

Drought

Charles R. Hart

Associate Professor and Extension Range Specialist, The Texas A&M University System

Droughts occur almost everywhere and have plagued agriculturalists for centuries. At any one time, there may be several ongoing, severe droughts throughout the world. The way you define drought probably depends on your business. For example, if you are a rancher, you'll probably be in tune to forage growing conditions and not just precipitation totals. Precipitation is the most common way of defining drought, however.

True drought has been defined as 75 percent or less of the average yearly rainfall. Moving from East to Far West Texas, this level of drought occurs from 16 to 45 percent of the time, respectively. In most of Texas, droughts last for only 1 year, except in the Trans-Pecos where chances are higher for consecutive years of drought. Even if you don't use the 75 percent criterion, there is below-average rainfall 2 of every 5 years in the Trans-Pecos.

Risks and Uncertainty Associated with Drought

- **Reduction in long-term carrying capacity.**
The devastating effects of long-term drought can last for many years. If grazing continues after forage resources have been depleted, problems are compounded. Plants that are stressed from lack of rain are much more vulnerable to grazing damage and may die. This can make the recovery of rangeland from drought a much longer process. The hardest part to deal with is the uncertainty about when a drought might break.
- **Reduction of income.**
Many ranchers believe they cannot afford to sell livestock during drought. Bank notes, taxes and other overhead expenses still must be paid. So, their income is reduced because they aren't selling stock. They also have lower calf/lamb/kid crops, decreased gains, and increased feed and medical expenses.
- **Deciding how and when to de-stock.**
Eventually, most ranchers realize they must sell stock to make it through a long drought. However, de-stocking is an uncertain undertaking. Ranchers may ask: When do I begin reducing livestock numbers? What animals should I sell first? When is it costing me more to feed than to sell the animals? How long will the drought last and how many livestock should I sell? Market prices during and after drought may be uncertain, as are the prices and availability of feed.
- **Loss of herd genetics from de-stocking.**
Many ranchers have spent a lifetime improving herd genetics, developing the perfect crosses, or tightening up breeding seasons. Selling livestock during a drought can be a major setback in reaching these goals. Ranchers must compare these setbacks with the possibility of long-term damage to the range resource.

What You Can Do to Reduce Risk

- **Maintain as much carryover forage on the ground as possible.**
The soil beneath your feet is one of the most critical resources of your ranch. This resource needs protection and care. Maintaining as much forage residual on the ground as possible during drought will protect the soil from erosion and help insulate plants from the extreme heat that lack of moisture creates.
- **Maintain a flexible herd composition.**
Flexibility, or the ability to de-stock, must be built into a livestock herd. The core breeding herd, those animals that you do not want to sell, should not compose the entire herd if you are stocked to capacity. A rule of thumb is to have 40 to 60 percent of your herd as "stocker" type animals. These animals can be defined as any livestock you are not afraid to sell when necessary. Even during non-drought years forage supplies vary. More or less forage may be produced from one year to the next. Building flexibility into your herd will help you match animal demands with forage supply on an annual basis.
- **Use light to moderate stocking rates to reduce the severity of droughts.**
With lower stocking rates, you will have surplus forage that can be used as an insurance policy in case less forage is produced the next year. The better the condition of the rangeland when a drought begins, the faster the land will recover.
- **Use deferment to lessen the effects of drought.**
Plants need periodic rest from grazing regardless of environmental conditions. Deferring a pasture from grazing during the growing season, or for an entire year every 3 to 5 years, will produce more vigorous plants. Vigorous plants can survive and recover from droughts much more easily than plants weak from overgrazing.

- **Have a systematic stock reduction plan before droughts occur.**

Systematically reducing animal numbers can make the effect of drought less severe. This is accomplished by early stock reductions that stretch existing forage supplies and continue periodically to keep animal numbers in balance with forage supply. To do this you must understand livestock demand and keep up with existing forage conditions and supplies.

- **Use forage inventories to make stock reduction decisions.**

Periodic pasture forage surveys can help you make timely and accurate stock reductions. The use of photo-point monitoring techniques increases the accuracy of visual evaluations. If you have a good understanding of annual rainfall patterns, you will be able to estimate the probability of growing additional forage at any given time during the year.

- **Plan for drought during the wet years.**

Strategies for surviving a drought should be developed before a drought occurs. Decide when you will start feeding and when you will sell livestock. Plan ahead to keep “forage reserve” pastures you can use during drought conditions. Decide whether you will use flexible herd or moderate stocking rate. Practice risk management rather than crisis management; be proactive rather than reactive.

- **Know the costs of feeding versus de-stocking.**

Consider in advance the costs associated with feeding versus de-stocking during drought. Use different price scenarios for livestock and feed to determine the upper and lower limits of each.

- **Identify other sources of income for times of drought.**

Diversification of income can lessen the financial burden of droughts. Hunting leases, if structured correctly, can provide a consistent means of income. Look for other ways to produce income from your land. Broadening your perspective from ranch management to natural resource management may open new doors.

- **Consider the income tax consequences of livestock liquidations.**

Tax laws change from year to year so ranchers should keep up to date on tax laws related to livestock liquidations.

If the federal or state government declares your area a drought disaster area, you may receive assistance in the form of feed resources, tax breaks or loans.

- **Know how to manage poisonous plants.**

Many plants toxic to livestock are not consumed when other forage is available. When droughts reduce the amount of desirable forage, livestock may be forced to eat such plants. Know which plants on your land are poisonous to livestock and be able to recognize the symptoms of poisoning so that you can catch problems before disasters occur.

- **Know how to manage during the recovery period.**

Plants weakened by drought need additional rest to recover. Stocking rates should remain lower for a period of time so plants can recover. The length of time needed for recovery depends on the severity of the drought and the amount and timing of rainfall following the drought.

Other publications in this series:

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More information on droughts and management of rangelands is available from your county Extension agent or from the internet at <http://farwest.tamu.edu/rangemgt/drought.htm>.

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