How Diversity Extends the Grazing Season at Dogwood Farm

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Cattle are a valuable resource these days, in ways that most people, consumers and producers alike, haven’t yet realized. Putting some other resources into making the change for a better grazing system makes sense, especially here in Kentucky, where grass has, in the past, been the basis of a healthy and expansive economy. Grass can once again be the basis for a healthy economy, if enough people with the vision to see its possibilities get involved and make it happen. A truly healthy economy begins with good human health and full employment.

Good human health begins with healthy soil. Healthy soil begins either on the forest floor or beneath the hooves of grazing ruminant animals. In our favorable climate for growing forages and grazing cows and calves, Kentucky cattle can incorporate pasture plants as part of the animals’ diet for at least nine months of most years. Here on our farm, our goal is to have as many of our cattle as possible grazing forages to provide at least part of their diet virtually every day, all year long. Cattle producers must plan ahead to get as many days of grazing as possible, managing pastures and cattle for times of both surpluses and deficits of forage. Observation (also known as research) tells us that the growth patterns of cool and warm season forage species are quite complementary here in the transition zone, overlapping more than in many other areas of the United States. If more Kentuckians respond to became good graziers of beef cattle and other livestock, Kentucky’s economy could truly revitalize from the ground up. Human beings should surely be at least as capable of adaptation as the animals they have domesticated.

A good grazer learns to be observant, responsive, and adaptive. A grazing system that allows for the most grazing days each year begins with a plan that:
  o Observes and takes into account the differences in seasonal adaptation of grasses and legumes,
  o Responds to seasonal changes to meet needs of the land, the forages and the livestock that will be grazing them, and then
  o Adapts grazing methods, maintaining flexibility day by day to meet the needs of the available land, the living soil that covers it, and the animals that graze it.

Forages will differ in growth patterns according to seasonal temperatures, available moisture, and position within the sward. Each forage species can be classified as annual, biennial or perennial; cool season or warm season; grass, legume or forb. Forage categories include cool
season species that perform best during months while weather averages less than about 75 degrees. Cool season grasses and legumes generally perform best during the spring months and after the weather cools down in fall. Warm season species thrive in hot weather with average temperatures of about 75 to 100 degrees, and fill in the midsummer gaps when the quality and quantity of cool-season grasses and legumes decline. Here in the Upper South transition zone, with a wide variety of forage species available, opportunities for extended grazing abound:

1) Cool season perennial grasses, including species like tall fescue, orchardgrass, timothy, Kentucky bluegrass, and perennial ryegrass are predominant.
2) Cool season legumes including red clover, white clovers, and birdsfoot trefoil can supply nitrogen to supplement grasses, increasing quality and yield.
3) Cool season annual grasses like cereal rye, wheat, annual ryegrass, oats, and barley, can be used as cover crops after row cropping, or interseeded with a no-till drill into warm season grasses like Bermudagrass or into short-grazed cool season pastures in late summer or early fall for late fall and early spring grazing.
4) Cool season brassicas like turnips, kale, rape, tillage radish, and other annual cover crops like winter peas and crimson clover can also be planted in late summer for late fall and early spring grazing.
5) Warm season perennial grasses include bermudagrass, eastern gamagrass, switchgrass, Indiangrass and other native grasses, which supply quality grazing during the midsummer and early fall months.
6) Warm season legume species include perennial alfalfa and annual lespedeza, which perform better during summer months than clovers, improving quality in summer pastures.
7) Broadleaves and forbs, many of which have deep taproots, may be either cool-season or warm-season, depending on species and variety, and contribute additional nutrition and minerals. These include free volunteer plants like chicory, dock, dandelion, daisy fleabane, euonymus, honeysuckle, goldenrod, even marestail and pigweed, which cattle in management-intensive systems relish.

Because of the humid environment in the Ohio River Valley and along its many tributaries, the incredible diversity of forage species offers more opportunities for grazing in every season than in more arid regions that are currently considered major beef producing areas. Kentucky really doesn’t have to truck all of its calves a thousand miles to the plains states to eat corn. Kentucky cattlemen, if educated to do so, could adapt, growing enough grass in Kentucky to finish every calf born here, had we not gotten into the habit of shipping them away back in the days of the twentieth century when corn and transportation appeared to be cheap. (And if so many of Kentucky’s hilly pastures and hollows had not been planted with corn in the years since corn hit that $8 mark.)

That humid environment is both a blessing and a curse for beautiful Kentucky. It doesn’t require very close observation, driving along the state’s highways and backroads, to see that new gullies and washouts scar fields where crops have never grown, or at least not since the Dust Bowl. Soil erosion has become epidemic these days throughout Kentucky. She will need the healing touch
of pasture farmers who know how to grow and manage grasses, legumes and forbs, and how to best harvest them with livestock.

**Observe conditions farm-by-farm, field-by-field, animal-by-animal, season-by-season:**
Observing which forages work best in specific sites on each farm is key to optimizing the productivity of pastures so that they can nourish livestock well and safely. Hillside sites, for example, will usually retain plenty of moisture for springtime growth, but would tend to dry out during summer. If allowed to rest during summer months after springtime grazing, roots will penetrate deeper and the soil beneath the stockpiled forage will have a good layer of highly absorbent humus, ready to catch and hold fall and winter rains. Hillsides would not be ideal sites for warm season forages, since the soil would hold very little moisture for growth during the mid-summer months, which is their period of optimum yield and growth. Steep hillsides are also more suitable for smaller animals, such as weanling stocker calves or sheep, than for larger animals like mature cows.

Harvested row crop fields, on the other hand, which should tend to be flatter or more gently rolling, are suitable for dry beef cows. Forages that are chosen for planting on row-crop fields, either as cover-crops for grazing or to convert them into a long-term pasture rotation plan, can and should be matched to soils, topography, and livestock species for optimum yield, growth, and conservation benefits, as well as for management of livestock. If the row-crops have been seeded with cover crops like cereal rye and winter peas using a highboy seeder or an airplane, harvested soybean or cornfields are well suited for fall-calving cows. If continuously cropped fields are chosen for conversion to long rotations, like four to seven years of pasture followed by four years of row crops, dramatic increases in organic matter, soil tilth and humus can result, especially as cattle graze the cover crops, treading in the plants and adding manure. Cereal rye, annual ryegrass, Italian ryegrass, oats, and wheat make good transition crops to begin these long rotations, because they can quickly add organic matter with their extensive root systems. Tillage radishes, winter peas, brassicas and crimson clover add diversity and nutrients. High quality forages such as alfalfa and perennial ryegrass can follow such cover crops. These should be planted on the deepest, most fertile, most highly productive soils that contain plenty of organic matter from cover crops. These high-quality forages are well-suited for high-producing animals like dairy cows, as well as for finishing beef steers or preparing yearling heifers for breeding. After four years or more of management-intensive grazing on alfalfa and grass pasture, a small-grain or corn crop can then follow without the addition of artificial nitrogen.

**Respond to seasonal changes with seasonal forages and management**
In the transition zone where both winters and summers can be brutal and unpredictable, maintaining a well-balanced forage system that offers both high quality and high quantity (or yield) throughout a growing season of nine or ten months per year can be an especially big challenge, depending on the weather. In Kentucky and other parts of the transition zone, most pasture systems are naturally based on cool season forages such as tall fescue, orchardgrass, timothy, white clover and red clover. Diversity in the sward is better than a dominance of one species. For extending the grazing season into the late fall and early winter in the transition zone, a mixture of cool-season stockpiled forages that includes a good percentage of tall fescue is ideal.
Planning ahead to include summer forages for use during the months from July through early October usually allows us to set aside some acreage of fescue-based pasture. Forages don’t grow year-round, but with enough stockpiled fescue and the addition of cool-season annuals like brassicas, rye and ryegrass, grazing can, in good years of mild winters, go on year-round.

Cool-season forage systems offer an abundance of forage during the spring months and most autumns, depending on available moisture. Planning for and planting warm season grasses and legumes can usually extend quality into the summer months, if drought is not too severe. Depending on the species, grazing some species outside their period of best productivity may even be counter-productive. Endophyte-infected tall fescue, if grazed during hot weather, is a prime example: Grazing fescue is particularly problematic during hot weather, because so many stands of tall fescue carry an endophytic fungus that can make the cattle grazing it sick. That’s especially true if the cattle have not been selected and locally adapted for fescue tolerance.

**Cool-season grazing management must adapt to the season**

On our farm, we generally allow cattle to graze fescue-based paddocks several times during April, May and June before taking them out of summer forage rotations. This offers several advantages for future stockpiling. The first is increased soil fertility. By the time cattle have grazed through a paddock several times during the spring months, their manure and urine have fertilized the soil well. Depending on rainfall and temperature, our cattle may go through a paddock three, four, five or more times during the three or four-month spring season, sometimes starting as early as mid-March, and ending as late as mid-July or early August. Other years, grazing may be delayed a month or more, or hot weather may end the spring season by June 21. Flexibility in response to the weather and forage growth is necessary.

The second advantage is diversity in the sward. Keeping the fescue fairly short also reduces its intense competition for nutrients in the root zone. Grazing the fescue fairly close once or twice during a month in the spring flush of growth also opens up the lower level of the pasture sward to sunlight, favoring the growth and development of clovers, which also contribute more nitrogen to the grasses as they rest, grow, and develop reserves of nutrients for grazing in the late fall and on into winter months.

For the cattle, grazing toxic fescue during the summer breeding season in July and August can depress performance, lower conception rates, reduce blood circulation in extremities, delay shedding, reduce heat tolerance, and cause early abortions or retained placentas. It can also invite greater parasite infestations if cattle overgraze. On the other hand, tall fescue, timothy and orchardgrass interplanted with red and white clover offers excellent grazing in springtime as well as the option of stockpiling during late July, August and September. These species, planted together, have a symbiotic relationship that offers a prime means for protecting and holding steep hillsides with thin soils, or gentler rolling land that has eroded in the past due to continuous row-cropping. The clovers fix nitrogen to fertilize the grasses, and the fescue holds up well under traffic from cattle hooves, especially if allowed enough rest and recovery time between grazings. The leaves of grass grow vertically, while the clover leaves spread out horizontally, catching optimum sunlight, shading and protecting the soil, helping conserve moisture to build humus.
During years when winters are more severe, planning ahead and using a combination of stockpiled forages, cover crops, and cool-season annuals can drastically reduce the need for large stores of hay, improve animal health, and distribute fertility more evenly across the farm as the animals graze. Mid-summer drastically slows the growth of cool-season perennials here in the transition zone. As temperatures rise, rainfall usually declines. Droughts lasting two to three months, or even ten months have grown more common in recent years. Here at the confluence of the Ohio and the Mississippi, where average rainfall is about fifty inches per year, extended droughts like the disastrous ones in 1999, 2000, 2002, 2005, 2007, 2008, 2010 and especially 2012 are particularly problematic. Throw in some record-setting rains and flood years like the recent ones in 2011, 2013 and 2015, and the result can be disastrous erosion. Extreme weather calls for extreme management.

Warm-season grazing management fills the gap
The two biggest hurdles for grazing cool season pasture systems in Kentucky are the hot, generally dry months of mid- to late summer and the months of September and October. In “normal” years, cool nighttime temperatures and fall rains usually begin sometime in November. Establishing heat-tolerant, high quality forages for mid-summer, and extending the grazing as long as possible into the fall and early winter are human adaptations that demand some planning ahead. A variety of perennial and annual forages can be very productive in mid-summer. All have some disadvantages that we must consider. Alfalfa, for example, requires deep, fertile, well-drained soils and a high level of management for best performance. Grazing-tolerant alfalfa varieties that are well suited for a particular site are not always easy to identify. In the past, on our farm, the taproots of alfalfa sometimes snapped when daytime highs and nighttime low temperatures varied widely. Branch-rooted alfalfas are an adaptation that appears to work better here for grazing.

Eastern gamagrass is an excellent quality, long-lived native perennial, if it is used in a rotational management system and allowed to rest and re-grow. But gamagrass and other native warm season perennial grasses are very slow to establish and seed is very costly when compared to most other forages. Our farm has only ten acres of eastern gamagrass in two remote fields, planted in 1996. As it became well established, the gamagrass proved itself to be more and more hardy, versatile, nutritious and worthwhile. Setting aside additional land to establish more gamagrass will demand some changes in land use or temporary reductions in cattle populations. Its permanence, durability, and high nutritional content, as well as its heat, drought and flood tolerance, prove its worth despite the extra expense, time, trouble, and patience required to get a stand of this warm-season perennial bunchgrass established.

Planned-Ahead Grazing in January, February, and March

Stockpiled tall fescue can provide a considerable amount of grazing if growth has been stockpiled since mid-summer. The most available forage we have ever had from stockpiled fescue came from a field that had been resting since the summer solstice and throughout the fall until November 1. Heavy rain would have made this field impossible to graze, but a heavy snow in
mid-November did not phase the cows at all, nor did they damage the land or the stand. Our main herd of mature fall-calving cows grazed the twelve-acre paddock for the entire month of November, without need for any hay.

**Cereal rye** grows faster and better than other small grains in mild winters. It is most productive when sown in July or August. Cereal rye can follow a winter wheat crop, or it can be sown over early maturing corn or soybeans before harvest using a highboy outfitted to scatter seed, or an airplane, or on a prepared seedbed, or even into a close-grazed pasture in late summer using a no-till drill. In the upper south and lower Midwest cereal rye can be sown as late as November for cover crop and for early forage production during the following spring. Rye sown into sod or late in the fall, however, in our experience, produced very little midwinter growth. It didn’t emerge until early spring.

**Annual ryegrass** is a forage that we have used in our fields for about twenty years. The first variety we used successfully was Marshall. Gulf did not perform well this far north. As a true annual, ryegrass seeded in fall will produce seed heads the following spring. A prolific re-seeder, ryegrass can become a troublesome weed in crop fields. Varieties of annual ryegrass have proliferated in recent years, and they differ widely in their winter survival here in extreme western Kentucky. We have read that some of the varieties of annual ryegrass that work well in the Jackson Purchase region will not survive in northern Kentucky. We have used annual ryegrass interplanted with winter wheat for hay. The combination dries well and makes excellent quality very palatable hay for beef cattle.

Most of the annual ryegrass we have used over the years has had exceptional seedling vigor, and it provided high quality pasture during milder winter weather. The growth and available pasture are always in direct proportion to how many warm days occurred during the winter months. A twenty-acre field of ryegrass, planted in the dust in August, 2007, saved our herd from starvation in the late winter and early spring of 2008, after a deep Easter freeze followed by an extreme drought and other disasters wrecked our perennial pastures and ruined our hay crop. Even with the winter-active forages like rye and ryegrass, only mild, open winters will support much forage growth, but in our experience, these cool season annuals have been worth the effort more times than not. The improvement in soil texture and permeability from their extensive root systems make planting them worthwhile, even if they are not necessary for forage.

**Perennial ryegrass** differs quite a lot from annual ryegrass. For about twelve years or more, we have grown about seven acres of it on good land close to our house for very intensive management during cooler parts of the year. Most of the perennial ryegrass that has been planted on our farm has lasted 2 to 4 years. It is considerably finer in texture than annual or Italian ryegrass or fescue, and over time can build soil and form sod. Our cattle obviously relish it even more than annual ryegrass. Planted with white clovers, it is extremely palatable and of very high nutritive quality, so it is our pasture of choice to calve out first-calf heifers and prepare them for rebreeding. (It’s also good horse pasture.)

**Examples of mixtures that are a better alternative than monocultures**
Cereal rye plus annual ryegrass plus crimson clover plus some kale or turnips is a good recipe that we have sown together for winter grazing in the past. Adding the clover and ryegrass extends the grazing season by about a month longer than the cereal rye in the spring, increasing both the palatability and the nutrient content. Grazing stockpiled fescue close during late winter allows clover seed to germinate and emerge as the main grazing season begins. February and March are the best time to overseed with clovers. To favor clover growth, don’t be afraid to give a thick stand of tall fescue a heavy dose of hoof traffic, protecting easily eroded steep slopes and banks, of course.

**Managed grazing in April, May and June**

These are the months that provide the flush of spring growth, often bringing about a problem reverse of the other seasons of the year—forages are plentiful, and often become so excessive that pastures often go under-utilized. During late March and early to mid-April, when most cool season perennials have not yet begun actively growing, options include using the small grains like wheat and rye, or annual ryegrass, if these were planted the previous fall. Early spring pastures that face south or southwest will be warmer and better drained. If hay has been fed on south-facing slopes, then rested through the later part of winter, those slopes may exhibit faster spring green-up, providing good early grazing. In late April and May, as the major growth flush of cool season pastures begins, the cool season grasses and legumes provide many options for grazing. As long as the temperatures are cool, endophyte-infected tall fescue can provide good grazing. So, pastures where tall fescue predominates are the best place to start managed grazing at the beginning of the grazing season. Fescue can be grazed aggressively to keep the grass from setting seed-heads. For early pasture, fescue stands that do not show much clover can be grazed short to favor clover growth, which may help encourage good clover growth, making better pasture available for later in the year.

In 2015, a very good grazing year, starting in March, some fescue paddocks here on our farm were grazed up to five times before the summer solstice on June 21. Grazed down every two to three weeks, no mowing is necessary. Good clover growth along with heavy manure from high stock density eliminates the need for any artificial fertilizers and has prepared the fescue for stockpiling. It could be grazed again before its summer rest period begins. The largest problem during the spring flush of pasture is handling extra growth. Much of this growth can be harvested as hay. Even if not harvested, the top growth will not be wasted if it is grazed using management-intensive grazing and high stock density to incorporate the excess growth as a layer of highly valuable organic humus, which retains moisture well, protecting the land during periods of drought, and contributing to the life of the soil that sustains organic nutrients.

**High heat grazing in July and August**

Many warm-season forage options are available for July and August. Because of its negative affect on gain and conception rates during this time, most cattle should not be grazing highly infected tall fescue, especially if it is a pure stand without clover. Better options include mixed stands of other cool season grasses with warm season annuals and legumes. Orchardgrass and timothy are cool-season bunchgrasses with no harmful toxic endophyte and a good growth habit for mixed-season pasture. The spaces between clumps allow light and room for red and white
clovers, alfalfa, along with various forbs and palatable annuals like crabgrasses and lespedeza. Depending on rainfall and temperature, all of these forages are still growing at moderate to rapid rates during this time in midsummer. By contrast, July and August are usually the months when cool season forage crops begin to slow their growth. In extreme drought years, cool season forage growth can slow to a standstill. True summer forages are the best options in case of dry weather or extended drought in July and August. And fresh water is a crucial resource for utilizing pasture to the best advantage of the cattle. Warm season annual grasses such as sudangrass, sorghum sudangrass, pearl millet and others can be very productive and highly valuable pasture insurance during mid-summer. They are fast growing, providing pasture as early as 45 to 60 days after seeding. A consideration when choosing between these grasses is that sudangrass and sorghum sudans have prussic acid poisoning potential after frost, while pearl millet does not. If acreage is limited, however, the height of the sudans can be a benefit.

Warm season perennial grasses can be divided into native species like Eastern gamagrass, switchgrass and Indian grass, or introduced species like the ‘old world’ bluestems and Bermudagrass. Each warm season perennial grass variety has at least one serious drawback that prevents it from being widely grown in Kentucky. However, they all are extremely productive during summer, providing high yields of medium to high quality forage. Bermuda grass must be grown from sprigs, and availability of sprigs limits its use. On our farm, many patches of very well adapted bermudagrass exist in several areas near where old houses once stood. Z. T. Dulworth, who served as Ballard County jailer, is said to have brought the Bermudagrass from a lawn surrounding the Wickliffe Courthouse during the 1890s. Although the Bermuda is not very high quality forage, it is very plentiful during the midsummer months, and cattle will eat it well and improve its quality when confined to it. ‘Old world’ bluestems (OWB) were imported from the Caucasus region of Russia. We have not attempted to grow any of these OWB’s because they are difficult to get established. The seed is hard to handle and low in vigor.

Native warm season grasses include switchgrass, big bluestem, Indiangrass and Eastern gamagrass. The largest obstacles to their adoption include low seedling vigor and relatively high seeding cost. Big bluestem and Indiangrass have fluffy seed that requires special handling equipment in seeders. Our choice was Eastern gamagrass, and we do not regret it at all, although it took five years for the gamagrass to win out over volunteer Johnsongrass in our planted fields. All of the native grasses have a moderate to high degree of seed dormancy, making germination slow and emergence uneven. All of them are well-adapted here, but must be rotationally grazed and rested in the fall if they are to persist well, which is why so many of them were nearly grazed out of existence before the days of electric fencing.

During late August, tall fescue pastures should be pulled out of rotation and rested. If they will be stockpiled for fall and winter pasture, the rest period should be at least sixty days long. We rely on natural organic nitrogen from clovers, heavy stock density, manure and urine to prepare the fescue for stockpiling. If artificial nitrogen is to be used, it should be applied by late August for maximum growth. Pastures that are drought stressed can wait until rain is in the weather forecast before nitrogen application.
The Leanest grazing months: September and October

These two months are the most difficult time of the year to graze cattle in the transition zone. Most pasture surveys reveal that forage condition and pasture quality in mid-America is lowest during this time. Both months are usually dry and warm, making a time when many warm season grasses have begun to slow in growth, or need resting for persistence. On the other hand, ungrazed hay fields and rested cool season pastures will often become good sources of pasture during the early fall, and alfalfa fields can be grazed up to mid-September. If growth is available it can begin again in the latter part of October.

In fall of 2013, Toby had drilled a former soybean field with wheat, spelt and triticale. In March of 2014, Debby overseeded the small grains with crabgrass, red clover, and improved lespedeza. The field provided two good harvests of high-quality hay: One from the stand of wheat, spelt and red clover in May, 2014, followed by crabgrass/red clover and lespedeza that were cut for hay in July. By October, the stand of crabgrass, lespedeza and clover was very tall and lush. The main herd of cows nursing fall calves, along with our entire herd of steers, grazed that thirty acres during the month of October in pie-shaped wedges of about one acre per day. One forage that we tried for several years around the turn of the millennium was grazing corn, also known as grazing maize, a very high-quality one-shot grazing species that is partitioned off in strips for each grazing session. It can be grazed anytime forage is needed, regardless of plant maturity. Gains on grazing corn have proven to be very high on our farm and in test plots around the country. Our calves on grazing maize gained an average of over 3 lbs. per day in a drought year. We stopped growing grazing maize for several reasons, one of which was that our corn planter had ceased to operate well, and we didn’t want to invest in new metal. Cost per acre was very high, approaching $100 per acre. In certain situations, however, grazing corn can fill a gap that is not easily filled by other forages, supplying very high quality forage during a time when quality is hard to come by. Annual forages such as wheat, rye, and ryegrass should be seeded during these months if they are to have a chance to provide grazing during January, February and March.

Grazing the Stockpile: November and December

Rain and cooler temperatures usually return sometime during November, and pasture conditions of most cool season grasses should have improved by then. In November, it’s a good idea to finish harvesting the growth of remaining grass-clover fields. Because clover does not stand up well to winter weather, it’s prudent to graze fields that include heavy stands of clover or alfalfa first. Standing alfalfa holds its quality fairly well, even after frost, until heavy rains come. Use it early or lose it as it deteriorates to become fertilizer for next year’s pasture.

During November and December, in years of average rainfall, stockpiled tall fescue and bluegrass are highly reliable forages for pasture grazing in Kentucky, providing both quality and quantity. Stockpiling cool season grasses to extend the grazing season into fall and early winter is one of the key methods by which we can add days to the Kentucky grazing season. Stockpiling is simply resting cool season pastures after the summer solstice so that the forage plants can recover and achieve optimum growth before grass stops growing in the fall. But it depends upon developing a better summer forage plan that will allow the cool season forages to rest during the hot months when they are naturally more dormant. To make the forage last as long as possible, we use strip-
grazing in our stockpiled fields. I prefer to move the portable electric fences once per day, but we sometimes allocate up to three days worth of grazing at once. Grazing these forages this way will not decrease animal gains. Turning cattle out into a large field and letting them graze continuously has been shown to decrease gains by thirty to forty percent when compared to strip-grazing in small daily increments. Cattle tend to spot graze, bypassing what they would normally graze in the wild if they were kept in tight herds by their natural predators. Electric fencing mimics the action of those predators.  *(Look up Allan Savory’s 2013 TED talk on the web for a thorough explanation of this concept.)*

Here in the transition zone, finding summer pasture solutions can be more challenging than stockpiling, but warm-season forages are a very important component for establishing a system that can allow some grazing in every month of the year. The use of winter-growing annual species such as the small grains, annual ryegrass, brassicas and similar species contribute some high-quality winter growth during mild conditions. Cereal rye is probably the most versatile, extending the grazing season for more days in late fall, winter and early spring, but rye is certainly not the only one we have used.

Warm season pastures have always been the weakest link on most Kentucky farms, where tall fescue and other cool-season grasses predominately. Maybe this is because cool-season forages like tall fescue and bluegrass thrive so well here in Kentucky, persist so well, and are therefore the easiest species to grow. Because the climate is so unreliable here, placing some focus on the time of the year when our pasture system is weakest will pay the largest dividends. Putting some resources (time, management and money) where improvements will have the best and most lasting effect is a wise move. For example, the best investment we have ever made toward warm-season grazing is ten acres of Eastern gamagrass, a tall, deep-rooted, highly palatable and nutritious warm-season perennial that can last for a hundred years with proper management. In the days of wild buffalo, it was one of the most common species in Kentucky. Unfortunately, overgrazing without rest will wipe it out, which is exactly what the early settlers of Kentucky did.

Most of the warm-season perennials are slow to establish, but as a mature stand, the root system is extremely deep, and able to access reserves of moisture that annual grasses simply can’t reach. If grazing is restricted and well managed, and if sufficient rest is provided between grazings, a mature field of gamagrass can be grazed three, four or even five times each year. Mature gamagrass is also tough enough that it can be used as standing hay during late winter months, when wet weather, freezing and thawing sometimes render other pastures too fragile to graze. Many new livestock breeders, unfortunately, stay in business for only seven years or less, which is barely long enough to get a really good mature stand of perennial gamagrass established. Adapting our grazing methods to accommodate gamagrass and other warm season forages—like crabgrass and even the reviled Johnsongrass that is the nemesis of corn and soybean farmers—can bring cattle through the toughest months of the year here in the transition zone, allowing our cool-season grasses to build us a stockpile of forages. Mother Nature always has the last say, of course. Warm season species like crabgrass, lespedea, and Johnsongrass need water too. When there is no water, there is no growth. Here on our farm, years of severe to exceptional drought, like 1999, 2000, 2002, 2005, 2007, 2008, 2010 and 2012, prohibited much excess growth.
of pastures past mid-summer, regardless of species. In 2012, even crabgrass failed and even
Johnsongrass was stunted. Nevertheless, we have had at least as many good years for stockpiling
forages as bad ones during the past fifteen years.

Putting together a long-term grazing plan that incorporates a diverse range of forages—not only
the easy cool-season perennials, but also cool-season annuals, warm-season annuals, and warm
season perennials—is the focus of our year-round forage grazing strategy as we observe
conditions each year, respond to the needs of the land, soil and cattle, and adapt our grazing
methods to good stewardship of all. Here in Kentucky, many of us in our golden years have been
and will continue to be in the cattle business for the long haul. The time has come for us to pass
along our knowledge. It’s also time for us to encourage and provide opportunities for young
people who want to get into the business of sustainably producing beef here in what once was
called the Bluegrass State.