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## Plant Warm-Season Grasses to Help with Future Droughts

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As this summer has shown, forage production from cool-season pasture and hay fields across the state can be dramatically affected by drought. Pastures that consist of cool-season grasses like tall fescue and orchardgrass have been severely overgrazed, and many may have lost some significant stand. Even though it is too late to do much about it this year, now is a good time to plan for next year. Start thinking about planting a few acres of grass that will provide production during the summer. These grasses are generically called 'warm-season grasses.'

Most of these grasses developed in the tropical and subtropical regions of the world, and have several characteristics that give them an advantage over cool-season grasses during the summer. Warm-season grasses can produce energy through photosynthesis faster, which allows them to use more of the sunlight that fall on their leaves. They use water more efficiently, plus they have deeper root systems than cool-season grasses. Another characteristic that helps warm-season grasses is that their optimum temperature is about 90 F, while cool-season grasses perform best at about 70 F. All of these factors work together to make warm-season grasses more productive during the summer.

**Bermudagrass** - perennial grass that grows and spreads by above ground stems known as stolons. Good hay or grazing forage. Very tolerant of close, continuous grazing. There are several different varieties of bermudagrass. Some varieties can be planted from seed, while others do not produce viable seed and have to be planted by planting live, vegetative material from another stand. Cold tolerance needs to be a major consideration when selecting a variety. Winter-kill can cause severe stand loss in bermudagrass. Hybrid bermudagrasses are highly responsive to fertilizer, and can produce high quality forage if harvested at early stage of maturity. Should be harvested every 4 weeks.

**Warm-season perennial bunch grasses** - include big bluestem, little bluestem, indianguass, eastern gamagrass and switchgrass. The forages produce high quality forage early in the season, but forage quality drops rapidly as plants mature, just as with any of the other warm-season grasses. Seedling vigor is very low in these species, so weed competition can be a problem with establishment. It can be expected to require two years to establish a stand. Rotational grazing is essential for maintaining stands of these plants. Plants should not be grazed below 8 inches. If grazed too close, plants will be weakened and stands will thin. Because of their sensitivity to close grazing or clipping, these plants are easier to use for hay, but can be utilized with grazing cattle.

**Red River Crabgrass** - annual grass that was selected for higher yield from native crabgrass populations in Oklahoma. Research in Oklahoma indicates yield and animal performance are both excellent on this forage. Experience in Tennessee indicates that it can make an excellent pasture for stocker animals during the summer. Because it is an annual, allowing plants to produce seed for the next year's stand is necessary. No information is available to determine how successful natural reseeding of Red River crabgrass will be due to the

abundance of native crabgrass seed in Tennessee.

**Sorghum x sudangrass hybrid and pearl millet** – both of these are annual grasses. They are relatively tall growing grasses that can be quite productive with timely summer rains. Sorghum x sudangrass hybrids can tolerate a cooler soil temperature, so they can be planted earlier than pearl millet. Sorghum x sudangrass hybrids release prussic acid (cyanide) after a frost, so you cannot graze them as long as pearl millet. When there is a potential for even a light frost, do not graze a sorghum x sudangrass hybrid. Only cut it for hay, which will allow time for the prussic acid to break down.

**Will they work for you?** Warm-season grasses have the potential to provide forage when tall fescue pastures are not being productive. However, the growing season is shorter with these plants compared to tall fescue, and there is considerably more risk with them. If you decide to try one, be reasonable in the amount of land and resources you commit. Tall fescue should remain the primary forage on the farm. A good rule of thumb is to have 70 percent of your acreage in cool-season grasses like tall fescue. Thirty percent can be sown to a warm-season grass. Your goal should be to provide grazing during late June through early September.

Most producers should think about planting a portion of their acreage to some type of warm-season forage. Although they do not eliminate all of the problems associated with drought, they will help minimize some of the forage production problems we may face in the future.