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Pasture Renovation or Restoration?

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After a drought last fall and very mild winter, grazing season has arrived in Mississippi and across the south, are your pastures ready? Before you provide a yes to this question, there are several things that you need to think about to decide if there a need to restore the pastures or renovate the pastures. Pasture restoration occurs when the pasture is still in good condition and addressing some fairly basic issues such as fertility, weeds, and soil pH, along with inter-seeding a variety that is the same as in the pasture and improving the movement of animals through the pasture to control grass height. On the other hand, pasture renovation occurs when the desirable species has less than 40% stand and it is essentially overtaken by weeds that the economic threshold to recover the desirable species is very costly. Pasture renovation is essential starting over. Regardless of your intended approach, there are several things that you a producer needs to keep in mind as guidance to attain the proposed goals.

Pasture renovation or restoration should be based on forage productivity and presence of the desirable species. Before thinking about renovation, there should a planning process and the following questions should be answered:

1. ***What Forage Should I plant?*** Forage selection will depend on the time of the year that most of your grazing occurs. This will give the opportunity to decide which perennial or annual cool- and warm-season grasses might fit in your area. In a mixed system, selecting species that are compatible in nutrient requirements, competition and growth habit is also an important key of the strategic management approach.
    a. ***Do I know my forage needs?*** It is important to determine the type of livestock that you try to maintain along with their daily forage requirements. For example a mature cow might consume 2 to 3.5 % of its body weight depending on physiological need and livestock class. If the forage needs that you try to fulfil is through an efficient hay feeding program, then length of the feeding season along with forage needs should play a major role. Forage needs are also depend on grazing rotations and rest periods between grazing intervals. Animal movement through pastures has a tremendous effect on pasture growth and weeds. Other regions of the state have a tremendous opportunity to utilize more grass acres. Overgrazing or "continuous grazing" prevents abundant grass growth. If individual grass plants cannot regenerate leaves, they lose vigor and die out of the pastures, and are replaced by weeds.
    b. ***Do I know my forage options?*** Forage options will depend on climatic conditions such as rainfall and temperature as well as agronomic conditions such as soil type, soil water holding capacity, texture, slope, fertility and weed pressure. It is always important to maintain forage diversity in your grazing strategies to extend the grazing season. A combination of both cool- and warm-season annual and perennials along with legumes can provide grazing year-round.

2. ***When Should I Plant?*** Forage establishment is species and utilization dependent. It is best to plant in early spring or fall when the weather is cooler and moisture is more reliable. Hold off *planting* until soil temperatures are with the best range for germination based on the selected forage species.
    a. Should I plant in the spring or fall? Fall is the preferred time to establish cool-season grasses and legumes while late spring to early summer is best for warm-season grasses. Planting during the correct time will allow new seedlings to be more competitive and result in better stands that planting too late in the desired season. Keep in mind that seeding at the proper time to optimize germination and water availability are the key to success whether you are planning in the spring or in the fall. Know the narrow window of opportunity and always have a secondary establishment strategy in case the best plant may fail.
    b. Am I ready to plant? You should be able to plant when fertility issues have been corrected and the weeds have been controlled. You also be ready to plant with the best strategy for planting have been identified, the plant equipment has calibrated and the seeding rates have been identified. It is important that proper soil temperature is present because it results in rapid germination and crowding out of weed growth.

3. ***How Should I Plant?*** When seeding, the seedbed should be firm to ensure good soil-to-seed contact. Seeding methods include drill seeding (by use of a grass or no-till drill), broadcasting the seed and then culti-packing. Make the decision regarding tillage or no-tillage based on access to equipment or a custom applicator. If no-till is being used, reduce biomass competition ahead of the seeding date. If using conventional tillage, make sure the seedbed is properly established and firm.
    a. ***Have I reduced the competition?*** Weed management is directly tied to soil fertility. Weed problems in pastures are often the result of overabundant or insufficient soil nutrients or improper pH that affects nutrient availability. If grass cannot grow due to inadequate nutrients, then weeds will be more competitive than the grass. Using herbicides in pastures be part of an integrated approach and not the sole answer to weed control. There are several methods that can be used to reduce the competition and they include complete disking, burn down herbicides, clipping very short, and burning the existing biomass.
    b. ***Have I placed the seed in the soil properly?*** Soil-to-seed contact is essential to increase germination and establishment rates and also makes for healthy seedlings. It is important to make sure that the seeder is properly calibrated to deliver the correct amount of seed per acre at the proper depth. Keep in mind that seed placement will also depend on seed size, soil type and soil moisture.

4. ***When Should I Graze?*** The recommended approach is to allow the new plants to grow to 10 to 12 inches and then graze down to four inches to allow root development and rapid recovery that will replenish root carbohydrates. Keep in mind that more forage grasses and legumes might grow from the crown buds, but overgrazing can reduce see formation and potential self-reseeding in some cases. The best way to test if a new stand have adequate root development and it ready graze is by grapping a handful of aboveground biomass and pulling. If you can easily pull it out of the ground, the root system is not sufficiently developed to prevent uprooting by the animals as they graze. Be patient and do no graze the need seeding too early!

Restoration and renovation are two approaches to maintaining a dynamic ecosystem that is constantly changing based on factors such as weather, grass height management, weed pressure, livestock needs and fertility. No matter if you are restoring or renovating a pasture, both of them come with risks and rewards. Keep in mind that either approach in costly in terms of inputs, labor and time (including the time loss in those acres taken out of production). The overall should be to restore optimum forage production by improving fertility, reducing weed competition and implementing grazing management strategies that can extend the grazing season and increase animal production. Producers should develop a system to maintain a robust grass ecosystem that supports healthy productive animals with quality feed.

Upcoming Events

April 21, 2017—Beef Boot Camp, Starkville, MS
April 28, 2017—Pearl River Co. Forage Field Day, Poplarville, MS
April 29, 2017—Beef Unit Field Day, Starkville, MS
May 4, 2017—Coastal Plain Exp. Station Forage Production Field Day, Newton, MS
May 11, 2017—Hinds Co. Forage Field Day, Utica, MS
June 2, 2017—Jefferson Davis/Lawrence Co Forage Field Day
June 13, 2017—Alcorn Co. Forage Field Day
June 23, 2017—Warm-season Forage Field Day

For upcoming forage related events visit: ***http://forages.pss.msstate.edu/events.html***