

STEPS TO HELP WATER EFFICIENCY

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There are few things in the world that are as valuable as water. Every living organism needs water to be able to survive. Don't drink anything, and in about three days you will die. But as important as water is to our survival, we generally take it for granted. Until something like last summer and fall happen. Then we remember how important water is.

In Tennessee, there is really only one way we get water – through rainfall. Sure, maybe some producers can irrigate, but that is usually only a small amount of the water needed by the crop. We can't really do much to increase the amount of rain we receive. We can, however, increase the amount of rain that is absorbed by the soil, and the amount of forage produced by that rainfall. Here are a few techniques to improve the capture and use of your farm's rain.

Keep good plant cover on your fields. One of the major goals in water efficiency is to get as much of the rainfall as you can into the soil. Keeping a good cover of plants on the field will help slow the water down as it flows across the ground, giving it more time to soak into the soil where it can be used by plants. When you graze or cut hay, make sure to leave at least 3-4 inches of stubble.

Use a diversity of plants, especially clovers. In order to increase the water holding capacity of your soil, it is important to maintain a high organic matter content. Organic matter is nothing more than plant material in the soil. Old leaves and leaf litter are two sources of soil organic matter. But roots also contribute to the organic matter. Anytime you maintain a healthy stand of plants you will improve organic matter. If you can include legumes in a pasture mix, then you will have nitrogen fixation occurring, putting nitrogen into the soil. Nitrogen can dramatically increase the yield of a plant, which in turn, can help increase organic matter.

Fertilize and lime according to soil test results. Soil conditions can influence root growth and the ability of a plant to obtain soil moisture. One of the functions of phosphorus in a plant is in root development. Low phosphate levels lead to reduced root growth, which in turn leads to reduced water uptake. Soil pH can influence root growth due to the presence of toxic elements such as aluminum. As the soil gets more acidic, aluminum levels in the soil solution will increase. Aluminum is toxic to root growth, and leads to decreased root growth. If you want to promote plant root growth, make sure to keep soil pH above 6.0 and phosphorus adequate for your crop.

Plant a few acres of warm-season grass. Warm-season grasses such as bermudagrass, crabgrass, big bluestem, etc., have photosynthetic pathways that make them more efficient in their water use. With the same amount of moisture, these grasses will produce more forage than grasses like tall fescue and orchardgrass. Summer is usually when we have the most severe lack of rainfall. If we can't increase our rainfall, we can try to use plants that are more efficient with the rainfall we do get. You don't need to plant the entire farm to these grasses, just limited acres to provide grazing during June, July and August.

These are just a few steps to help improve your farm's water use. If you pay attention to these, you can improve your farm's forage production during the summer.