



Figure 7. Growing-season fires can create natural food plots at little cost to the landowner. These white-tailed deer are concentrated on a fire conducted in July, the photo was taken the following January. The deer are feeding on the winter rosettes of Scribner's panicum which is a native cool season perennial grass. (Photo D. Elmore)

to year or place to place, as weather and soil differences will influence the outcomes. Experimentation with various seasons of burns on a particular property will provide the manager guidance as to how to increase the attractiveness of a site to target wildlife. The important thing to remember is that you can successfully manage for wildlife without planting anything on your property. This requires an understanding of how to manipulate native plants with disturbances such as fire. Additionally, you will need to learn the plants in your area. A good reference is *Field Guide to Oklahoma Plants* available at Natural Resource Ecology and Management, 008C Ag Hall, Oklahoma State University, Stillwater, OK, 74078 or 405-744-5437.

Other Considerations for Wildlife

While growing-season fires can assist in meeting wildlife management objectives, there are some other items to consider. Many people have concerns about wildlife mortality during any prescribed fire. The vast majority of wildlife are able to avoid the fire by leaving the burn unit or going underground, but some young wildlife can be particularly vulnerable.³⁸ Research suggests growing-season fire mortality is minimal in areas where fire historically occurred.^{39,40} It has long been recognized that ground nesting birds are susceptible to fire,⁴¹ however limited research suggests that losses to ground nesting birds from growing-season fires is minimal.⁴² But avoiding the primarily nesting period is advisable especially in areas with species of concern. For our region, the primary nesting season for most grassland birds is May-July. While there is still reproduction taking place during August and September, the vast majority of nests are complete by this time. Therefore, waiting until late July or August will avoid most chick mortality on ground nesting birds. Additionally, many bird species will renest if their first nest is lost.

Similarly, during May and June there are high numbers of deer fawns and young mammals, but there is limited information reported about the impact of growing-season fires on these species. Reptiles can also be at risk during the early growing season when temperatures are cooler, which makes them less mobile than birds and mammals. Some reptile species have shown high mortality rates such as glass lizards (*Ophisaurus spp.*).⁴³ However, growing-season burns often leave a refuge of unburned areas that reptiles may be able to escape into.⁴⁴ While some reptile mortality will occur, providing diversity in habitats with fire is beneficial in the long-term to the reptile community as a whole. In fact, a review of research concluded that a landscape with a mixture of burned and unburned areas has a higher diversity of reptile species.⁴⁰

There are techniques that can be used to reduce impacts to wildlife, such as the use of backfires, spot ignition, or strip headfires. These ignition techniques create slower moving fires or only burn small areas of the unit at one time, which allow most wildlife time to avoid the fire. Avoid using ring fire techniques that can possibly entrap wildlife within the fire. If necessary, only burn patches (burning only small areas at a time), avoiding large broadcast burns. For more information about ignition techniques see Oklahoma Cooperative Extension Publication E-927 *Using Prescribed Fire in Oklahoma* or Video VT-112 *Using Prescribed Fire in Oklahoma*.

While it is impossible to avoid all wildlife mortality from prescribed fire, steps can be taken to reduce the incidence. However, as mentioned earlier, maintaining the appropriate plant community for a species is much more critical than concern about an individual incidental mortality. Along with additional burn days, the positive effects for wildlife and native plants are important issues to consider when contemplating growing-season fires. Land managers need to consider all of the possible options available to achieve their land management goals and objectives before applying any management practice.

Conducting Growing-Season Burns

To conduct a growing-season burn, adequate dead plant residue (litter) from the previous year's growth is required. This litter is needed to ignite the fire and create the heat to remove the moisture from the current year's growth so the fire will continue to carry through the fuelbed (Figure 8). Therefore, for a growing-season burn to be successful, an appropriate stocking rate of livestock is necessary to provide sufficient litter from the previous year's forage production. Research at OSU has found that litter accumulation in patch burning provides exceptional fuel loading in the form of dead plant litter.⁴⁵ For more information about patch burning see Oklahoma Cooperative Extension publication E-998 *Patch Burning: Integrating Fire and Grazing to Promote Heterogeneity*.

Due to the high moisture content of actively growing plants, expect some unburned residue after most growing-season burns. Rather than being a concern, patchy burns can meet specific goals (e.g. wildlife habitat) difficult to achieve with dormant-season burns. The higher