

## NO PRECIPITATION IN THE FORECAST PREPARING TO RANCH IN A DROUGHT

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There was a sigh of relief last year for ranchers as the rain fell, breaking the state's record drought. During the current water year, the state has seen a historically dry December, followed by moderate January precipitation that has failed to even fill most drinking water reservoirs.

However, throughout the Sierra Nevada, snow accumulations are about 20-27 percent of normal according to the most recent snow surveys. California is two months into what is typically our wettest season, and the forecast is bleak.

No one wants to use the "D" word, but ranchers should be prepared to manage for limited precipitation in the forecast. 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 the last drought, UC Rangelands and UC Cooperative Extension (UCCE) conducted a survey of more than 500 CCA members, along with interviews of more than 100 producers. In 2016, we conducted follow-up interviews with livestock producers regarding on-ranch impacts, management, and planning horizons following the severe drought that faced California. This article highlights findings from this research as well as other information sources that can help ranchers in drought planning and adaptation.

### 10 MANAGEMENT PRACTICES FOR RANCHERS FACING DROUGHT

The management practices listed below are NOT listed in any particular order. Ranchers must conduct a cost-benefit analysis as to what practices are most effective for them to implement for their specific ranch and operation characteristics.

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. Another option is weaning a portion of your calves early. Freeing up rangelands in April provides a greater opportunity to put weight on cows and potentially produce more residual feed for next fall, thus saving potential hay costs in the future.

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** – Similar to not retaining females, selling replacement females can be a hard decision, but first calf heifers have the highest nutritional demand since they are feeding a calf, pregnant, and still growing themselves. Thus, requiring more nutrition than a cow who is in a maintenance phase. Another consideration is to pregnancy check heifers early; culling open and late bred individuals.
4. **Sell Stockers** – 23 percent of ranchers surveyed in 2011 incorporated both cow-calf and stockers into their operations for flexibility. Explore selling stockers early to preserve feed for your cow herd. It is crucial that cows are prioritized to receive adequate nutrition as body condition score outweighs all other factors in conception, including age. Additionally, without some extremely low cost source of forage, supplementing stocker cattle is not likely to be economical.
5. **Cull Cows** – There is variability in the longevity of beef cows, but when you have to make culling decisions to preserve forage for your operation, you cull for anything – open, soundness, broken mouth, udder condition and even temperament can be a factor. Also, consider how old the cow is: research has found at 8-10 years of age a cow's feed intake begins to decline, along with milk and subsequent weaning weight. This suggests that any cows over 8 years old should be considered for culling.
6. **Cull Bulls** – Look at your bull inventory before you feed them until the next breeding cycle. Considering their age and how many bulls you will need if you are decreasing your cow herd. Remember they are worth more in salvage value before they lose weight.
7. **Plan for Livestock Drinking Water** – If you have employed a conservative stocking rate, you may have enough grass, but will you have enough water for the season? Now may be the time to look into water development to enhance forage-use efficiencies, make a plan to haul water or reevaluate your 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)** – 75 percent of CCA producers surveyed in 2011, and 76 percent in 2016, used purchasing hay as a drought adaptation strategy. In most cases this is the most economical supplement tool we have as energy, protein, macro minerals and vitamins are provided. Small grain hay is likely adequate for dry cows, but alfalfa will be required for lactating cows. Look at the cost-benefit analysis of purchasing feed, the costs to feed (e.g. freight, equipment, and time), and your ability to recoup costs on sale day. Knowing this, you can make a rational decision regarding providing supplemental feed. It is also important to remember that if the bulk of the diet is hay you are no long supplementing and cattle should be fed in a drylot, or sacrifice area, to preserve forage on rangeland. Otherwise the point of feeding is lost.
9. **Evaluate the use of Protein tubs** – Utilizing protein supplements for cattle can be another tool for ranchers. By adding protein rumen microbes are better able to make use of dry forage. However, by this time of year most dry feed is gone and the limiting nutrient is energy as often protein needs can be met by filaree, which is the most drought resistant rangeland plant we have. By this time of year, it likely makes sense to focus on supplying enough energy (grain or hay) to those cows that are the hardest to part with, and culling others. 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 percent 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.

Overall, the importance of maintaining body condition is imperative for reproductive success. Research has shown that strategically only supplementing cows that fall below a body condition score of five, as opposed to the entire herd, can successfully maintain pregnancy rates. Cows at a body condition score of five barely show their last two ribs. Thus any cows showing more than two ribs are candidates for supplementation. A foundational component of your drought adaptation strategy should be body condition score.

As this article goes to print in mid-February, there is no rain in the forecast for many regions of California. In parts of the state winds can be found already drying out this year's forage on annual rangelands. While in other regions, rain is needed to germinate this year's forage; even if it does start raining, it will be 30-40 days before there is enough grass growth for livestock. We hope for a "miracle March" and April showers, but timing and temperature are critical elements to produce forage necessary to maintain cattle herds.

Many of the ranchers interviewed have noted the record high cattle prices differentiated the 2012-2017 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, the Feb. 9, 2018 CattleFax Weekly update reports the market is trading around \$126/cwt (compared to \$140 in February 2014). While cull cows at Cattlemen's Livestock Market in Galt, were trading on Jan. 31, at \$62-\$72 (compared to Jan. 29, 2014 at \$80-\$94).

In the 2011 CCA survey, we found the most common strategies ranchers have used to respond to drought were to reduce their herd (75 percent of producers), purchase feed (75 percent of producers), apply for government assistance programs (43 percent of producers) and wean early (43 percent of producers). Our most recent post drought survey in 2016 also found that selling retained yearlings (52 percent of producers) was a primary drought management strategy among producers.

To prepare for drought, the 2011 CCA survey found the top five practices to be stock conservatively (34 percent of producers), rest pastures (23 percent of producers), incorporate yearling cattle (21 percent of producers), grassbank/stockpile forage (12 percent of producers) and use weather predications to adjust stocking rate (11 percent of producers).

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. The time to focus on drought planning is while it's raining, but it's never too late to start!

FIGURE 1.

