

Growing-season prescribed fire is defined as prescribed burns conducted when warm-season herbaceous plants are actively growing, which is summer to early fall in the Southern Great Plains. While prescribed fire is a common management practice on many private and public lands, it is primarily used during the dormant season, particularly just before spring green-up, because it is often used to promote livestock production,<sup>1</sup> and growing-season burns are often viewed as consuming forage that could be grazed by livestock.<sup>2</sup> However, growing-season fire can be used in livestock operations to extend highly palatable forage later into the year. Additionally, there is a misconception that growing-season burns are not possible due to green vegetation or insufficient fuel<sup>2</sup>. Yet, with sufficient litter, fires can carry even during the summer months. Another reason land managers do not consider growing-season burns is due to the belief that burning during this period will damage key plants and negatively alter vegetation composition. However, this is been dispelled by research.<sup>3</sup> For more information see Oklahoma Cooperative Extension Publication NREM-2877 *Fire Effects in Native Plant Communities*.

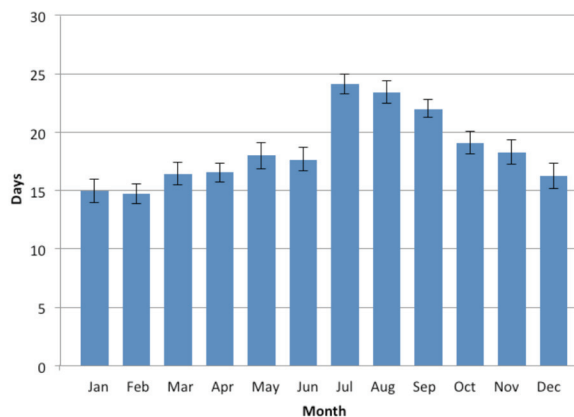
Historically, fires have occurred throughout the year and even today they continue to ignite at varying times of the year throughout Oklahoma and North America. Historical fire accounts show that lightning-set fires in many regions of the U.S. occurred during the growing season, and Native Americans ignited fires in nearly all months with a majority in the late summer.<sup>4,5,6,7,8</sup> This extension circular will address reasons for conducting growing-season fire, effects of these fires, when they might be appropriate, and how to conduct them.

## Why Burn During the Growing Season?

One of the primary reasons to burn during the growing season is to provide more opportunities to complete a planned burn. Fire managers find themselves with several burns to conduct during the dormant season, and with inadequate days available, those burns are not conducted that year.<sup>9,10</sup> Burns that are not conducted are usually postponed until the following year, which adds even more burns and burn days to an already limited schedule in the upcoming year. For the long-term, burn units are not burned on a regular basis, which alters management of livestock forage, timber and wildlife habitat. Limiting the burning window to a few days in the dormant season may result in fire managers burning when conditions are marginal, so fires are less effective, or when the escape risk is greater. If burning was conducted year-round or in more than one season, more days would be available for burning and the most optimum days for achieving goals and minimizing risk could be utilized (Figure 1). For more information about burn dates see Oklahoma Cooperative Extension Publication NREM-2885 *The Best Time of Year to Conduct Prescribed Burns*.

Due to the large impact weather has on prescribed burning and fire behavior, the number of days available to burn each year is largely constrained by temperature, wind speed and relative humidity.<sup>11,12,13,14,15,16,17</sup> Finding

**Burn Days by Month**



**Figure 1. Average number of days from 1994 to 2007 available to conduct prescribed burns by month in Oklahoma. Note that the traditional burn period of February, March, and April had fewer available burn days compared to July, August, and September. If burning was conducted year-around or in more than one season, more days would be available for burning and the most optimum days for achieving goals and minimizing risk could be utilized. For more information about burn times see Oklahoma Cooperative Extension Publication NREM-2885 *The Best Time of Year to Conduct Prescribed Burns*.**

the proper set of weather conditions to conduct a burn during a particular time of the year has always been a dilemma faced by fire managers. High wind speed is often a major constraint to conducting prescribed burns, and in the Southern Great Plains, the late dormant season is typically the windiest period of the year.<sup>18</sup>

It is also during the late dormant season in the Southern Great Plains when conditions are most favorable for wildfires, and county and state burn bans are most often imposed, which can limit the number of burn opportunities. March has the greatest number of wildfires and the greatest number of county and statewide burn bans in Oklahoma.<sup>19</sup> For example, during March of 2009, 44 of the 77 counties in Oklahoma were under a burn ban, but from May to December of that same year no county burn ban was in place.

Burning is often limited to a single season by policy, tradition or a misunderstanding of fire effects on plant communities. Fire managers should be aware of the benefits and downfalls of burning during various times of the year. If the goals and objectives of the land manager are specific, and if safety for everyone involved with the fire is maintained, then a wide range for temperature, relative humidity and wind speed can be used to safely and effectively conduct the fire.<sup>20</sup>

## Growing Season Fire Effects Native Plants

In grassland landscapes, fire promotes productivity by increasing light availability.<sup>21,22,23</sup> Fire also limits