

FORAGE

Use Moisture Management Strategies to Survive Drought

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In the March

2007 issue of *Ag News and Views*, Chuck Coffey wrote about rainfall trends over the past several years. In addition, he offered useful

methods to avoid a crisis during a drought. This article continues the theme of proactive drought management and offers strategies for moisture management.

The basis of water management is to capture as much rainfall as you can through infiltration into the soil, where it is then available for the growth of desired plants. When the rain falls, here are some tips and strategies that will help you capture and use as much of it as you can.

- Control Eastern red cedar – A 6-foot-tall cedar tree will pull 30 gallons of water per day out of the soil. In addition, the area underneath the tree will be devoid of vegetation, increasing water runoff and decreasing water infiltration. There are many methods of control, and the Natural Resources Conservation Service has cost-share funds available for cedar control through the Environmental Quality Incentives Program (EQIP) in designated counties.
- Weed control – A rule of thumb in

range management is “one pound of forage lost for every pound of weeds produced.” For introduced forages, the effect is often greater. You cannot weed-spray your way out of overstocking and improper grazing management.

Figures 1 and 2 depict the change in forage production of warm-season perennial grass plots from 2002, when no weed control or fertilizer had been applied the previous four years, to 2003, when weeds were controlled in the spring, phosphorus deficiency was corrected according to soil tests, and 70 pounds per acre actual nitrogen was applied in the form of ammonium nitrate. Note that with weed control and fertility, the response was much greater for introduced forages than the natives. Also note that in 2003, with weeds controlled, plots were essentially pure, allowing grasses to take full advantage of moisture and fertility. Normally, fertility is not applied to natives, but, in this particular plot study, all entries were treated alike, which meant fertilizing the native entries. Controlling weeds by proper grazing management – or chemically, if required – is one of the cheaper management strategies to conserve moisture and produce more forage.

- Fertilize – Many producers don’t

Figure 1 Native Forage and Weed Yield 2002-2003

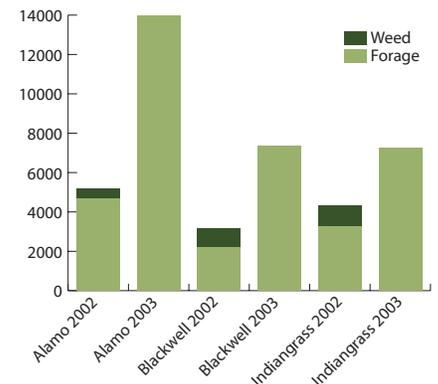
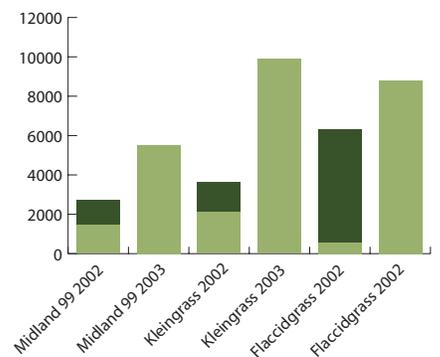


Figure 2 Introduced Forage and Weed Yield 2002-2003



Data is from plots at the Noble Foundation's Pasture Demonstration Farm.

fertilize during dry weather because it may not rain. Even during dry periods, however, it will eventually rain. A good strategy is to apply nitrogen only according to the production you need and to apply at the appropriate time. Correct phosphorus, potassium and pH, which will help ►

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plant drought tolerance and increase nitrogen use efficiency. This requires soil testing to know what to correct and how to spend your fertilizer dollars wisely. Strategize to capture as much rainfall through forage growth in the spring as possible, and then fertilize in the fall to capture late summer-early fall moisture.

- Fill in the gaps – Bare ground increases water runoff, potential weed competition and soil erosion while

reducing forage production and water infiltration. Reduce open spaces by using grazing management strategies that promote plant health and plant spread. In some cases, seed can be added to help fill in the gaps. In higher rainfall zones east of I-35, opportunities may exist to add legumes to fill in the gaps.

- No-till – If you are establishing a forage crop, consider no-till. This reduces seedbed preparation costs,

leaves the existing weed seed bank undisturbed and, most importantly, conserves moisture.

- Fine-tune grazing management – Space feeding areas and mineral feeders away from water sources to help draw cattle into areas that are lightly grazed. This will help to distribute grazing pressure and reduce spot grazing.

These tips and strategies will help you be proactive in moisture management. ■