

# Using Warm Season Grasses for Ozark Pastures

*Tim Schnakenberg, Agronomy Specialist,  
Stone County Extension Center, Galena, MO, 417-357-6812*

Warm season grasses (WSG) can greatly compliment cool-season grass pastures in a rotation and are highly palatable forage for livestock. They can make excellent summer forage at times of the year when cool-season grass production becomes limited. This is a primary reason why a WSG component should be an integral part of a livestock pasture program. Some warm season grasses that do well in Southern Missouri are bermudagrass, crabgrass and Caucasian bluestem (Old-World) and native species such as switchgrass, big bluestem and Eastern gamagrass,

## **ADVANTAGES OF WARM SEASON GRASSES**

The most obvious advantage of these grasses is that they can compliment your cool season grass pastures. They can provide excellent, high quality pasture from June through August most years. This is a time when cool season grasses are not producing and the toxic endophyte in fescue is abundant even as early as May.

Warm season grasses are highly palatable when harvested timely. Many native grasses (“prairie grasses”) over the years have gotten the reputation that they are not as nutritious as cool season grasses. This has been proven otherwise by cattle performance research. In most cases, this reputation has come from a misunderstanding of how to properly manage them and an unknown factor in the fiber makeup that makes it difficult to interpret tests for quality.

If a producer is willing to undertake the obstacles of establishing and managing this type of grass, the benefits can be tremendous. Many produce an average of 2-4 tons of forage per acre. With intensive management some WSG species can produce much more. On the average, one can expect to support two cows on an acre during the summer months. It is not hard to find data that shows Average Daily Gains (ADG) of calves can meet or exceed cool season grass pastures, bringing as much as 2 lbs/day gain. Data from Nebraska has found a 38 percent increase in steer gains by grazing on a combination of a cool and native warm season grass pasture versus on a cool season pasture only. Research has also found that beef cow milk production on bluestem to be equal to alfalfa/brome pasture.

## **DRAWBACKS OF WARM SEASON GRASSES**

Expense of establishment often becomes a concern when seed prices are inquired. The cost may be seem prohibitive for the some producers but only a few acres in a Management-intensive Grazing system can make a profound difference in livestock performance.

If a grass producer is looking for a quick-establishing forage and one that he/she can graze or hay the year of establishment, a native WSG may not be for them. However, bermudagrass, crabgrass and Caucasian bluestem tend to be quicker emerging species. The natives are often slow to get established and one must usually wait one or two years or longer before they are ready for production.

Native warm season grasses are also not for the heavy grazer. They must be managed for success, unlike fescue which can take more abuse. Native grasses must be grazed at proper stages, at appropriate heights and a rest period following grazing is necessary. The introduced species are more forgiving but often require very specific management techniques.

## **GRASS SPECIES AND MANAGEMENT**

For the interested producer, there are several grasses to choose from. Your choice depends on what your needs may be, your patience during the establishment phase and how much you are willing to spend on establishment. Begin grazing many of the native species at 12-18 inches and graze them down to no lower than 6 inches. Begin grazing switchgrass at 10-12 inches. Following grazing, cattle should be removed and the stand should rest for about a month. Then turn cattle back in and graze the regrowth to 8 inches or taller.

**Bermudagrass** has been used for many years in the Ozarks but there have been many developments in varieties in recent years. This grass is a prolific producer that spreads by rhizomes and stolons. It does a good job of filling in gaps in the stand. The seeded varieties produce viable seed that will also thicken the stand if given the opportunity. The grass can be sown using varieties improved for seed establishment or varieties established using sprigs. Bermudagrass is a very durable grass, high yielding and responds well to nitrogen fertilizer. Grazing should begin when the crop is 6-8 inches tall and grazing should not go lower than 3 inches

**Caucasian Bluestem** is not native to the U.S. but was imported from Russia. Unlike the native species, Caucasian bluestem forms more sod and is not considered as desirable for wildlife as a result. For grazing, Caucasian bluestem will establish quicker than the native species and can stand to be grazed closer. Since the seed is light and fluffy, it is difficult to seed using conventional drills and commonly is broadcasted and rolled into prepared ground or native WSG drills are used. Since it tends to develop seed heads quickly leading to lower palatability, it is best managed by grazing close enough to keep it in a vegetative stage.

**Crabgrass** has had renewed interest in recent years and is now considered to be a very palatable WSG if managed appropriately. The grazing dairy research conducted at the Southwest Center in Mt. Vernon has found this grass to be a primary warm season choice for their dairy herd. The Red River variety is available that is a higher yielding producer than the common type that is abundant in Missouri. However, if managed well, common crabgrass is also an excellent choice. Since the grass is an annual, it must come back each year from seed and should be given a rest during late summer to set seed before frost. This grass should be lightly tilled in early May to enhance seed germination. One concern with crabgrass is that it is not always a consistent and timely producer in the spring. Cool springs tend to delay its germination. Once established in the early summer it can withstand heat and drought very well. Begin grazing around 14 inches and do not graze lower than 3 inches.

**Switchgrass** is a popular native WSG in northern states. It is the earliest WSG, maturing about 2-3 weeks earlier than big bluestem. As a result, some people are critical of it for being stemmy and having poor palatability. However, its quality is good when harvested in the right time frame. Its earliness catches many people off guard and it matures quicker than expected. It fits well in wetter sites than other WSG species and tends to be aggressive and can overcome other forages when planted in a mix. It can produce a high volume of forage for pastures.

**Big bluestem** was once a very common WSG in south Missouri. Among the native WSG species, it has a good production timing for our area. Switchgrass often is ready to graze before the cool season grasses are finished, however big bluestem fits the summer niche very well. However, it is more difficult to establish and persistence can be a major problem if it is not managed appropriately. It tends to be drought tolerant. It can be mixed with other native species for a diversified stand.

**Eastern gamagrass** is considered one of the most palatable native grasses and is a heavy producer of forage. It typically prefers bottom soils where moisture is more abundant. This grass is unique in that it is a bunch grass that grows in a ring that gets larger with the age of the stand. This grass must be closely managed so that it is not overgrazed. Typically it should not be grazed lower than 8-10 inches. Stand establishment is very slow.

## **ESTABLISHMENT AND FERTILITY**

Establishment of native species can be difficult due to lower seedling vigor. Weeds are often a fact of life with early stands until they become more fully established. The native grasses can be planted from April through June. Caucasian and bermudagrass can be successfully established in late April through May. Big bluestem, indiangrass and Caucasian bluestem has a very chaffy, hairy seed and does not plant well with conventional drills. Eastern gama has a large seed that is often planted using a corn planter. Notilling WSG seed has become more popular using specialized drills. Seed can be sowed with a conventional drill if debarbed. Sprigging is the conventional method for establishing bermudagrass. If a conventional seedbed is used, rolling is very important before and after planting. Sow ¼ inch deep and set the rate based on pure live seed. Some seed should still be seen on the top of the ground when finished. If seed is not observed on top of the ground, you probably incorporated the seed too deep.

Soil testing is an integral part of establishing a WSG, though pH and fertility requirements may not always need to be as high as other forages. However for maximum production good fertility is necessary. No nitrogen should be used at planting to minimize competition by weeds. Once WSG stands are established, it is a common practice to apply 60 lbs nitrogen per acre when the growth is 3-5 inches tall. An additional 40-60 lbs can be applied 4-6 weeks later.

## **SPECIAL MANAGEMENT PRACTICES**

Very few herbicides list these grasses on their labels. Check labels of pasture herbicides for listings of WSG. 2,4,D is a common herbicide that is used for broadleaf control.

Warm season grasses require special management. An important management procedure is to give them a rest at the end of their grazing period prior to frost. This helps build their root reserves as they go into winter.

A prescribed burn, though not a requirement, is suggested every 3-4 years for some species to clean out undergrowth. These burns must be timed in the spring when there is about 1-2 inches of growth.