident ranchers must continue to adapt to limited precipitation. Lessons learned from previous droughts can help producers plan for and cope with the uncertainty that comes with a dry forecast. In 2011, prior to California's devastating 2012-2016 drought, UC Rangelands and UC Cooperative Extension (UCCE) conducted a survey of more than 500 California Cattleman's Association (CCA) members. In 2016, we interviewed livestock producers regarding on-ranch impacts, drought management practices, and planning horizons following California's historic drought. This article highlights findings relevant to drought planning and adaptation from this work, as well as other information resources.

10 Management Practices for Ranchers Facing Drought

The management practices listed below are NOT listed in any particular order. You should consider the costs and benefits of each practice to decide the most effective options for your operation.

1. **Early Weaning** – Make plans to wean calves early; if you typically wean in April and ship in May, then explore options to move this time frame up a few weeks or even a month.
2. **Don't Retain Weaned Females** - This is a tough decision, they are the future of your operation, but realize they have a high nutritional demand and will not be putting dollars in your pocket for MONTHS.
3. **Sell Replacement Females** – First calf heifers have the highest nutritional demand since they are feeding a calf, pregnant, and still growing.
4. **Sell Stockers** – Explore selling stockers early to preserve feed for the base cow herd.
5. **Cull Bulls** – Consider your bull inventory before the next breeding cycle, taking into account individual age and how many bulls you will need.



Bulls during off breeding season on feed.

6. **Cull Cows** – Proper culling is important to herd performance and profitability decisions. Consider all factors that could impact the value of an individual to your herd – such as pregnancy status, performance, and temperament.
7. **Plan for Livestock Drinking Water** – Will you have enough water for the grazing season? Now may be the time to look into water development to enhance forage-use efficiencies, make a plan to haul water, or reevaluate stocking levels. Federal programs through sources such as Natural Resources Conservation Service (NRCS) can help to develop solar stock water wells, which may be more reliable for filling troughs than relying on ponds.
8. **Purchase Hay (and other feed)** – Consider the costs and benefits of purchasing feed, including costs of feeding (e.g. purchase, freight, equipment, and time) and your ability to recoup costs on sale day. It is also important to remember that if the bulk of the diet is hay you are no longer supplementing and cattle should be fed in a drylot, or sacrifice area, to preserve forage on rangeland. 75% of CCA producers surveyed in 2011, and 85% in 2016, used purchasing hay as a drought adaptation strategy. Does this strategy make economic sense today considering low cattle prices and high hay costs?
9. **Evaluate the use of Protein tubs** – By adding protein rumen microbes are better able to make use of dry forage. Prioritize supplementing thinner cows to provide additional nutrition essential for them to rebreed and produce a healthy calf.
10. **Plan for Irrigated Pasture Management**– Will your irrigated pasture provide enough for your summer demand, and as an option for relief on your annual rangelands? Considering irrigating earlier in the season, plan your irrigation as close to Evapotranspiration (ET) as possible and explore fertilization to increase production. Additionally, if your water allocation will be impaired, you should irrigate lands at 100% water needs to optimize production, thus forgoing irrigation on some acres if necessary. Lands not irrigated during the summer months will likely need to be replanted in the fall.



on annual rangeland.

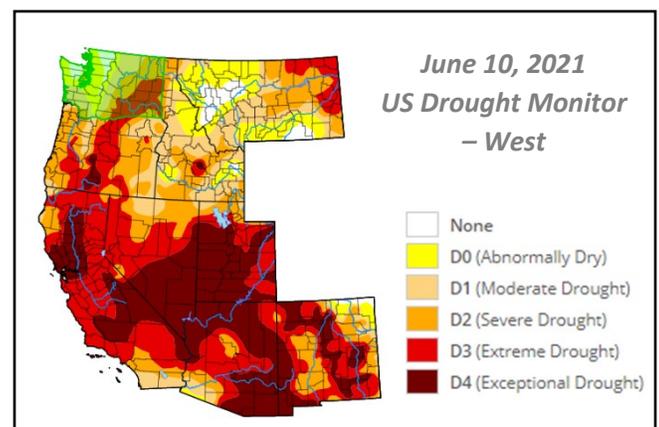


Cow-Calf pair at protein supplement tub.

In 2021, we are seeing widespread drought conditions across the west causing deteriorating range conditions, increasing feed costs for producers and increase supply in the marketplace. Current cattle markets and futures should influence your decision making and play into cost-benefit analysis of drought adaptation strategies to implement.

Many of the ranchers interviewed have noted the record high cattle prices differentiated the 2012-2016 drought from the last severe drought of the mid-1970s. One rancher stated, “Fortunately the cattle market's been really good in the last couple of years... that's been one thing that's saved us.”

Unfortunately we are currently seeing low cattle prices, the May 28, 2021 CattleFax Weekly update reports the market trading around \$120/cwt (compared to \$140/cwt in May 2014). Cull cows at Cattlemen's Livestock Market in Galt, Calif. were trading on May 28, 2021 \$60-\$66 (compared to May 28, 2014 at \$87-\$97).



In the 2011 CCA survey and 2016 drought interviews identified top proactive and reactive drought strategies among livestock producers in the Table 1 and Table 2.

Table 1. Reactive Drought Strategies

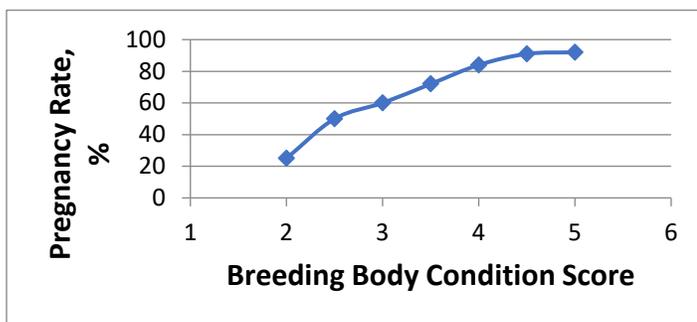
2011 Survey	2016 Interview
Reduce herd size (75%)	Purchase feed (83%)
Purchase feed (75%)	Apply for government assistance programs (71%)
Apply for government assistance programs (43%)	Reduced herd size (64%)
Wean early (43%)	Wean early (62%)
	Sold replacements (60%)

Table 2. Proactive Drought Strategies

2011 Survey	2016 Interview
Conservative Stocking (34%)	Pasture rest (91.5%)
Pasture rest (23%)	Grassbank/stockpile forage (75%)
Incorporate yearling cattle (21%)	Identify animals that could be sold (70%)
Grassbank/stockpile forage (12%)	Conservative Stocking (67%)
Adjust stocking rate (11%)	Purchase forage insurance (38%)

The strategies that have been successfully used by ranchers in past drought years are invaluable sources of information. By learning from past approaches, ranchers can make more informed decisions to develop response strategies, and implement solutions.

Remember it is never to late to plan for drought and you must maintain cattle body condition for reproductive success!



Additional Resources and references please visit:
<http://rangelands.ucdavis.edu/drought/>

Figure 1. Pregnancy rate by body condition score.
 Adapted from Renquist et al. 2006

More reading:

- Davy J.S., L.C. Forero, J.W. Stackhouse, G.A. Nader. 2015. Drought strategies for feeding cattle grazing annual grassland. UC ANR publication 8563 <http://anrcatalog.ucanr.edu/pdf/8563.pdf>
- Davy J.S., L. C. Forero, G.A Nador, J.W. Stackhouse. 2015. Drought strategies for culling cattle. UC ANR publication 8555. <https://anrcatalog.ucanr.edu/pdf/8555.pdf>
- Davy J.S., G.A Nador, J.W. Stackhouse. 2015. Supplemental feeds for cattle operations during drought. UC ANR publication 8565. <http://anrcatalog.ucanr.edu/pdf/8565.pdf>
- Macon, D.K., S. Barry, T. Becchetti, J.S. Davy, M.P. Doran, J.A. Finzel, H. George, J.M. Harper, L. Huntsinger, R.S. Ingram, D.E. Lancaster, R.E. Larsen, D.J. Lewis, D.F. Lile, N.K. McDougald, F.E. Mashiri, G. Nader, S.R. Oneto, J.W. Stackhouse, and L.M. Roche. 2016. Coping with drought on California rangelands. *Rangelands* 38: 222–228.
- Renquist B. J., J. W. Oltjen, R. D. Sainz, and C. C. Clavert. 2006. Effects of age on body condition and production parameters of multiparous beef cows. *J. Anim. Sci.* 84:1890-1895.
- Renquist B. J., J. W. Oltjen, R. D. Sainz, and C. C. Clavert. 2006. Relationship between body condition score and production of multiparous beef cows. *Livestock Sci.* 104: 147-155.
- Roche, L.M. 2016. Adaptive rangeland decision-making and coping with drought. *Sustainability* 8: 1334.