

Mitigation against Drought

The National Drought Mitigation Center at Lincoln, Nebraska, compiles research and other data on droughts in the United States and many other countries. Drought preparedness in the United States has been practiced extensively only since the late 1980s. Before the droughts of that time most drought programs were reactive. Today at least 27 states have formal drought plans. Most drought plans address how to deal with an ongoing drought rather than how to conserve water in the long run. Examples of drought plans include the legal authority to restrict use of water (such as prohibiting the use of water for home gardens and lawns and car washes) and the use of “gray” water (domestic household water that has only been partially recycled) for watering public areas such as parks.

The greatest losses in cattle production result from starvation, which leads to severe weight loss, infertility, weak calves, increased susceptibility to infections, and death. Forced sales can hinder the progress of genetic improvement programs. Mitigation against droughts addresses these issues.

The impact of droughts can be reduced in livestock operations by selling nonpregnant and otherwise nonproductive animals (old animals, animals with chronic mastitis, or otherwise debilitated animals). The stocking density of cattle on pastures should be reevaluated to allow for a margin of safety that prevents overgrazing. Overgrazing pastures leads to long-term damage to pasture vegetation, decreased weight gains, weight loss, and an increased propensity for animals to ingest toxic plants, which they would otherwise not eat.

This is because plant agriculture provides the feed for livestock. Droughts decrease available forage and rates of plant growth, cause crops to mature before they have developed their full nutritional value, and kill drought-susceptible plants. The scarcity of forage also means that livestock, horses, and wildlife may eat toxic plants or overgraze pastures. Some of these effects can be mitigated by planting grass varieties that are resistant to drought and varieties that are resistant to close grazing by livestock and wildlife. Examples of grasses that meet these criteria in the southern United States are Bermuda, dallisgrass, and switchgrass.

Digging wells may be a solution to some drought conditions. However, the increased water supply from drilling new wells must be weighed against the potential of the increased number of wells to lower the water table further and decrease available water in the future. Also, if wells are not well maintained, they may lead to overuse of areas on pastures and become a nidus of infection for animals. Drilling wells can also create a false sense of security and the illusion that resources are greater than they really are. For example, drilling wells to increase the locally available amount of water may increase reproductive and survival rates of livestock. However, these increased numbers may then not be able to derive adequate nutrition from pastures, or the amount of hay that can be harvested and stored for the winter months may not be sufficient to keep animals alive during the winter months.

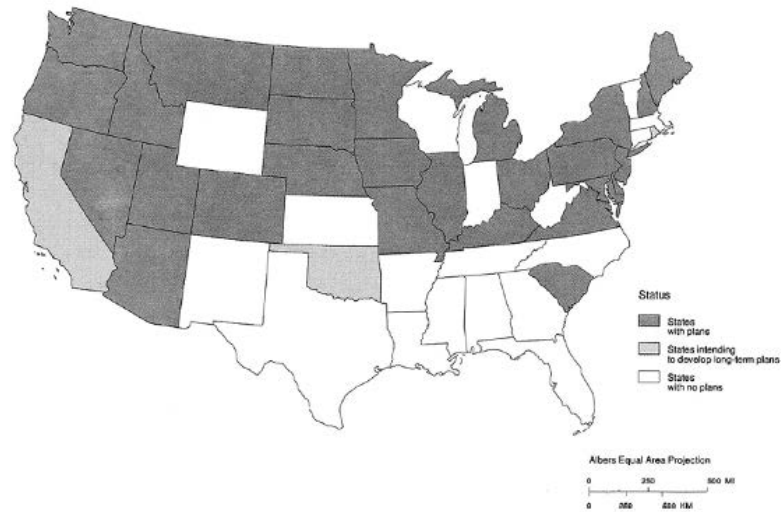


FIG. 9-3 Status of drought planning in the United States, 1992. (From Federal Emergency Management Agency: *Multi-hazard identification and risk assessment: a cornerstone of the national mitigation strategy*, Washington, DC, 1997, FEMA.)

Some tax compensations are available to farmers who have to sell cattle because of a drought. These are claimed by using IRC 451(c) forms. The exact conditions that have to be met should be confirmed with an accountant before taking advantage of drought tax legislation. The incentive is for livestock and poultry farmers to be able to postpone reporting drought-related losses for a year. In principle the conditions that have to be met are that farming is the principal business, that cash accounting is used, and that the sale of livestock or cattle would not have occurred had the drought not occurred.

Clearly the success of these claims will be facilitated if the drought conditions are declared disasters and the Federal Emergency Management Agency (FEMA) has become involved.

Drought conditions, with or without extreme heat, can greatly increase the risk of forest fires. Therefore conditions that could precipitate fires should be avoided. Also, the loss of vegetation in the absence of sufficient water can result in flooding, even from average rainfall, following drought conditions.