

# PASTURE REJUVENATION

*and*

# RENOVATION

Southeast  
AGRISEEDS<sup>LLC</sup>



Helping you optimize productivity on every acre!

# RENOVATE OR REJUVENATE?

Renovate or Rejuvenate? How to approach improving perennial pasture. It is first important to determine if a pasture needs complete renovation or rejuvenation. Fields that have significant weed pressure, undesirable or unproductive forage species are prime examples of pasture that should be completely renovated. A great way to objectively determine the amount of useable forage is to use a method called point-step. To execute this method, simply write down “desirable” and “undesirable” on a piece of paper. Every 15 steps, look at the forage or weed at the tip of your boot and make a hash under the category it falls under. Take 50-100 points and calculate the percentage of desirable forage. If the percentage of desired forage is high in the field (>65%), it may be a good opportunity to simply thicken up the stand, or “rejuvenate”. Interseeding grasses, legumes, or forbs can quickly improve pasture productivity and quality.

## PASTURE REJUVENATION

There are several ways to rejuvenate the existing pasture without completely reseeding. Management strategies should be evaluated to determine if any of the following will significantly thicken the pasture:

- Timely Fertilization
- Weed Control
- Grazing Management

Over time, you may find that pastures need to be thickened to improve productivity and quality as well as increase overall diversity. The addition of new grasses into an existing stand of pasture can greatly improve palatability, quality, and yield. Interseeding grasses or legumes into Kentucky 31 Tall Fescue pastures can even help to dilute the negative effects.

### **Establishment method:**

The challenge with this system is the competitive nature of an established perennial to a seedling that has just germinated. Due to this advantage to the established grasses, a few measures should be taken to give the newly seeded grass an opportunity to thrive.

**Option A:** Utilizing a reduced rate of a non-selective burndown herbicide can chemically suppress existing grasses prior to seeding. Depending on weather conditions, this can do some damage to the existing grasses. This method does provide the best opportunity for establishment of the newly seeded forages. Be sure to read herbicide labels to determine when it is safe to plant.

**Option B:** Mowing the existing grasses very low prior to seeding. This method is less of a risk to the established grass, but may not be enough of an opportunity for the newly seeded forage. Multiple mowing's may be necessary if growing conditions favor the established grass.

## PASTURE RENOVATION

If the point step method yields desirable forage in less than 65% of the area, it may warrant a complete renovation. There are many motivations to renovate pastureland, including:

- unproductive or weed ridden fields
- need for diversity in the grazing season
- reduction of KY-31 fescue acreage.

Regardless of the motive, pasture renovation is a process that requires planning and clear goals for the farm. It is important to ask yourself a series of questions in to determine what forages would help you meet your goals and how you can keep the same problem from occurring again.

### **Questions to ask consider:**

Why did the pasture diminish or become unproductive? What time of the year do I lack grazing? Is pasture quality matching livestock needs?

After determining the answers to these questions, direction becomes clearer and the process of renovation can begin. This should be a deliberate process, so we encourage you to do a small percentage of the farm at a time. To begin, take soil samples to verify that your pH and nutrients are adequate. Perennial grasses and legumes are especially sensitive to soil fertility and will be very unproductive or not survive if not within the ideal pH range (6.0-6.8) or have insufficient N, P, and K.

*Tip: Annuals can handle lesser soil fertility and can be planted until the soil has been amended enough for perennial grass and legume establishment.*

Although thinning pastures may not seem very productive, any established forages will be competitive against the seedlings as they emerge. Set yourself up for success by removing this competition by means of a burndown herbicide or tillage.

If herbicides are part of your management plan, there are several strategies for renovation: **spray-smother-spray** and **spray-wait-spray**.



**Red:** Fescue stand terminated with glyphosate prior to planting, sorghum sudan fertilized with 60 units of N after emergence  
**Yellow:** Fescue stand mowed very short prior to planting, sorghum sudan fertilized with 60 units of N after emergence  
**Blue:** Fescue stand mowed very short prior to planting, sorghum sudan not fertilized

## SPRAY-SMOTHER-SPRAY

After removing pasture growth towards the end of its primary growing season, spray with glyphosate. After one week, sow an annual into the dead sod. This annual will provide quick, dense coverage to smother any plants that survived the spraying and will serve as excellent feed for livestock. The best annual to plant is one that best matches your management needs. Focus on varieties with the brown mid rib (BMR) gene. This translates to reduced lignin content, which means more digestible fiber.

### Questions to consider:

Is this for grazing, hay, or haylage production? Will selective herbicides be used throughout the season? Are you prepared to manage pressure from the sugarcane aphid?

A few examples of summer annuals that smother well:

**AS9301 BMR Sundangrass:** The most versatile summer annual. Works very well in grazing, dry hay, or haylage systems. Has aggressive regrowth and high yields.

**Ray's Crazy Mix:** A big biomass producer with BMR sorghum sudan, pearl millet, cowpeas, sunflowers, and even turnips. Intended to address soil compaction, add nitrogen, and increase soil organic matter. Best for grazing and haylage, not intended for dry hay production.



**Prime 180M BMR Pearl Millet:** A leafy, dwarf millet that does not run the risk of prussic acid poisoning or damage from the sugarcane aphid. Can be harvested for dry hay, haylage, and grazing.



It is important to manage this annual as you would any perennial grass by respecting the grazing or cutting height and allowing regrowth time. When the annual nears the end of its growing season, graze or mow down the growth significantly, as leaving too much material behind can hinder seed to soil contact.

## SPRAY-WAIT-SPRAY

Remove the seasonal growth by grazing or cutting for hay. Spray with a burndown herbicide 6 weeks prior to target planting date. Wait 4 weeks and apply again. This wait period allows for any missed or surviving plants to grow back so that the herbicide will be effective at the second spraying. Wait the recommended period per the herbicide label before sowing the new perennial seed.

# ADDING CLOVER

Clovers will typically increase crude protein, reduce the need for nitrogen fertility, counteract the KY-31 fescue toxicosis, and can improve summer productivity of cool season perennial pastures. Perennial clovers pair best with cool season perennial bunch grasses, such as fescue and orchardgrass.

## RED CLOVER

This clover has an upright growth habit and produces very large, pubescent leaves. Seeded at 8-10lbs/A, red clover is better suited for hay production than white clover due and has the heaviest concentrations of Biochanin A, a compound found to act as a vasodilator. While it's not as high in quality as white clover, yields, drought tolerance, and summer productivity are higher.

**Barduro:** A persistent red clover named for its hardiness and durability. In a hay cutting trial at the Auburn Research Center in Crossville, Alabama—during their worst drought in 25 years—Barduro was the only experimental clover to survive.

**Freedom!MR:** Bred for yield and persistence. It is a selection with exceptional resistance to mildew (MR). Great overall palatability and forage quality.



## WHITE CLOVER

White clover is the backbone legume of grazing systems and is the most tolerant of grazing pressure. It spreads by rhizomes, which are stems that run beneath the soil surface. This leads to high quality, leafy production that does not lignify in hot weather.

**Renovation:** Renovation is an intermediate white clover that was bred for increased stolon density utilizing a combination of long-lived Southern Plain ecotypes and disease resistant ladino types. The result is increased persistence, even under grazing. Renovation has wider leaves, closer to ladino type clovers. This means more forage and less weed pressure.

**Neches:** Neches has been developed by Texas A&M for surviving the harsh conditions of southern U.S. It is an early flowering white clover with profuse (long) bloom. This provides high reseeding potential for regrowth in warm season grass pastures. Neches is an intermediate white clover but selected for larger leaves. Neches has high dry matter yield compared to other varieties also developed in the south.

**RegalGraze:** A high yielding ladino clover that has been selected under tight grazing pressure by University of Georgia researchers. This clover has excelled in the south.



**Barblanca:** A large leaf white clover with excellent persistence under intensive grazing. Developed from heat tolerant germplasm, it is a highly suitable cultivar for transition zones and the southeast.

## MIXTURES

Blending red and white clover brings the longevity and grazing tolerance of white clover together with the yield and summer production of red clover.

**Pasture Booster:** Designed to dilute the effects of harmful fescue endophytes and adding legumes to the stand. Pasture Booster is a mixture of our best perennial clovers for the Southeast.

**Premium Clover Blend:** A mixture of our best perennial clovers. Red and white clovers combine to make a mixture that is great for interseeding into thinning alfalfa or grass stands, frost seeding or combining with your favorite grass mixture. The varieties in this mix are hardy and long-lived.

# ADDING FORBS

Broadleaf forages are often of high protein, high quality, and heavily concentrated in minerals. They can be fall drilled or frost seeded into perennial pasture at low rates, 1-3lbs/A. Forbs are typically utilized by small ruminant producers due to their grazing preferences, but are a great addition to any livestock operation looking to improve quality, drought tolerance, and palatability.

**Forbs Feast Chicory:** This perennial herb has a deep taproot and high forage quality. It was selected for high dry matter production, improved cool season growth and recovery after grazing. It is a widely adapted, flexible and persistent component of pasture for most regions in North America. It has been proven on farms and in trials to improve production both per animal and per acre in sheep, beef and dairy systems. Forb Feast has high metabolizable energy levels and crude protein, and is highly digestible resulting in a forage that provides excellent animal production. It exhibits excellent palatability across all animal types from lambs, to beef and dairy cattle and especially deer.

**Tonic Plantain:** Tonic is a highly productive and palatable grazing herb. It is a drought tolerant, winter active, perennial cultivar of the narrow leafed plantain common to most of North America. It has strong cool season growth and drought resistance in a wide range of environments and soil conditions making this the ideal plantain for year-round production.

# ADDING GRASSES

## COOL SEASON PERENNIAL OPTIONS

### NOVEL ENDOPHYTE TALL FESCUE

Tall Fescue is popular as a cultivated pasture grass because of its relative ease of establishment, drought and grazing tolerance, and long grazing season compared with other cool season grasses. Research has shown that many of these traits that make KY-31 tall fescue so desirable are due to the presence of a fungus (*Neotyphodium coenophialum*) that lives inside the plant (endophyte). The fungus is transmitted in the seed. Toxins typical in endophyte infected (E+) fescue have been shown to cause fescue toxicosis which reduces cattle growth, reproductive performance and health. This reduction in cattle performance results in an excess of \$1 billion in lost income annually in the US. Novel endophyte (NE+) fescue varieties appear to have the survival advantages of the E+ varieties, but with none of the animal toxicity effects. For more information, see the fact sheet USDA-NRCS, The Economics of Replacing Endophyte Infected Fescue with Novel Endophyte Fescue on Cow-Calf and Beef Stocker Operations. Recent analysis has shown a concentrated presence of the endophyte not only in the seed head, but in the base of the stem also. This fact explains the ability of infected varieties to resist overgrazing.

**Martin II Protek:** Martin II Protek is the rugged novel endophyte tall fescue, combining the proven genetics of Martin 2 forage tall fescue with the enhancement of the Protek™ endophyte. Martin 2 is an early-medium forage tall fescue selected for the transition zone, and stands up quite well to drought stress and intensive management. Its pedigree includes several USA varieties including Mozark, the original Martin, Cajun, and three KY31 synthetics.



**BarOptima Plus E34:** A soft leaf tall fescue that has been proven to be more palatable to livestock than many other fescue varieties. The beneficial endophyte in BarOptima gives it more tolerance to heat and other stresses, and in combination with the fescue's soft leaves, improves palatability and dry matter intake and average daily gains.



**Tower II with Protek:** A late heading, soft leaf tall fescue with strong Southern production.

### ORCHARDGRASS

An early heading orchardgrass that is very high yielding, has high disease tolerance, and handles heat and stress well. Ideal for producers in the intense southern climates that are looking for a high energy option that jumps out early in the spring and yields big. Often the first pick of grazing livestock due to high palatability. We are proud to offer coated orchardgrass seed. This coating aids in seed germination and early establishment, but also makes the process of seeding much smoother. Orchardgrass is known for its light, fluffy seeds, and utilizing this seed coating has created better rate control and reduces flow issues through a drill.

**Endurance:** Endurance is a new Orchardgrass variety that is capable of very high dry matter yields with good digestibility. It is able to withstand cold winter temperatures and shows a strong resistance to disease. Endurance exhibits an erect, open bunch type sod, making it more compatible, (less competitive), with adapted legumes, than tall fescue. The germplasm used to develop Endurance was first selected for low cutting height.



**Olathe:** A new early orchardgrass by DLF that is very high yielding, has high disease tolerance, and handles heat and stress well. Ideal for producers in the intense southern climates that are looking for a high energy option that jumps out early in the spring and yields big.

**Persist:** A southern orchardgrass bred by University of Tennessee for persistence under both hot humid conditions and under abusive grazing management. Persist does what its name implies, but it is also a very high yielding variety.



## BROMEGRASS

Prairie Brome provides a high quality pasture throughout the year. Dense tillers and a soft, palatable leaf make it perfect for rotational grazing, and rapid re-growth makes it great for hay crops as well. Persist prefers not to be stockpiled in winter, but we do advise rotational grazing for maximum productivity. Persist is a problem solver for producers who are in climates with moderate dry seasons or supplemental irrigation. Its significantly improved cold tolerance for such a highly active species is quite unique. During the heat and drought of summer, it will continue to produce with adequate moisture. Its high palatability, tolerance to rotational grazing, and winter-active habit is a great advantage in areas of mild winter climates. Allow to drop seed each year so that stands remain thick for years to come.

**Persist:** Persist is a problem solver for producers who are in climates with moderate dry seasons or supplemental irrigation. Its production out-yields other cool season grass species hands down. Persist's significantly improved cold tolerance is quite unique.



**Matua:** A native grass in South America that does not have a rhizome root system. It is a short lived perennial that works well in southern grazing systems. Allowing Matua to re-seed itself will help stand longevity. It is highly palatable to cattle and holds its palatability through maturity. Because it is susceptible to head smut Matua Prairie Brome is usually sold treated with a fungicide.

## FESTULOLIUM

This grass is the result of a cross between annual ryegrass and tall fescue. The appearance of Festulolium is much like tall fescue, and the two species share many properties: very high yield potential in combination with high persistence and tolerance to drought and periodic flooding. The main advantage of Festulolium is the improved feeding value. In a mixture with other perennial grasses and/or white clover, it will deliver good forage suitable for most classes of livestock.

**Fojtan:** With its medium-late maturity, Fojtan is well-suited for grazing and a perfect partner in mixtures. Fojtan contributes persistence and drought tolerance.

## MIXTURES

**Grass Maxx:** Grass Maxx provides the diversity you need in a hayfield or pasture while giving you the option of broadleaf weed control during the establishment year. After establishment, frost-seeding a clover or clover blend into the stand in late winter can be a great option to thicken the stand further and boost protein. The main component of Grass Maxx is Martin II Protek. In addition to Martin II Protek, Grass Maxx also contains Inavale and Olathe. Both of these are strong southern orchardgrasses with great longevity. Olathe was developed at DLF's Kentucky research site. Inavale is a medium-late variety selected in Kentucky for disease tolerance, winter hardiness and summer performance. Inavale's midlate maturity and summer heat tolerance make it an ideal choice for both grazing and hay production.


**Balancer:** With balanced energy and protein, this high end mixture of grasses and legumes is designed specifically to provide livestock the nutrition they need to maintain, gain and produce in the challenging climate of the southeast. From its base of Martin II Protek Novel Endophyte Fescue to its complementary blend of clovers, this mixture has the best interest of your herd in mind! In addition to Martin II Protek, Balancer also contains Endurance and Olathe. Both of these are strong southern orchardgrasses with great longevity. Olathe was developed at DLF's Kentucky research site. Barduro Red Clover and RegalGraze Ladino White contribute nitrogen to pastures and improve overall forage quality with highly digestible protein and mineral content. Pasture productivity is almost always improved when clovers are added, since the clovers boost summer production. The longevity of these two southern clovers has been proven.

**Southern Beefmaster:** This is an excellent mixture of highly drought and heat tolerant forage grasses combined with red and white clovers formulated for stocker cattle, beef cows and calves. The varieties in this mix were chosen to give you the best performance in the challenging climate of the transition zone. Southern Beefmaster's featured component is the beneficial endophyte tall fescue BarOptima PLUS E34®. The orchardgrass varieties are late maturing and tolerant to grazing situations. Southern Beefmaster also contains perennial ryegrass for rapid establishment and exceptional forage quality. The red and white clovers provide high protein and nitrogen fixation.

# WARM SEASON PERENNIAL OPTIONS

## BERMUDAGRASS

Bermuda is a reliable, high yielding forage that performs best in sandy, well drained soils. It requires heavy nitrogen and potassium fertilization throughout the growing season. It will go dormant after killing frost, which makes it dependable for overseeding winter annuals to extend the grazing season. Utilizing winter annuals that grow well into the spring, like annual ryegrass, can delay Bermuda growth.

**Gaucha:** a customized forage bermudagrass blend bred for higher dry matter yields, early spring green-up, cold tolerance, and superior quality. The components are improved varieties exhibiting a range in growth habits from fully erect hay types to prostrate grazing types. This diversity facilitates establishment, enhances persistence, and naturally reduces the opportunity for warm season weed invasion. The primary component is CD 90160. 

## BAHIAGRASS

Bahiagrass is a warm-season perennial grass with dense rhizomes that results in spreading and excellent weed competition. Growth begins in early spring and continues until midsummer when the seedheads mature. Late summer growth is slow and low quality. Very low fertility requirements, but does not overseed dependably with winter annuals. Can grow well in high organic matter and poorly drained soils.

**Pensacola:** Pensacola is the most widely grown variety in the US. It has longer and narrower leaves, taller stalks, and is earlier maturing and more winter hardy than other varieties.

# PLANTING METHODS

Depending on the condition of the field, there are multiple ways that a successful stand of perennial forage can be established. If the field is bumpy or has unsuitable ruts, this is a great time to prepare the seedbed so that it will be smoothed out. After tillage, it may be necessary to cultipack the land so that the seedbed is firm enough. As you walk across the field just prior to planting, your boot should not sink more than 0.25". If there are no topography issues that need to be addressed, no-till seeding will help control erosion, hold moisture, and give those seedlings a jumpstart. Regardless of what method best suits your situation, be sure to calibrate your drill and check seeding depth.

# FIRST YEAR MANAGEMENT

It is recommended to apply in-season fertilizer after the plant has reached 3-4" in height. This is to prevent burning and to ensure that the fertilizer is being used by the seedlings you planted as opposed to weeds. If selective herbicides are needed, be sure to check the label to see when it is safe to apply so that the desired seedlings don't get burned back.

### **A light grazing should be done to encourage tillering of the new perennial seeding when it reaches 8-10 inches in height.**

Do so with caution, leaving behind at least 4 inches, or the stand can be lost. Although this first grazing may feel risky, it is important to the productivity of the stand. Without grazing or cutting for hay during the first year the plants will be competitive with each other and cause "clumping". This will allow for encroachment of weeds down the road.

There are many management considerations that go into renovating pasture. The key to being successful is having a well thought out plan. Evaluate your farm currently and where you hope to be in the next 5 years. From there, select the renovation strategy that fits best with those goals and your farm constraints.



# Southeast AGRISEEDS<sup>LLC</sup>



Helping you optimize productivity on every acre!



**Joshua Baker**  
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Warehouse Manager



*Southeast AgriSeeds is a sister company to King's AgriSeeds.*

## MISSION

To serve southeast agriculture producers by equipping local dealers with the products, services and support needed to optimize productivity per acre.

## TESTIMONIALS

*"If it wasn't for my BarOptima, I'd be hurting for dry hay. I've been very impressed so far."*

*- Tony Isley, Snow Camp NC*

*4 year old stand of BarOptima Plus E34*

*"By God's grace I am a cow/calf farmer in North Carolina. My job is to provide a diverse variety of foliage and the cows know their role. By partnering with Southeast AgriSeeds I am able to use the latest seed technology, get ongoing technical support and produce the optimum number of grazing days. Through Southeast's help, I am also continually improving the quality of my baled hay."*

*- Jim Anderson, Eden NC*

*Ray's Crazy Mix, Pasture Booster, Triticale, Annual ryegrass, Cajun II Tall Fescue*