

Warm-Season Annual Grasses For Forage Production



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With summer approaching, now is the time for cattle producers to plan for forage production. Tall fescue pastures will begin to slump in growth as the temperatures rise and less rain falls. Warm-season annual grasses offer the opportunity to provide more forage production than what would be available from tall fescue during the summer.

Warm-season grasses are more efficient. Coolseason grasses like tall fescue and orchardgrass make energy through photosynthesis that is somewhat inefficient. The end result is the plant loses water during the process. The process also occurs the best when the temperature is in the upper 60s to low 70s. This is why these grasses grow the best during the spring and fall, but don't do well during the summer. In contrast, warm-season grasses have an additional photosynthetic mechanism that is much more efficient with its water use. It occurs most rapidly when the temperature is in the upper 70s to 80s, which means they are much more adapted to hot, summer conditions. It doesn't mean they are immune to drought. It's that they need less water to produce than tall fescue, and are much better able to survive a

Crabgrass – An 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 crabgrass will be due to the abundance of native crabgrass seed in Tennessee. There are two varieties currently available: "Red River" and "Quick-N-Big."

Sorghum x sudangrass hybrid and pearl millet – Relatively tall-growing grasses that can be productive with timely summer rains. Sorghum x sudangrass hybrids 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 in fall, so you cannot graze them in the fall as long as you can pearl millet. When there is a potential for even a light frost, donot graze a sorghum x sudangrass hybrid. Only cut it for hay, which will allow time for the prussic acid to break down.

Teff grass – Has received a lot of publicity over the last year. It is originally from west Africa. It is a summer annual that has a little finer stem than sorghum x sudangrass, so it should be a

Table 1. Yield of warm-season annual grasses in Springfield, Tennessee and Crossville, Tennessee during 2008. More variety trial data available at forages.tennessee.edu.

Variety	Species	Springfield, TN	Crossville, TN
		----- lbs DM/acre -----	
Red River	crabgrass	1,544	4,824
Quick-N-Big	crabgrass	5,129	4,136
Promax	sudangrass	9,440*	6,493*
MS202BMR	sorghum x sudangrass	7,501*	5,932*
FSG208BMR	sorghum x sudangrass	8,460*	5,070
Greengrazer	sorghum x sudangrass	6,094	6,900*
Dessie	teffgrass	6,290	4,314
Tiffany	teffgrass	5,810	4,107
LSD (0.05)		2,339	4,107

* These varieties statistically yielded the same as the top variety.

prolonged drought without stand loss. Should you plant a warm-season annual grass? Everyone needs a plan for providing forage during the summer drought that seems to be inevitable. Most producers need to have 15 to 30 percent of their land devoted to this. Warm-season annuals are an option. The UT Forage Variety Testing Program continues to study several different species and varieties of these grasses. Table 1 shows the 2008 data from those tests.

little higher in forage quality. Yields may not be quite as high as with sorghum x sudangrass hybrids. Also, early in the season the root system is shallow, so be careful with the grazing management. May be better to take first cutting off as hay. The seed is very small, so be careful of seeding depth at planting. Plant into a firm-seedbed. Δ

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