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Preparing for Spring Planting of Warm-season Grasses

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Severe weather such as prolonged drought in 2024, cold temperatures during the winter of 2025, and poor soil fertility have prompted producers with the need to establish new pastures and hay fields. As the weather signals the possibility of spring arrival, it is time to start planning for new establishments instead of waiting until the last minute. Here is a plan to consider to ensure economic success in a new forage planting.

Soil Sampling – A large percentage of stand failures are due to poor soil nutrients when establishing a new forage crop due to low pH and poor soil potassium levels. It is important to obtain a representative composite sample of the area to be established to determine nutrient needs. Collecting a soil sample at least 6 months ahead of planting will allow the application and incorporation of the lime before the timing window to provide the proper conditions for root development and growth.

Land Preparation – The success of a newly established pasture or hay field depends on making sure that the soil is prepared to optimize seed-to-soil contact and minimize weed competition during germination. In Mississippi, such land preparation should start at least 4 weeks ahead of the targeted planting date. Begin by tilling the site to a depth of four to six inches and ensuring that a firm bed is established. Level and firm the area with a harrow to ensure a firm seedbed. Disking only once or twice right before planting will not eliminate weed issues. Once the seedbed is prepared, allow it to stay stale for 2-3 weeks and you will have a flush of weeds. Then, spray the existing vegetation with a non-selective herbicide such as glyphosate at a rate of 2 pints per acre and wait 7 to 10 days before planting. This approach will minimize weed competition during germination to achieve a successful stand.

Planting Time - The plating time is more dependent on soil temperature to ensure proper conditions for germination. The warm-season grasses should be done after the risk of frost has passed and when soil temperatures are consistently warming. Warm-season grasses and legumes generally require soil temperatures above 60-70 °F to germinate and promote growth. Perennial warm-season grasses such as bermudagrass and bahiagrass could be planted at the lower range of that temperature while warm-season annual grasses such as millets, forage sorghum, and sorghum-sudan hybrids should be planted close to the 70 °F recommendation. The ideal planting times will be April 15 to May 15 in south MS, April 15 to May 15 in central MS, and May 15 to June 15 in north MS. These planting windows offer an opportunity to have a combination of good soil moisture for germination and rainfall the following weeks to help with the development of a good root system. Be a good judge and if is too dry and hot, ***postpone the planting***.

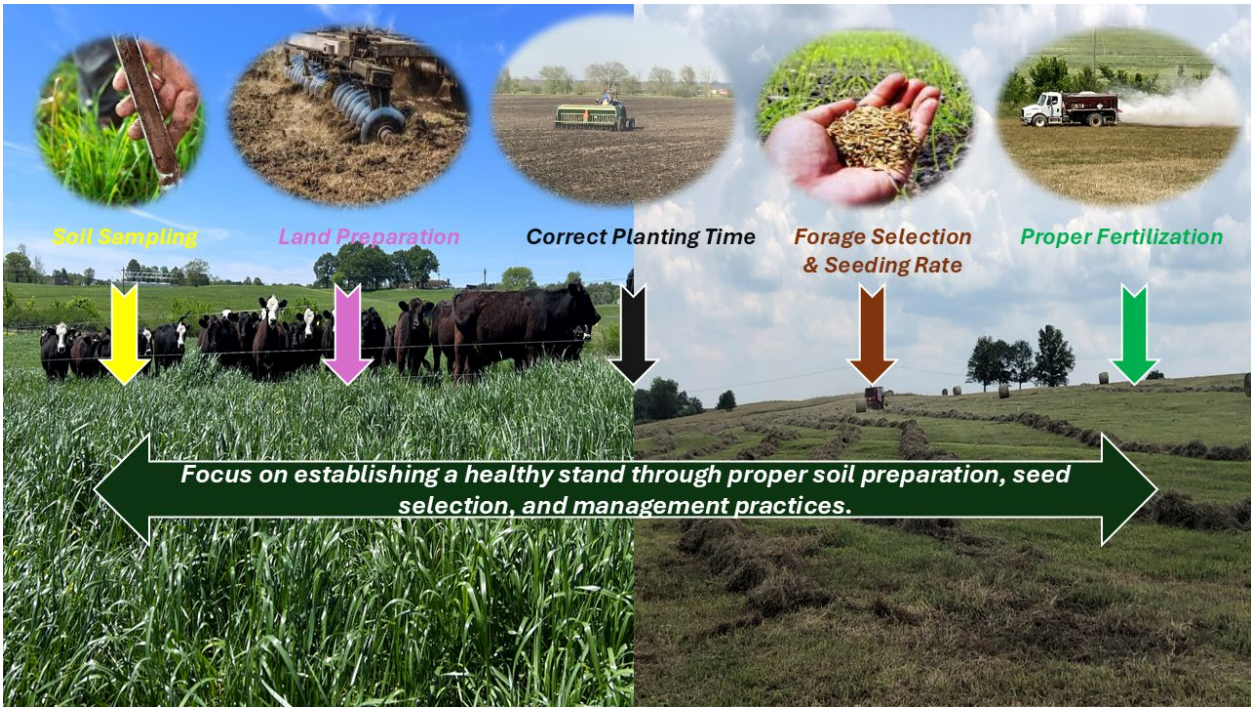

Figure 1. Transform your pasture or hay field into a high-yielding enterprise by properly following the five basic steps of pasture establishment.

Seed Selection and Seeding Rate – When selecting warm-season grass seed, consider your soil type and soil moisture levels, the climate in your area (heat, humidity, drought), desired use (pasture vs. hay), and maintenance needs. It is also important to determine the production potential in your area. For specific information on varieties adapted in Mississippi, please check the forage variety testing information on the MAFES website. The seeding rate of warm-season grasses depends on the method of planting such prepared seed bed, no-till drilling, or broadcast. The seeding rate is also dependent on the quality of the seed, a reason why seeding rates should always be determined on a Pure Live Seed (PLS) basis. The PLS factor is determined by the purity and the germination information found in the seed tag and indicates the percentage of seed that is capable of reminating (PLS = [(%Germination x %Purity)/10,000]. A higher germination and purity percentage of the seed indicates a higher PLS which means better germination and establishment. It is crucial to purchase high-quality certified seed from a reputable source**. Avoid purchasing cheap or untested seeds**, as they may contain weed seeds or have poor germination rates. For specific seeding rates in Mississippi, please visit the Seeding Rate Publication on the Mississippi State University Extension website. Compare prices of different varieties of warm-season grasses by using the PLS factor and the potential yield production. Proper establishment also depends on using a well-calibrated drill to ensure proper seeding rate and planting depth.

Fertilization – Fertilization of a newly established pasture or hay field should be based on soil test recommendations. Do not apply nitrogen until the seed has germinated and it is two to three inches tall to minimize nitrogen losses. Phosphorus and potassium can be applied at planting with 40% of the fertilizer applied, and the rest applied after germination and active growth. Keep in mind that in a pasture situation, nitrogen might applied twice in the season, while in a hay production system nitrogen and potassium must be applied after each hay cutting, except the last one of the year.

Grazing or Hay Utilization – A newly established pasture or hayfield will require some management to ensure good persistence. Grazing of bermudagrass or bahiagrass should not start until the stand is ten to twelve

inches tall and grazing should stop at four inches to allow for proper recovery and regrowth. In the case of hay production, such perennial grasses should be cut at twelve to fifteen inches within a 30-day cutting interval. Annual grasses such as millets and sorghums should be grazed at 24 to 36 inches leaving at least six inches residual height. ***Don't graze too soon or too hard*.**

Summary – One of the common issues that leads to stand failure when establishing a new is the lack of planning which which producers try to do everything all at the same time. To have a successful establishment of warm-season grasses, producers need to focus on selecting adapted varieties with good germination and fast growth by ensuring proper soil preparation, addressing any weed issues to prevent competition, ensuring adequate soil fertility, and managing grazing effectively. It is crucial to develop a step-by-step plan for the challenges and management requirements for a newly established pasture or hay field. Forage seed is a major economic investment and These seven steps can't prevent every problem, but will help you avoid major issues. The school of hard knocks is a hard and expensive way to learn. Don't try to figure all of this out by yourself. Talk with your local county agent, other ranchers, and your local farm supply dealer to find out what works best in your local area, before investing hundreds of dollars per acre and you want to get this right the first time. Using the school of hard knocks will be a hard and expensive way to have a successful establishment. Contact your local County Extension Office before investing hundreds of dollars per acre in a new warm-season grass variety.

Upcoming Events
Small Ruminant Conference — June 13-14, 2025 | Starkville, MS

Forage and Grazing Management Conference— *June 19-20, 2025 | Newton, MS*

For upcoming forage-related events visit our ***event calendar!***

"Mississippi Forages - Extending Knowledge and Changing Lives by Providing Real-life Solutions with a Global Reach. Be Informed, Be Engaged, Be Proactive."