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THE GRAZE

A quarterly newsletter with livestock and agronomy updates.



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Tips for Managing Cattle Operations During Drought

Farmers and ranchers are no strangers to drought. Still, each dry spell brings its challenges.

BY HUGH ALJOE WITH NOBLE RESEARCH INSTITUTE

The Noble Research Institute agricultural consultants recommend agricultural producers and other natural resource managers keep strong records, evaluate their operations, plan for the future, and act accordingly at all times but especially during drought.

Below, the consultants share their top tips and considerations to help producers deal with drought.

ECONOMICS

- As drought increases, cow prices historically decline.
- Supplemental feed costs historically increase during drought periods.

- Know production costs and keep close records to make better management decisions.
- Buying hay and feeding through a drought is never a good plan. On native range, hay should only be fed during inclement weather. On introduced pastures, hay use should be minimal — less than three months.

LIVESTOCK

- Inventory water sources and determine if quantity is sufficient.
- Cull cows using the three O's: Old, Open, Ornerly
- Determine hay needs and buy early before prices increase.
- Test hay to know the value.
- Without a spring flush, body condition score can decline in lactating cows eating hay only.
- If drought persists, consider early weaning. Once lactation ends, nutritional requirements of a cow will drop 15 to 20 percent.
- Consider finding new land to graze.
 - \$5/mile for 500 miles = \$2,500 one way for a load of 40 head
 - \$125/head for round trip trucking could be cheaper than feeding.
- As pond water draws down, the concentrated levels increase chances of leptospirosis and pseudorabies.
- Low quality pond water is less palatable to cattle and decreases gain.
- Watch for bogging in ponds with low water.
- As forages are grazed low, black leg cases increase due to cattle eating closer to the ground.



RANGE AND PASTURE/SOILS AND CROPS

- If you're behind on rainfall from November to April, you are already in a drought.
- Match expected forage production with animal demand. If stocked at 100 percent, you're already overstocked.
- If rainfall for year is 20-30% behind annual average by mid-May, a corresponding reduction in stocking rate warrants consideration.
- Maintain 6-8 inches of stubble height for native pastures and 3-4 inches of stubble height for bermudagrass pastures.
 - If no stubble, you cannot take advantage of the rains we will get.
- If stubble heights get below these thresholds, it triggers the need for sacrifice pastures.
 - Identify sacrifice pastures that are:
 - Introduced pastures.
 - Lower quality.
 - Not highly erodible.
 - Close to the house or barn to cut down on travel.



- Have a good source of water.
- Cattle still graze standing forage when they are fed hay, which is why sacrifice pastures are important.
- If forage is needed for cattle, postpone prescribed burning.
- Isolate where purchased hay is fed to reduce chances of bringing in invasive species.
- There will probably not be many annuals during the spring flush, if you have not received recent rain. Sheep and goats rely on the spring flush of annuals more than cattle.
- More bare ground from overgrazing can mean more grasshoppers in the summer.

WILDLIFE AND FISHERIES

- Feral hogs will come to bait during drought better due to low natural foods available. This makes it easier to trap them.
- Reduce livestock stocking rates so wildlife habitat is not negatively affected.
- Low water levels make it easier and more affordable to renovate fish populations and provide opportunities to renovate and rebuild ponds.
- Low water levels in ponds can increase the chances of fish kills during the summer.
- If feeding wildlife, only use feed that is tested for mycotoxins, which can increase during drought.
- Do not drain wetlands until April or May to provide food for migrating birds as they head to the breeding grounds.



7 Lessons We Learned When We Added Sheep to Our Regenerative Ranch

One year after the first 39 head arrived, our flock is growing — and so is its positive impact.

BY CLARK ROBERTS WITH NOBLE RESEARCH INSTITUTE

With anything new, there's a learning curve.

Ranching is no exception — especially when you're talking about adding a new species.

I've been managing Noble Research Institute's Coffey Ranch in Love County, Oklahoma, since November of 2019. But in the spring of 2021, [things changed a little when we unloaded 39 sheep](#) on the once exclusively cattle operation.

“When you add sheep to a cattle operation, you're no longer putting all your eggs in one basket.”

Here are seven lessons we've learned one year after converting to a [regenerative](#) ranch with [multiple species](#).

1. SHEEP ARE MORE RESILIENT THAN YOU'VE HEARD.

We've all heard "sheep are just looking for a place to die." But I no longer believe it. In fact, I think I know where the saying comes from: They're so tough, you may not notice they're sick till it's too late.

A cow is so large, she can afford to show a little bit of weakness. But a 120-pound ewe is on all the predators' lists and doesn't have that luxury.

Of course, for a healthy flock, it's important to choose your stock wisely and make sure they fit your environment and goals. We chose Dorpers, which are low-maintenance hair sheep.

We purchased our sheep from our friends at The Dixon Water Foundation in Texas. They've been running sheep a little while and, essentially, had done a lot of the heavy lifting. They'd done a lot of culling already and had identified the hardy animals.

I would be remiss if I didn't mention one health issue we ran into that reminds you how different cattle and sheep can be. When we first got the sheep, we hauled some heavy-bred females. We later learned animals that carry multiple fetuses can get gestational toxemia from that kind of stress. It causes glucose, mineral and vitamin deficiencies and can be fatal.

2. YOU WILL HAVE TO MAKE INFRASTRUCTURE CHANGES.

At Coffey Ranch, we weren't set up for sheep, and getting there required some time.

When we had a new south boundary fence put in, we made it sheep- and goat-proof. The rest of the property is fenced with single-strand high-tensile wire put in for cattle. But we have had good success with containing the sheep behind a single strand of poly wire.

Placement is important, though. We learned if the electric fence didn't hit the sheep on their nose (where their hair didn't insulate them), it wouldn't be effective. So that means the fence wire is anywhere from 16 to 18 inches off the ground.

Because this is a native tallgrass prairie, and we get forages that grow 3-to-6-feet tall, it means I have to brush-hog strips of pasture down to about 12 inches tall to get the sheep fence in. And that adds extra preparation time to the moving process.

We also needed a portable feeder pen for our guardian dogs so it can be moved as the flock grazes new paddocks.



3. A GOOD DOG IS A SHEEP'S BEST FRIEND.

Our guardian dogs are invaluable to a sheep operation, because they keep predators away.

We're a little dog-heavy right now, with four on the place, but when we purchased that first flock, we bought two dogs that were already bonded with them. One of them is pretty old, so we wanted to make sure we had time to get replacement dogs trained up. So, we added two 6-month-old pups in June 2021.

That was a learning experience, too. You've got young pups learning from the older dogs. Both the older dogs and the sheep have to bond with and accept the new dogs. All of this takes time.



4. EWES WITH LAMBS AT THEIR SIDE CAN BE MOVED — AND IT HELPS WITH PARASITE PREVENTION.

Since I was new to managing sheep, I didn't always go with my gut at first. One time in particular, I wish I had.

In regenerative ranching, we move animals frequently. However, I'd been told not to move ewes with baby lambs on their side. Folks scared me to death, saying the animals would get confused if I did.

So, I left them in the pasture too long, and they ended up getting parasites. We had to deworm them. Now, I move them as I normally would any other time of the year, and it's worked out.



5. THEY'RE FLIGHTIER, BUT THAT'S NOT ALWAYS BAD.

One way sheep are different than cattle is in their flight zone, the distance you have to stay away from an animal for it to feel comfortable.

Of course, once they get used to you, it'll shrink a little. But sheep remain flightier than cattle and also want to stick together more than cattle do.

The good news is, they're actually easier to move than cattle. Additionally, if they escape, if you find one, you've found them all.



6. YOU MAY BE SURPRISED HOW MUCH YOU LIKE THEM.

Sheep are cool critters. I was surprised to learn how much I enjoy working with them. They're easy to deal with and be around, especially once you adjust to the differences between sheep and cattle. And I really like that they help us utilize the resources that God gives us better than if we were only running cattle.



7. FINANCIALLY, THEY JUST MAKE SENSE.

By diversifying, you can dramatically improve your bottom line. When you add sheep to a cattle operation, you're no longer putting all your eggs in one basket. When cattle prices drop, you've got sheep to sell, too. And instead of having to spray for weeds, sheep will use those weeds to make you money. It's a win-win.



Additionally, sheep are cheaper to get into — you can pay them off in a year or two. And once you're set up, each step of the way is less intensive than and less expensive than cattle. You don't have to precondition them. It's cheap to supplement them during the winter, too. We're talking a couple of pounds of alfalfa per day per head to get them through the worst part of winter. Finally, you can just load them up and go when you're ready to sell.

We're still learning, but I can say this with confidence: Sheep have had a positive impact at Coffey Ranch.

Planning: The Key to Surviving Drought

Charles R. Hart and Bruce B. Carpenter

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Drought management is often just a survival strategy. However, even survival requires that you have a plan flexible enough to deal with the individual circumstances of each drought as it comes.

What is a drought?

Droughts are a part of all environments and have plagued agriculturalists for centuries. At any one time, there are likely to be several severe droughts occurring in the world.

Drought can be defined in different ways for different businesses. For example, if you are a rancher, your definition probably includes forage growing conditions, not just precipitation levels. Nevertheless, the most common way to define drought is by precipitation totals.

“True drought” has been defined as having 75 percent or less of the average rainfall for the year. Moving from East to West Texas, true drought occurs 16 to 45 percent of the time.

True droughts last only for 1 year in most parts of Texas, except in the Trans-Pecos region, which is more likely to have consecutive years of drought. The Trans-Pecos receives below-average amounts of rainfall in 2 of every 5 years.

How can I survive a drought?

Surviving drought requires planning for it. Your plan should include strategies for finances, grazing management and stock reduction, as well as for vegetation recovery after the drought ends.

It is important to implement a grazing plan that promotes vegetation recovery. For example, if warm-season grasses have been extremely stressed by successive years of low moisture, the eventual rains will provide some level of green growth. You will need to manage this new growth properly to give the tender



new leaves a chance to mature and use sunlight to replenish the depleted nutrient reserves in the roots.

Drought recovery implies a return to a previous condition. Unfortunately, droughts are often considered only temporary events, after which conditions will return to “normal.”

Some ecologists suggest that this may not be true in arid and semi-arid rangelands. These ecosystems may not automatically return to the same pre-disturbance “steady state.” (Some cases of brush encroachment within the past 100 years might be examples of this.)

Nevertheless, when rains do eventually come, sound grazing management practices will help the soil capture the rain that does fall and optimize forage growth.



Figure 1. Process for deciding what to do when a drought occurs.

How to devise your drought-survival plan

Planning to survive a drought involves selecting the right things to do. The Total Resource Management Program in Texas focuses on a process that helps ranchers make good choices. The program's eight-step approach (Fig.1) helps you consider the problem from a total resource perspective and form a drought survival plan.

Prioritize your strategic ranch goals

To form an effective plan, first determine your desired end point. Develop specific, measurable, attainable and trackable goals for your operation.

One goal for drought management might be just keeping the ranch. Other strategic goals might include:

- Maintaining the ranch's value and equity if land sales become necessary
- Preventing long-term damage to forage
- Maintaining livestock financial equity, or
- Keeping the integrity of a breeding herd intact.

List available resources to use during a drought

Keep a general listing of resources available or places that can provide them when a drought occurs. Such a list might include hay or other feed sources, grazing pasture to send livestock to, or potential buyers and/ or marketing options for livestock reductions.

Identifying these sources ahead of time can help you take quick action when needed.

Select appropriate enterprises

Drought affects various ranch enterprises in different ways. For example, wildlife and livestock enterprises compete somewhat for existing vegetation. But wildlife may be better able than livestock to use woody browse species, which are less affected by short-term droughts than are the herbaceous plants consumed by livestock.

Make sure you have an appropriate mix of livestock classes for the frequency of droughts in your area. In more arid locations such as West or South Texas, where droughts are more common, consider including "stocker animals" as part of the herd mix to accommodate flexible stocking techniques. Often, in less severe droughts, these animals can be sold without sacrificing the integrity of the breeding herd.

In general, diversity of income from enterprises can help pull you through a mild or severe drought. You might consider some type of off-ranch income also.

Develop a drought plan for each enterprise

The most critical part of drought planning may be to form a drought strategy for each enterprise (cattle, sheep, hay, etc.) of your ranch operation. Develop production calendars for each enterprise to determine when to make critical decisions such as stock reductions, increased feeding or livestock relocation.

For example, know which months the most forage is grown on the ranch and which are the critical rainfall months. When a critical level of rainfall is not received by a certain date, plan for a systematic stock reduction or feeding strategy. If you reduce stock or begin a supplemental feeding strategy as early as possible during a drought, you can reduce the severity of the drought impacts.

In all situations, forage supply must meet or exceed forage demand. Therefore, you should inventory your forage every year. Your plan should incorporate strategies for dealing with poisonous plant problems also.

Plan for resource flow

Resource flow plans identify the resources that will be available during the year as well as those that will be needed by the entire ranch. These plans allow ranchers to ration seasonal surpluses for when the demand for resources exceeds the income of the ranch.

From a pure financial standpoint, you need to know the minimum level of production your ranch must have to cover variable costs, overhead expenses and cash flow needs. When these levels can no longer be met, you must either make decisions that reduce costs or have an adequate financial reserve available. Develop cash reserves before a crisis arises.

Implement and monitor

It's easier and more effective to implement a drought strategy if you have good plans and current information. Monitor the supply-demand situation by taking periodic inventories of resources, especially forage production, which is the most limiting factor during drought.

As the drought worsens, you will need to monitor and make decisions more frequently in order to maintain control and reach your goals. Although you cannot forecast rainfall with 100 percent accuracy, a good conservative plan with flexibility incorporated will help you be ready for what we cannot predict.

Formulate your stock reduction strategies long before the drought begins, and implement those reductions systematically.

Because no one can predict the severity or duration of an individual drought, there is no such thing as a perfect plan. However, the better your plan is, the more it can help. To help ensure that the plan has the expected outcomes, a good plan will:

- Include accurate records of the decisions you make and their consequences
- Establish benchmarks, such as photo-point monitoring on rangelands. (For more information on photo-point monitoring, see Extension publication L-5216, *Range Monitoring with Photo Points*.)

Other drought-management publications include:

- E-62, *Rangeland Drought Management for Texans: Livestock Management*
- E-63, *Rangeland Drought Management for Texans: Supplemental Feeding*
- E-64, *Rangeland Drought Management for Texans: Stocking Rate and Grazing Management*
- E-65, *Rangeland Drought Management for Texans: Toxic Range Plants*

Evaluate and adjust the plan when the drought is over

Experience is often the best teacher. After a drought is over, note and evaluate the strategies that did and did not work. Then reevaluate and change the plan so that it furthers your long-term strategic ranch goals.

REMEMBER:
You can survive a drought.
Plan on it!

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