

Southeast
AGRISEEDS^{LLC}

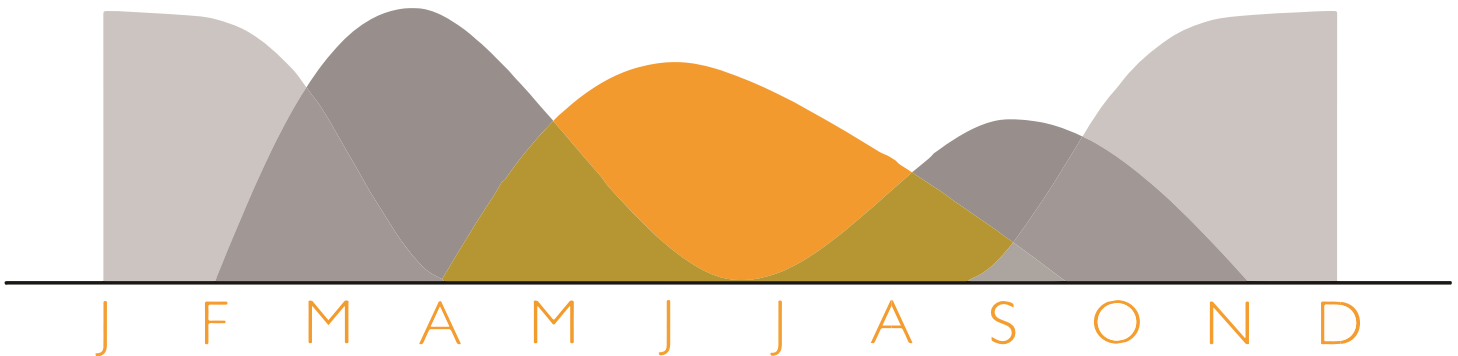


Helping you optimize productivity on every acre!

SUMMER ANNUAL MANUAL

WHY SUMMER ANNUALS

- Crop rotation
- Rapid growth during the hot, humid weather
- Fills the “summer slump” of cool-season perennials
- Higher quality than warm season perennials during the summer
- Condition land for perennial establishment
- A break for cattle grazing KY-31 fescue
- Rotation allows for rest and protection of perennial grasses



WHAT TO EXPECT

When managed properly, summer annuals can produce substantial, high-quality forage in the span of 75-120 days. Time to first harvest for multicut annuals is generally 45-60 days, depending on weather conditions. As long as enough residual is left behind, subsequent growth will be ready to harvest more quickly, with that window tightening to 30-45 days. This rapid growth will require aggressive harvesting to prevent the stand from getting rank or low quality. For ideal growth and nutrient density, nitrogen fertilizer can be added after emergence and, if needed, between each harvest.

WARM SEASON ANNUAL GRASSES

Single harvest: Forage sorghum, grain sorghum

Multiple harvests: Sudangrass, sorghum-sudan, improved millet, teff grass, improved crabgrass

WARM SEASON LEGUMES

Single harvest: Cowpeas, forage soybeans

Multiple harvests: Lespedeza, sunn hemp

BROADLEAVES AND BEYOND

Single harvest: Buckwheat, sunflowers

Multiple harvests: Brassicas, multi-species mixes

Summer Annual interseeding trial

PLANTING

Prior to planting, terminate the existing stand of pasture. Although some pastures may seem thin or uncompetitive, they often provide too much competition for summer annuals to thrive. Take the time to terminate existing grasses prior to seeding to set yourself up for success. Always make seeding adjustments with the weather. Temperature and moisture considerations are key for summer annual success. Most summer annuals need 65-degree soil temperatures in order to germinate. Planting into moisture is highly encouraged, especially when working with smaller seeds like millet or crabgrass that require shallow seeding depth. Correct seeding depth for seed size can make or break the crop.

FERTILIZATION

- Refer to the most recent soil test for phosphorous, potassium, and micronutrient recommendations.
- Apply nitrogen after emergence for best success: a general rule of thumb is one lb. of nitrogen per growing day.
- Application rates of 40-60lbs/A of nitrogen between harvests will maximize quality and yield.

HARVEST TIMING

Depending on species and use (cover crop or forage for various classes of livestock), most should be taken fairly early in their growth, prior to or at boot stage. This will maximize quality and prevent stands from getting “rank”, or low quality.

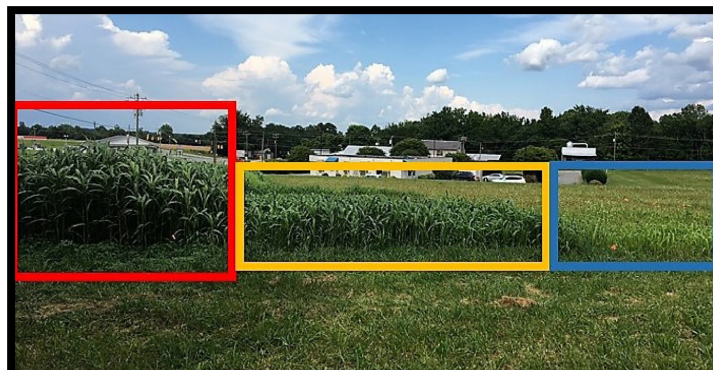
GRAZING

Rotational or strip grazing is the most cost-effective way to manage summer annual forage. Sudangrass and millet have the best regrowth, but sorghum sudan and even forage sorghums can be grazed. Crabgrass is also an excellent summer pasture crop that readily reseeds itself and volunteers the following year. Diverse mixtures like Ray's Crazy Mix or Summer Feast are 'dual purpose' in that they provide grazing while increasing soil health.

CONCERNS

Prussic acid is a concern with sorghum and sudangrass products, but not millets. Never harvest and feed immediately after a frost or big rain event following a droughty period. 18 inches of growth is the preferred minimum height for grazing. If you harvest for ensilage immediately after a frost, allow 30 days for a full fermentation process and for cyanide to “gas off” before feeding.

Nitrate poisoning can also occur with all summer annuals. Typically, this occurs from excessive nitrogen fertilization or untimely nitrogen fertilization. Consumption of heavy nitrate concentrations can cause death within 24 hours in extreme cases, so forages should be tested for nitrates prior to being fed.



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



As you browse through this manual, you'll come across some key terms that will help you determine what species and varieties will work best for you. Take a moment to familiarize yourself with these defining characteristics.

BMR (Brown Mid Rib) is a gene mutation, named by its showy brown mid rib, which reduces lignin content and improves whole plant fiber digestibility. This means pound for pound more available energy to your livestock. Available in sudangrass, sorghum sudan, forage sorghum, and millet products.

Brachytic dwarf plants are defined by the shorter distance between internodes of the plant. Resulting plants stay shorter than their non-dwarf counterparts, but do not show lower yields. This improved leaf to stem ratio translates to less fiber overall. This characteristic also improves the standability and regrowth. Seen in sorghum sudan, sudangrass, forage sorghum, and millet hybrids.

Aphid tolerance is a characteristic that has been identified as a result of the sugarcane aphid. While this is not true resistance, hybrids identified as either AphidAxe or Aphix have been tested and proven to be not preferred by the aphid. Available in sorghum sudan and forage sorghum products.

Photoperiod sensitivity is defined as hybrids that flower in response to day length. This means that the plant won't produce a seedhead until the days start getting shorter. This results in longer stretches of vegetative growth so you can capture quality forage for longer periods of time. Available in sorghum sudan hybrids.

iGrowth sorghum contains a proprietary non-GMO imidazoline tolerance technology, which allows farmers to spray a companion imidazoline herbicide from UPL (currently under EPA review) for pre- or post-emergence control over broadleaf and grass weeds without causing damage to the crop.

AphidAxe is a designation of sugarcane aphid tolerance. While this is not true resistance, it is a measure that proves that this variety is less likely to be impacted by the aphids. Paired with other key management strategies, it will help reduce losses to the aphid tremendously

IMPROVED FORAGE MILLETS DRY HAY - WET HAY - GRAZING

When placing millets on the farm, remember that most are extremely useful in their range of adaptability – we would argue that range is even broader than sorghums or sorghum-sudans. Despite their tolerance of the hot, dry conditions of peak summer, millets can do well in wetter, more acidic soils than their sorghum counterparts can tolerate. One major advantage of millets is that they currently have no susceptibility to sugarcane aphid. They also don't produce any prussic acid and are safe for horses. Millets are very small seeded, so they should be established by drilling no deeper than 0.5 inch or by broadcasting into a firm, prepared seed bed.

BMR Hybrids

Prime 360- A second dwarf BMR millet with very similar characteristics to Prime 180. Tends to grow taller late season, recommended for haylage and baleage. *Available in coated!*



Non BMR Hybrids

Wonderleaf- A hybrid pearl millet with high yield potential.

Leafy T - A dwarf pearl millet with fair rust resistance.

COVER CROP/ONE CUT MILLETS

Browntop- A short millet best for attracting birds or for a one cut system.

Japanese Millet- Cover crop/grazing millet. Great for wildlife.

Proso- A widely adapted millet. Great for wildlife/birds.

SUDANGRASS DRY HAY - WET HAY - GRAZING

Sudangrass handles drought very well, but has finer stalks and a more favorable leaf to stem ratio than sorghum sudan. It is arguably the most flexible summer annual crop, is quick to establish and has the best regrowth in the lineup. Drill at 0.5-0.75" deep when soil temperatures reach 65 degrees. Harvest between 2-5ft tall for ideal quality, yield, and regrowth.

BMR hybrids

AS 9301 - A powerful product with strong disease resistance and drought tolerance that maintains dry stalk characteristics instead of a thin stem

AS 9302 - The same strength of 9301, but with a dwarfing characteristic that makes this hybrid more forgiving of lower harvest heights.

95-1 - A BMR sudangrass that is photoperiod sensitive.



CRABGRASS DRY HAY - WET HAY - GRAZING

Crabgrass is a reseeding annual that grows more like the perennial grasses, with a maximum height of 3ft tall and only 3" residual height needed to regrow. It is the only summer annual that consistently establishes and is productive when interseeded into thinning perennial stands. As one of the smallest seeds in the lineup, it can be broadcasted or drilled. No matter the method of seed distribution, it should be kept shallow and never be placed deeper than 0.25 inch. The crabgrass we work with has been coated at 50% to increase the size of the seed and aid in seed dispersal. This coating is equipped with absorptive materials that draw water to the seed for fast germination and contains a fungicide to aid in early season fungicide prevention. Broadcasted seed should be firmed into the seed bed in some manner- whether that be by cultipacking, irrigation, running the livestock densely across the field, or dragging. If allowed to go to seed during the growing season, crabgrass will reseed itself. Count on emergence the following spring when soil temperatures break 55 degrees. Crabgrass is one of the lowest yielding summer annuals, with no more than 2.5 tons across the growing season. Its flexibility and reseeding capacity have made crabgrass an important forage across the Southeast.

Mojo - Coated with Yellow Jacket seed coating to improve seedling vigor, Mojo brand is a blend of Red River and Impact varieties.

Red River - Red River crabgrass has excellent reseeding and regrowth capacity. Known for its ability to spread and cover ground.

TEFF DRY HAY - GRAZING

Teff is a very small seeded summer annual that has large interest amongst the equine community. Known for its low non-structural carbohydrate content, this is a fine leaf and stem grass that is native to Africa. Must be seeded into a prepared seed bed, broadcasted, and then firmed into the seed bed for perfect establishment. The first harvest should be taken for dry hay due to the young root system and high potential for pulling up the plants completely under grazing pressure. Once established, teff requires very little. It is drought tolerant and needs only 30lbs/A of nitrogen to produce a good crop. Needs to be harvested prior to boot stage for ideal quality and palatability.

Moxie Teff— A blend of warm season annual teff grasses.

Cascade Teff - A true forage type teff.

GRAZING CORN

A very palatable, single grazing option. Livestock will seek out corn over many other summer annual options. High sugar content makes this a great option for those seeking milk production or trying to add weight to livestock. It does require more water to be productive compared to sorghum sudan and sudangrass. No prussic acid risk.

BMR 84 Grazing Corn— One crop summer annual grazing corn.

FORAGE SORGHUM WET HAY - SINGLE GRAZING

Forage sorghum is an excellent choice for one cut systems on marginal corn ground or after double crops. It uses 30 to 50% less water than corn and less nitrogen for similar tonnage. Ideal harvest time for direct chop silage is at soft dough stage, which will maximize starch content and yield. Forage sorghum is also well suited for haylage and baleage production using a “cut and wilt” system at boot stage. It is recommended to increase seeding rate to improve yield. For both systems, it is always recommended to use varieties with the BMR trait to improve energy concentration of the feed. Forage sorghum can be sown 1-2” deep and seeding rate is variety dependent.

Direct chop

AF 7401- a full season BMR gene 6 variety with 110-115 days until soft dough stage.

KingFisher Fiber Pro 50- An 85–89-day brachytic dwarf BMR gene 6 variety that keeps lodging potential low. Another great option for quick haylage production or planting after corn for a double crop.

ADV F7232- ADV F7232 is a medium season forage sorghum with excellent yield for maturity and superior forage quality potential.

SEA 905 FS- A short season dwarf BMR hybrid. Expect 85-95 days to soft dough stage.

ADV F7424- An improvement on the legendary AF7401. ADV F7424 brings a jump in yield potential while maintaining everything we loved about its predecessor. Excellent standability, topnotch quality feed, and now featuring our Aphix™ SCA tolerance

ADV 8322 APHIX- An excellent forage sorghum with Aphix-level, elite sugarcane aphid tolerance and a high degree of versatility in various climates.

ADV F8484IG- Ideal selection for producers looking for next-generation technology and superior yield potential. Conventional midrib with brachytic dwarf characteristic brings great standability and harvest performance for those looking to feed silage.

Cut & Wilt

AF 7201- Dry stalk BMR gene 6 variety with 90-95 days until soft dough. Performs well on dryland.

SORGHUM SUDAN WET HAY - GRAZING

Sorghum sudan is a hybrid between forage sorghum and sudangrass and carries the same drought tolerance and high yield. Sorghum sudan is one of the tallest summer annuals and tends to have a stalk size more similar to forage sorghum. The large stalk size, especially at tall harvest heights, can make dry down difficult and result in poor quality dry hay. Sorghum sudan has an incredibly aggressive seedling vigor and strong regrowth. Drilling is recommended at 0.5-1 inch deep. Harvest for haylage or silage at waist height, begin grazing around 24" tall. Leave behind at least 6" of stubble height to encourage regrowth.

ADVS 6218- A medium-early maturity variety with good digestibility. Compare to 6201.

AS 6501- A PPS BMR. Extremely drought tolerant.

ADV S 6520- A BMR, photoperiod sensitive variety.

Sweet B (NEW)- BMR gene 6. (NEW)

Nutri-Pro PPS (NEW)- Photo Period Sensitive with BMR 6. Great agronomics. (NEW)

Reliant (NEW)- Basic non-BMR sorghum sudan with AphidAxe (sugarcane aphid tolerance). Great for dry cows.

KingFisher Sugar Pro 55- Dry stalk, BMR hybrid to ease haylage production.

Heavyweight with AphidAxe- Aphid tolerant BMR variety with great yield and agronomic characteristics.

SS 275 with AphidAxe- Aphid tolerant non-BMR variety.



Heavyweight with AphidAxe



DIVERSE MIXTURES GRAZING - WET HAY

Ray's Crazy Summer Mix- A seven species mixture developed to build soil health, increase available nitrogen while producing a high protein forage for livestock. Ideal behind cleared land or for use in pasture renovation.



Summer Feast- A balanced two-way mixture of hybrid brassica and pearl millet for high-quality forage. The hybrid brassica mines for nutrients deep in the soil and provides quality, while the millet acts as effective fiber. An excellent mixture for developing heifers, grazing stocker calves, and putting weight on cows.

Summer Breeze- BMR sorghum sudan and cowpea work together to provide high yielding and higher protein forage. A great choice for the producer looking to increase diversity, minimize nitrogen fertilization, and get livestock off of Kentucky 31 during the hot summer months.

Summer Solar- A diverse legume-forb cover crop mix of aggressively growing summer annuals, with possible dual use for wildlife food plots. The mix includes four very different components—buckwheat, cowpeas, sunflower, and sunn hemp. Seeding rate is 35-60lbs/A and should be drilled between 0.5-0.75" deep.

SE Summer Mix- A mixture of cowpeas, SS275 Aphid Axe sorghum sudan, Leafy T millet, sunn hemp, buckwheat, sodbuster radish, and TRaptor brassica. A higher percentage of grasses than Ray's Crazy.

Millet/Crabgrass Mixture- Browntop millet/coated Red River crabgrass mixture for easy spreading and quick cover.

Warm Diversity Mix- A 'catch all' mix with crabgrass, Bermuda, buckwheat, browntop millet, and annual lespedeza.



Top left: *Summer Solar*

Top Right: *Summer Breeze*



Bottom Right: *Custom mix of millet, sorghum sudan, sunn hemp, and TRaptor brassica*

Bottom Left: *Ray's Crazy Summer*

Looking for something different? Custom mixes available.

Southeast AgriSeeds works with you to formulate the perfect mixture for your needs. Only 500lbs needed for a quick, accurate custom mix named after you, designed by you.

LEGUMES WET HAY - GRAZING - SOIL BUILDING

Legumes are unique plants that have a symbiotic relationship with bacteria that allows them to create their own nitrogen. Once grazed or terminated, this excess nitrogen will be released and is available to other plants. Can be mixed with other grasses or grown as a standalone crop. These legumes cannot produce nitrogen without their species-specific bacteria- make sure you coat seeds in the inoculant for that species.

Iron & Clay cowpeas- A very drought tolerant, palatable plant. Grows best with a tall grass that it can vine up. Limited regrowth after grazing or harvesting. Seed 12-15lbs/A within a mix or 25-35lbs/A alone.

Red Ripper Cowpeas- A grazing variety cowpea with good regrowth.

Lespedeza Mix- A single harvest, low growing species popular for its deworming properties.

Legend Lespedeza- A more productive variety than Korean lespedeza, more disease resistance, but limited reseeding capacity. Seed 12-15lbs/A in a mix or 25-30lbs/A alone.

AU Grazer Sericea Lespedeza- It is a long stemmed, fast-growing plant released by Auburn University.

Titan Forage RR Soybean- 140K size group 7 Roundup Ready forage soybean for wildlife.

Sunn Hemp- The fastest growing summer annual legume. Grows upright on a single stem, can become large and stemmy if not harvested frequently enough. Regrows fairly well after grazing or harvest. Seed 10-12lbs/A in a mix or 20-25lbs/A alone. Harvest before seeds are produced.

Mung Beans- A substitute for cowpeas. Less vining characteristics, but similar yield.

Derry Forage Soybean- A good option as a stand-alone legume crop. Not ideal for mixing with tall grasses as it gets easily outcompeted. Seed 140K kernels per acre, equivalent to one bag.

Tyrone Forage Xtreme- 140K forage soybean.

Laredo Soybean- Hay/forage type bean.

GRAIN SORGHUM GRAIN PRODUCTION

Grain sorghum is an excellent alternative to corn production. Lower nitrogen requirements and tolerance to drought are two of the primary characteristics that is drawing producers to this lower cost option. Aphix tolerance will help reduce the chance of sugarcane aphid damage.

AG 1203- A stout, bronze grain hybrid that has a wide range of adaptation. Great dryland options. 63 days to mid bloom with Aphix.

ADV G21681 iGrowth- A 73-day bronze grain, great yields dryland and irrigated. APHIX.

ADV G3247 APHIX- A 73-day bronze grain, great yields dryland and irrigated. APHIX.

iGrowth 2168- A 73-day bronze grain great yields dryland and irrigated. APHIX.



Want to see more products?

Visit us online at **www.SoutheastAgriSeeds.com** to learn more, view more products, and start your order!

Follow **WARM SEASON** forages with a **COOL SEASON** forage.

Mixtures like **LURE** and **ENTICE** or perennials like **BROMEGRASS** and **KINGFISHER ALFALFA**.

Wildlife Mixtures

It just makes sense— give wildlife the buffet they are looking for. Hedge your bets against nature and have a better chance at attracting and feeding deer, pheasants, and other wildlife.

Habitat- A mixture of sunn hemp, browntop millet, and bayou kale. A smaller seeded mix intended to be broadcasted or drilled shallow. Seed 25lbs/A.

Opening Day- A legume heavy mix of forage soybeans, cowpeas, sunflower, buckwheat, and sorghum sudan. This mix contains larger seeds- it's best to be drilled OR broadcasted and incorporated in. Seed 50lbs/A.

Warm Season Perennials

Chufa— This perennial sedge is slower to establish, but will feed turkeys for years after establishment. Seed 25-35lbs/A.

Warm Season Annuals

Egyptian Wheat- A quick to establish grass, very heat and drought tolerant. A member of the sorghum family. Seed 15 to 25lbs/A. Will grow to an average of 8-12ft tall.

Wildlife Grain Sorghum- Quick to bloom and a prolific seed producer. Will attract deer and game birds in late season. Seed 100-120K seeds per acre.

Lab Lab- A legume primarily used for attracting wildlife.



ABOVE: Habitat Mix

Summer Cover Crop; Case Study on the Home Farm. By Josh Baker

In the late summer of 2019, I purchased a piece of property adjacent to my farm. It was a neglected piece of ground that had been overgrown and overgrazed periodically. The base grass was K-31 fescue. A few months later the property sat empty and I was scheduled to receive a small group of bred heifers. Thinking I could get away with it, I dropped those heifers off at this property. They were from south GA and had never seen fescue, especially not K-31. The endophyte did it's job and the heifers suffered. I pulled them off to recover and made the decision to start the annual rotation to convert to a non-endophyte pasture. There were other reasons I made this decision:

1. Weed cleanup– woody and non woody stemmed weeds.
2. Compacted/Boggy Ground- the ground held water very bad.
3. Improved forage production– I needed annuals in my program.

The Impact of the Summer Cover

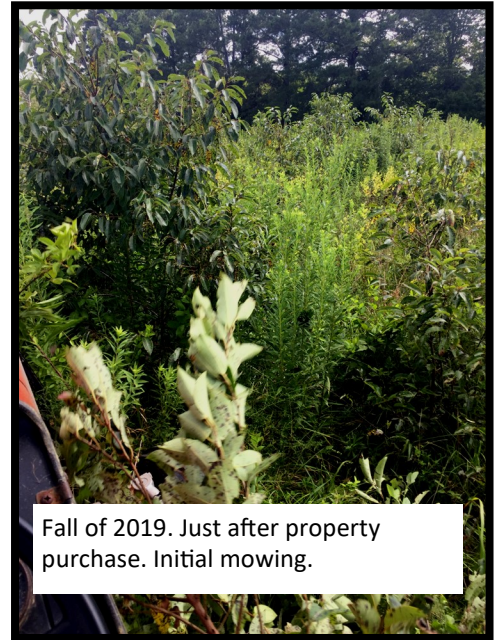
It's been a few years since beginning this project and while I have planted winter annual forages on the ground, the summer annuals have yielded the most improvement. After the first year of summer cover crops, I saw a noticeable difference in water infiltration. After a couple of years I noticed that it was easier to get a stand of forage. The ground was softer and more forgiving when I did graze it while wet. After multiple years of back to back covers, all of which were grazed, the ground is in good enough shape to seed into a perennial. However, at this point I plan to continue the annual production, because I appreciate the quality of forage that I'm getting from the annuals. Below shows the layout of summer cover/forage that was planted. The initial planting shows the primary reason for planting each of the species listed.

2020– Summer Cover Crop:

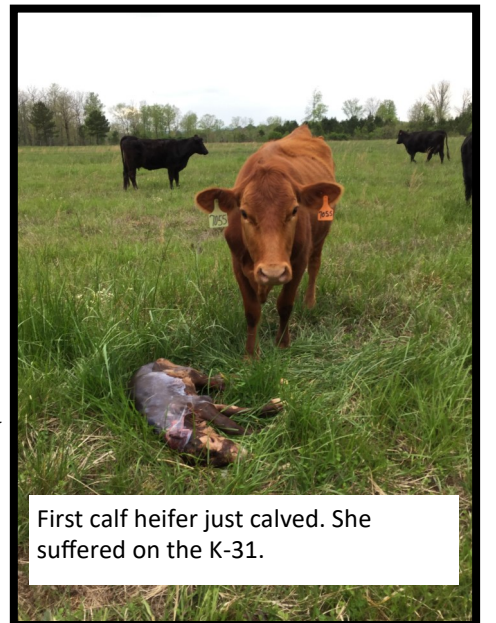
- Sorghum Sudan Base– Fibrous roots, root exudates, volume/yield, quality/energy.
- Sunn Hemp– Nitrogen, yield, protein.
- Buckwheat– Rapid growth, tolerant of variable conditions, flowering for pollinators.
- Millet– Tolerant of low pH, Fibrous roots.

2021– Summer Cover Crop:

- Sorghum Sudan Base
 - Sunn Hemp
 - Buckwheat
- Millet was eliminated because of the lack of success in 2020.



Fall of 2019. Just after property purchase. Initial mowing.



First calf heifer just calved. She suffered on the K-31.



First planting of summer annual forage in spring 2020.

- Growth was spotty, so I broadcasted brassicas and crabgrass into some open spots to help fill in. The crabgrass went to seed.

2022– Summer Cover Crop:

- Sorghum Sudan Base
- Sunn Hemp
- Buckwheat
- Brassicas– Looking for tap root. Growth was spotty, but there was definite late season value.
- Crabgrass– Crabgrass did well in 2021 and provided good late season grazing. It also helped hold the land together so that I could plant the cool season forage after fall rains without rutting the ground.

Right and Below: The summer annual stand for 2022 was much thicker and more robust. This picture was taken late in the year and a lot of the material has been trampled from frequent grazing. The ground is more productive and the plants are healthier.



Crabgrass

Mojo
Red River

Sudangrass

AS 9301
AS 9302
PS 951
Piper

Mixtures

Ray's Crazy Summer
SE Summer Mix
Summer Feast
Summer Breeze
Summer Solar
Millet/Crabgrass Mixture
Warm Diversity Mix

Millet

Prime 360
Leafy T
Wonderleaf
Browntop
Japanese Millet
Proso

Forage Sorghum

ADV F7232
SEA 905 FS
AF 7401
ADV F7424 (NEW)
Fiber Pro 50
AF 7201
ADV 8322 APHIX
ADV F8484IG
AF 8301

Sorghum Sudan

ADV S 6218
AS 6501
ADV S 6520
KingFisher Sugar Pro 55
Heavyweight with AphidAxe
Sweet B (NEW)
Nutri-Pro PP (NEW)
Reliant (NEW)
SS 275 with AphidAxe

Legumes

Iron Clay Cowpeas
Red Ripper Cowpeas
Mung Beans
Sunn Hemp
Derry Forage Soybean
Titan Forage RR Soybean
Laredo Soybean
Tyrone Soybean
Lespedeza Mix

Grain Sorghum

ADV G2168 iGrowth
ADV G3247 APHIX
ADV G 1203
Wildlife Grain Sorghum

Perennials

Gaucha Bermudagrass
Chilly Verde Bermudagrass
Pensacola Bahiagrass
TifQuik Bahiagrass
AU Grazer Sericea Lespedeza
Common Sericea

Corn

BMR 84 Grazing Corn
KingFisher and RedTail Varieties