



Developing a Forage Calendar for Mississippi

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Forages continue to be the backbone of sustainable agriculture and the most important feed source, even under the most intensive supplementation systems to increase livestock production (Fig. 1). A good forage plan begins with a forage system that allows the maximum number of grazing days per year with forages that are suited to the land, livestock, and the manager. To maintain a continuous production of forages, there is the need to assess resources (operating capital, labor, expertise, water, equipment, facilities, and forage production, needs and distribution) on the farm and to develop an inventory that has long-term goals.

Forages differ in their seasonal ability to produce grazable biomass (Fig. 2). Forage systems can be divided into groups: Cool-season grasses and legumes, and warm-season grasses and legumes. Cool-season species [alfalfa, tall fescue, small grains (wheat, cereal rye, oats), annual ryegrass, perennial clovers (white and red), and annual clovers (arrowleaf, ball, berseem, and crimson)] perform best in spring and after the weather cools down in the fall. Warm-season species [perennial grasses (bahiagrass and bermudagrass), annual grasses (crabgrass, teffgrass, millets, sorghums and sudgrass), annual lespedeza, and annual legumes (forage soybean, cowpea, alyce clover, deer vetch, and lablab)] perform better during summer.

It is important to take into consideration that most forages will not grow all year-round. The purpose of developing a forage calendar is to use forage options that can be grazed in different areas of Mississippi. This means that having an adequate forage supply throughout the year will require planning and management. Keep in mind that there can be shifts on implementation of practices outlined in this calendar due to environmental conditions in different regions of the state and suitability of forage species. The forage production calendar is a management tool for producers to help them in scheduling practices pertaining to forage management for a twelve-month period.

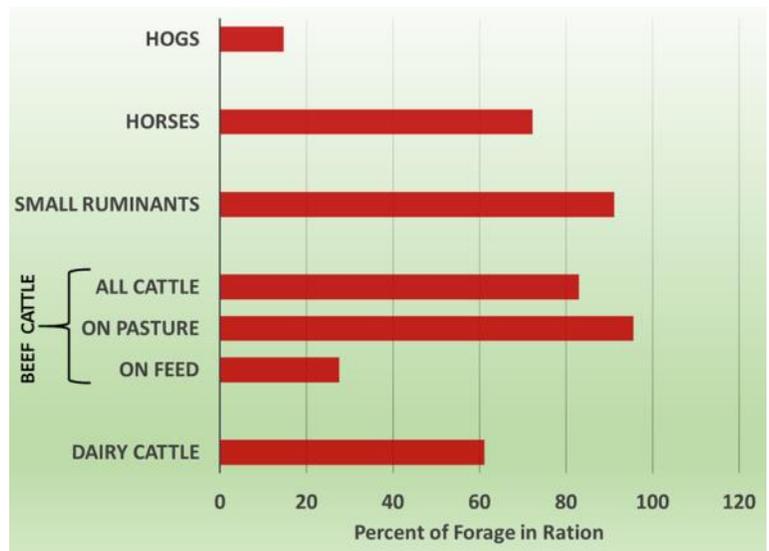


Figure 1. Impact of forages in the ration of different livestock classes in the US (Clark, 1980).

January

- ⇒ Calculate financial budget for this coming year's forage enterprises.
- ⇒ Apply fertilization to winter annual grasses to encourage growth and grazing utilization.
- ⇒ End the grazing cycle of stockpiled tall fescue by January 30, fertilize and let it rest for at least 30-40 days before beginning spring grazing.
- ⇒ Increase hay supplementation if needed while reducing hay waste. Use proper hay feeding strategies.
- ⇒ Limit the amount of time that livestock spend grazing annual ryegrass or small grains. Use electric fencing to create temporary rotations of grazing winter annuals.
- ⇒ Provide wind break or shelter for animals and feed extra energy if very cold weather.

February

- ⇒ Prepare for renovation of summer pastures by purchasing seed, fertilizer, and herbicides.
- ⇒ Plan your weed control strategies in your pastures and hay fields.
- ⇒ Prepare to start eradicating K-31 tall fescue for fall renovation with novel or endophyte free varieties.
- ⇒ Determine which forage varieties to use for renovation.

- ⇒ Provide rest to winter annual pastures for recovery.
- ⇒ Time to implement a prescribed burning plan if suitable for your operation. This could be done every 3 to 4 years if needed. Always follow safety procedures when burning.



March

- ⇒ Plan pasture utilization strategies (rotations in perennial pastures, fencing, water, shade)
- ⇒ Start broad leaf weed control in pastures that are dormant.
- ⇒ Resume rotational grazing in the tall fescue pastures.
- ⇒ Begin routine maintenance and repairs on forage planting and harvesting equipment.

April

- ⇒ Start cutting annual ryegrass for baleage or cut late April for hay.
- ⇒ Rotate tall fescue pastures as needed.
- ⇒ Begin scouting for alfalfa weevil and leaf hopper in early April.
- ⇒ Develop a hay inventory for the next feeding season and determine the number of acres and budget a 30% surplus to account extreme weather conditions.
- ⇒ Complete maintenance check and repairs on forage planting and harvesting equipment.
- ⇒ Start preparing to plant bermudagrass and bahiagrass in the last week of April.

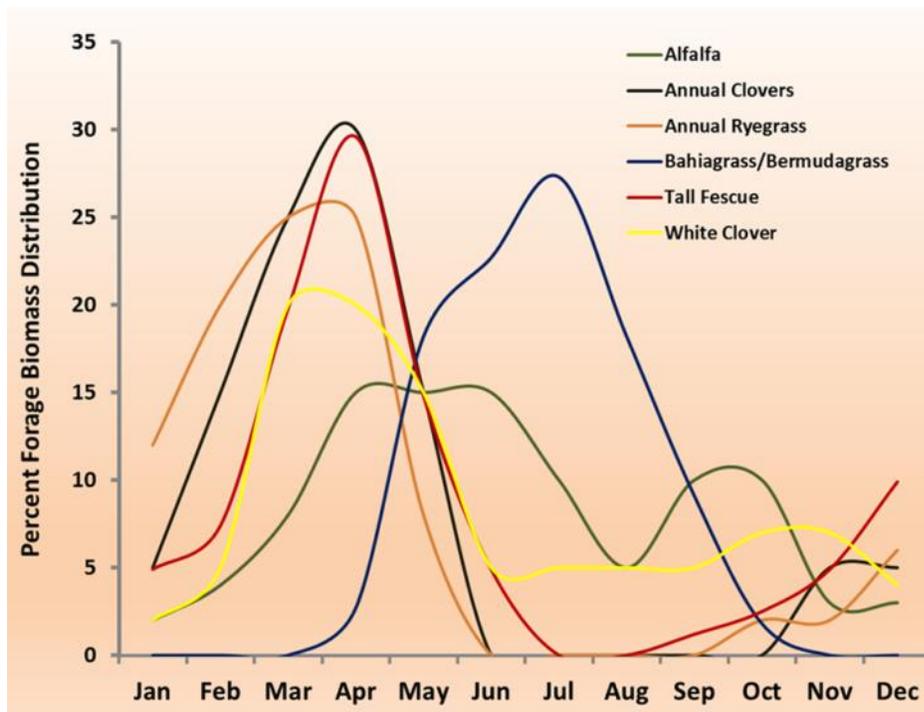


Figure 2. Biomass distribution for different forage species grown in Mississippi.

- ⇒ Implement weed control practices by scouting the pastures and controlling weeds when they are 4-6 inches tall.
- ⇒ Attend county, regional or state-wide educational meetings that relate to your forage enterprise.
- ⇒ Apply nitrogen to grass summer pastures and hay fields at greenup in late April (south MS).

May

- ⇒ Apply nitrogen to grass summer pastures and hay fields at greenup in early May (North MS).
- ⇒ Complete summer pastures renovations by May 15.
- ⇒ Harvest annual ryegrass hay.
- ⇒ If excess tall fescue forage is available in pasture, then divert some of the paddocks into hay production.
- ⇒ Cut alfalfa when it has reached 30% bloom.
- ⇒ Plant summer annual grasses (millets, sudangrass, forage sorghums) in a staggered fashion by mid- to late May.
- ⇒ Attend county, regional or state-wide educational meetings that relate to your forage enterprise.

June

- ⇒ Scout for armyworms and stem maggot in bermudagrass, summer annuals and alfalfa.
- ⇒ Start hay harvest in North Mississippi to ensure adequate forage quality (keep at least a 30-day cutting interval)
- ⇒ Start grazing summer annual grasses when they have reached 24-36 inches depending on forage species and growth rate.
- ⇒ Rotate summer pastures as needed.
- ⇒ Monitor sudangrass and forage sorghums for heat and/or drought stress that cause nitrate accumulation.
- ⇒ Attend county, regional or state-wide educational meetings that relate to your forage enterprise.

July

- ⇒ Start grazing summer annual grasses after recovery from first grazing cycle.
- ⇒ Apply nitrogen bermudagrass and bahiagrass at a rate of 30 lb N/ac for grazing during the first week of July.
- ⇒ Tall fescue and alfalfa biomass production will decrease. Summer dormancy will start with high humidity and temperature.
- ⇒ Rotate summer pastures as needed.
- ⇒ Harvest hay as needed



August

- ⇒ Apply nitrogen to summer pasture and let them accumulate for at least 60 days.
- ⇒ Tall fescue and alfalfa biomass production will decrease.
- ⇒ Identify fescue pastures and acres for tall fescue stockpiling.
- ⇒ Determine which winter annual legumes and grasses will be seeded in the fall.
- ⇒ Soil test fields to be seeded in the fall and determine pasture fertilization.
- ⇒ Harvest hay as needed.

September

- ⇒ Alfalfa regrowth resumes with cooler temperatures.
- ⇒ Establish tall fescue and alfalfa establishment or renovation starting September 15.
- ⇒ Begin preparing the land for plant winter annual crops in a prepared seed bed not prior to September 15 to avoid damage from blast. Use optimal seeding rate, depth and planting date.
- ⇒ Remove animals and apply nitrogen for stockpiling tall fescue by September 15 and let it accumulate for 45-60 days.

October

- ⇒ Final forage harvest should be completed early this month.
- ⇒ Windows to plant annual cool-season grasses and legumes approaches in the middle of the month.
- ⇒ Complete alfalfa and tall fescue planting by October 31.
- ⇒ Be aware of prussic acid poisoning from grazing summer annual grasses following frost.
- ⇒ Take soil samples in perennial pastures and hay fields for next year. Apply lime now if recommended to adjust soil pH.

November

- ⇒ Access your hay quality and inventory for winter feeding. Get your hay tested to start adjusting for necessary supplementation.
- ⇒ Start grazing stockpiled warm-season grasses (bermudagrass and bahiagrass).
- ⇒ Do no harvest or graze alfalfa fields to replenish root reserves.
- ⇒ Fertilize annual ryegrass with 50 lb N/ac when it has reached 3-inches of growth.
- ⇒ Attend county, regional or state-wide educational meetings that relate to your forage enterprise.

December

- ⇒ Begin start grazing stockpiled tall fescue by early December.
- ⇒ Continue hay testing.
- ⇒ If feeding hay, adjust supplementation accordingly by contacting your animal nutritionist.
- ⇒ Start grazing ryegrass if it is 10-12 inches tall. Light grazing can be considered only if at least 8-inches of growth has occurred.
- ⇒ Light graze any alfalfa after December 15 or after a good freeze has occurred.
Calculate cost and returns associated with this past year's forage management strategies.

The two biggest challenges in assembling a balanced forage system are maintaining supplies of quality forage in mid-summer and extending the grazing as long as possible into the fall and early winter. Forages should be matched to soils that will maximize their yield and growth potential. It is also important to incorporate economic practices in the calendar to have integration of inputs and expect outputs. Once a producer has developed a strategic plan, it is important to balance resources (time, management and money) into making changes to the development and implementation of a better grazing system. There are management practices for producers to consider in periods of each month as forage crops undergo the production cycle from season to season. Forage allocation and availability can be essential components in establishing calving and weaning seasons in a cow/calf operation as well as the strategic implementation of grazing management for a stocker cattle operation.

For upcoming forage related events visit:

<http://forages.pss.msstate.edu/events.html>

May 16, 2015 – Bull Test on Forage Field Day, Tylertown, MS

June 16, 2015 – Alcorn County Forage Field Day, Corinth, MS

June 19, 2015 — Warm-season Forage Tour, Starkville, MS

June 30, 2015— Coastal Plain Exp. Station Field Day, Newton, MS

November 13, 2015 – Mississippi Forage & Grassland Conference, Newton, MS

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