



Pasture Benefit from a Timely Prescribed Burn

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Prescribed burning is a widely used and effective tool for managing pastures. We are entering a window where most prescribed burns are conducted in the Mississippi and the south, most pastures are burned in late winter to early spring (late January to early March). Figure 1 shows the number of acres burned per state during prescribed burns in 2018. Fire is useful on pastures that are overgrown with much dead biomass (thatch or mulch) that has accumulated over the years. Dead biomass can smother desirable plants and new seedlings, causing stands to thin and creating habitats for invasive species. A well-time burn can injure or killed undesirable species such as invasive wood plants, weeds, and reduce soil seed banks of invasive species.

Prescribed burning in the spring is an important part of grass management. Burning a pasture will require having enough dead growth as fuel to support a fire. A hot fire will require at least 1,500 to 2,000 pounds of dry matter per acre that is dead and burn easily to provide enough heat to destroy undesirable species during the burning process. Burning hayfields or pastures can reduce insect and disease pressure the following summer. Reducing the thatch layer increases sunlight penetration to new growth in the spring and helps warm up soil temperatures and plant roots quicker, resulting in earlier green-up in the fields. Also, burning helps release nutrients into the ground that can be used by the new growth. Timely late winter burns can offer several benefits to a hay or livestock producer.

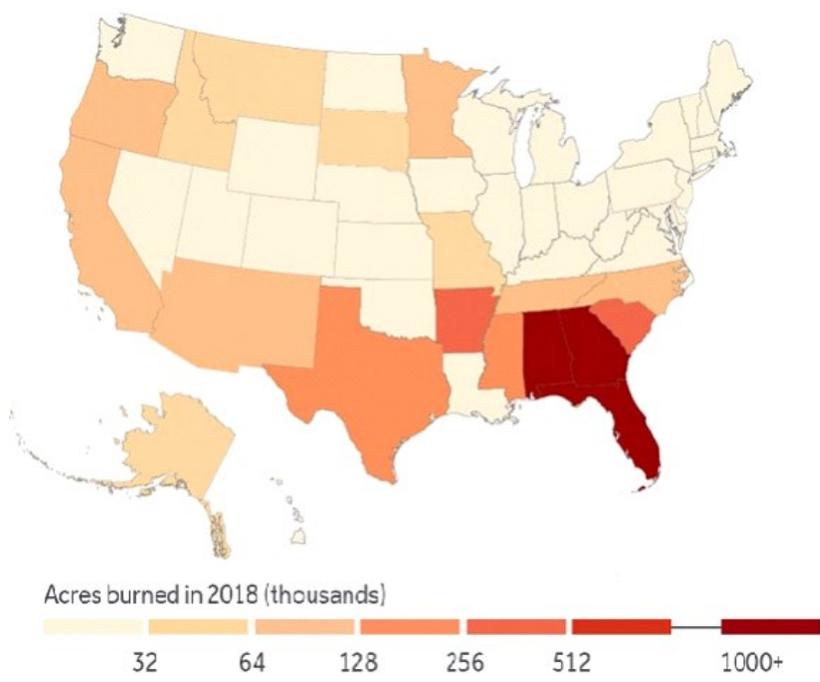


Figure 1. Area burned per state in 2018 during the implementation of prescribed burns. Source: Climate Central analysis of National Interagency Fire Council data.

A good indication of a possible needed prescribed burn in your pasture is observed when the field starts to show bunches of grass in the pasture and the cattle graze around them. They try to avoid these areas where the grass is thicker with lower forage quality and then they overgraze other areas. This causes uneven utilization of the pasture and the formation of these grass clumps. It is recommended to *burn your pasture* only once every two or three years to maximize the health and sustainability of the pasture. Producers that have never burn a pasture might not realize how hot and fast a fire can travel. Before planning a prescribed burn, especially for pastures surrounded by wooded areas, landowners should consult with the Mississippi Forestry Commission (MFC). The Mississippi Prescribed Burning Act of 1992 codified prescribed burning as a property owner right. Liability is limited if the landowner follows the guidelines outlined in the law. Principally, prescribed burning should be in the public interest. Currently, MFC requires to get a permit before burning. Contact your county MFC for permit information. If burning conditions are not favorable, MFC will not grant a burning permit.

Controlled burning is any fire intentionally ignited to meet specific pasture management objectives, such as to reduce dead biomass, restore ecosystem health, recycle nutrients, or prepare pasture for revegetation and new growth. Before implementing a burning, the following prescribed burning basics must be met and followed.

1. Prescribed fire is an economical tool. Never burn unless someone experienced in prescribed burning is part

of your burning crew. It might be a good idea to hire a certified burner to manage and direct a field or pasture burn. Burning costs may vary with field size, equipment used, manpower, application method, and fuel conditions.

2. Map and develop a plan for the area to be burned and the surrounding area including fences, roads, powerlines, buildings and any secondary fuels that can intensify the fire.
3. Contact the appropriate county or city officials regarding local ordinances.
4. Notifying neighbors about the burn plans will avoid unnecessary calls to the local fire department.
5. Inform your local fire department of the prescribed burn.
6. Arrange for the necessary equipment and personnel needed to execute the burn safely.
7. Using fire igniting aids such as drip torch or matches can be used during the prescribed burning. It is important to have radios or cell phones allow communication among the crew members. Farm tractors and all-terrain vehicles can be used to transport equipment, water, and personnel. A high-pressure sprayer and sufficient water are recommended to handle fire escapes.
8. Wear appropriate and not torn clothing. Wear clothes made of cotton along with leather gloves and boots, goggles, facemask, and a hard hat when initiating a prescribed burning. Do not wear polyester, plastic or rubber clothing.
9. Have adequate fire-lines around our pastures or fields at least four weeks before the burn. Fire-lines can be created by mowing, plowing, disking, wet lines, etc.
10. Obtain a burn permit from your local MFC on the day of the burn based on the daily fire weather forecast and it is required for any fire set for a recognized agricultural and/or forestry purpose.
11. Never burn unless weather conditions (wind speed and direction, temperature, humidity), topography, and other factors enable you to control the fire. Minimum requirements for the permit are 3.5 m/s transport wind speed and 500 meters mixing height or 3.0 m/s transport wind speed and 890 meters mixing height.
12. After the burn, check all the boundaries to make sure that there are no fire escapes or leftover fires.

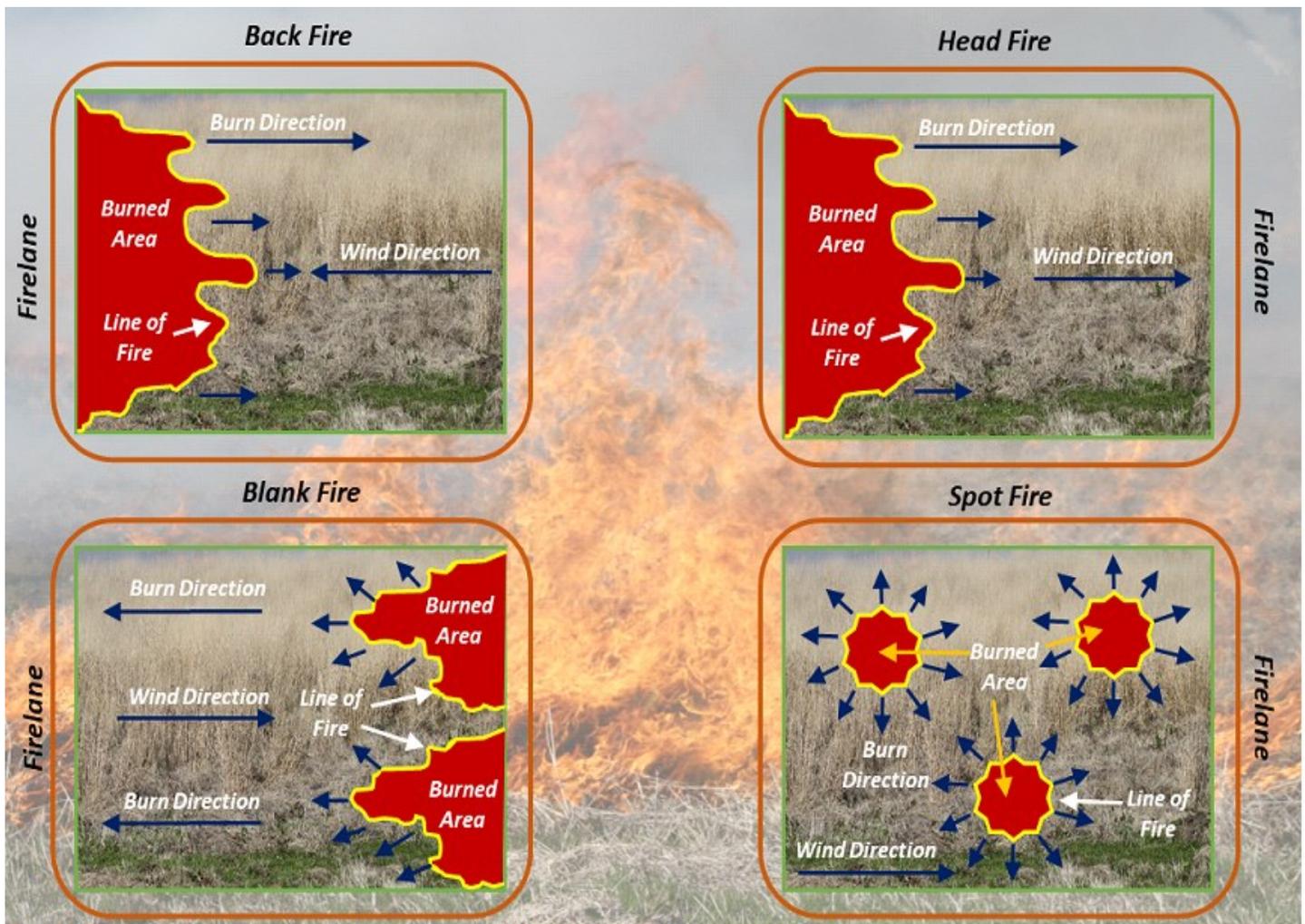


Figure 2. Prescribed burn techniques for implementation in pastureland management.

Controlled burning is a management tool that when used under specific controlled conditions can provide benefits to the forage ecosystem. The burn window or preplan conditions for a targeted burning depends on just the right conditions of the controlled burning from both dead and live fuel moisture, air temperature, wind speed, and relative humidity. There are different burning techniques that producers should be aware of before implementing a burn to make sure that the safety and goals of the burn are accomplished (Fig.2). The more common techniques are back, head, flank, and spot fire. **Backfire** is set at a 90-degree angle to the wind direction, so the fire burns directly against the wind. It is one of the safest methods of executing a prescribed burning and is recommended for beginning burn managers or areas with high fuel loads. Wind speed should be no more than 6 to 10 mph when implementing this burning method. **Head fires** are sent with the direction and should be used only under ideal fuel conditions. They can produce taller flames and burn quickly. **Flank fires** are implemented with the fuel load is relatively light and they are set by walking into the wind. Spot fires are set across different locations in the pasture with equal or similar distance until they gradually expand and join.

While burning pastures can improve pastureland, it can be dangerous if the conditions are hot, dry and windy. It must be done safely. To maximize the benefits of implementing a prescribed burn, timing is very crucial. Make sure that prescribed burning is implemented close to the regrowth of desirable pasture species to optimize nutrient cycling, nutrient uptake, and canopy closure that will reduce weed competition and improve forage nutritive value. If you are considering a prescribed burn, check with the local Mississippi Forestry Commission and be sure to obtain a permit.

Upcoming Events

- February 19, 2020—Central Producer Advisory Meeting, Raymond, MS.
- February 20, 2020—North Mississippi Producer Advisory Meeting, Verona, MS.
- February 27, 2020—CREC Producer Advisory Meeting, Biloxi, MS.
- March 26, 2020—Coastal Plain Experiment Station Beef Cattle Field Day, Newton, MS.

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

COASTAL PLAIN BEEF CATTLE FIELD DAY

COASTAL PLAIN BRANCH EXPERIMENT STATION
51 COASTAL PLAIN ROAD, NEWTON, MS 39345

Thursday March 26, 2020



MISSISSIPPI STATE UNIVERSITY
MS AGRICULTURAL AND FORESTRY EXPERIMENT STATION

Registration: 2:00
Program: 2:30 – 6:00
Catered Dinner Provided



MISSISSIPPI STATE UNIVERSITY
EXTENSION



Herd Improvement



Grazing Cover Crops



Variety Selection



Drought Insurance



Fertility Management



Forage Economics

REGISTRATION DEADLINE IS FRIDAY, MARCH 20

To pre-register, please contact

Jenna Mosley

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