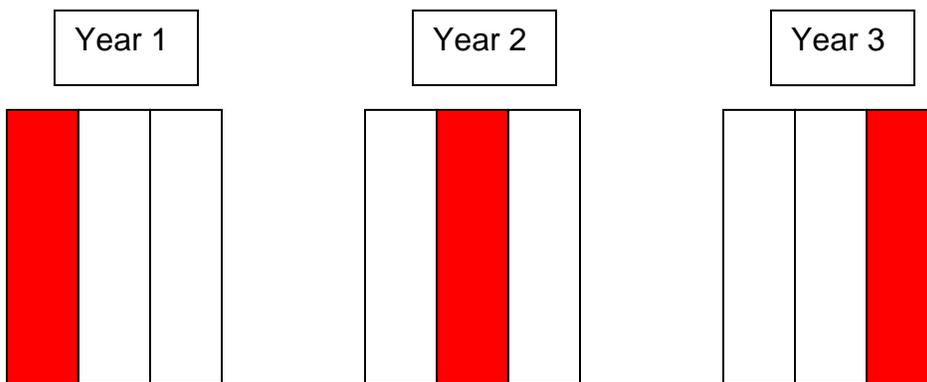


Patch Burn Grazing

What is Patch Burn Grazing?

Patch burn grazing is defined as the application of prescribed fire to focus livestock grazing on a portion of a single grazing unit where the objective is to increase the diversity and structure of the vegetation in a way to benefit wildlife and maintain livestock production. Patch burn grazing is a grassland management practice for landowners primarily interested in improving habitat for wildlife while still maintaining cattle production on their land. This management practice creates a mosaic of heavily grazed and lightly grazed areas that provide a diverse vegetative structure and increase plant diversity in the same grazing unit. From a livestock production perspective, reports from research in Kansas and Oklahoma are showing that patch burn grazing is producing weight gains competitive with cattle raised under traditional grazing management in the Flint Hills.



This simple illustration shows how a patch burn grazing plan is divided into three burn units (shaded area). During each grazing season, animals will access the entire paddock. Grazing intensity will be higher on the burned area because of improved palatability due to managed fire.

Native Prairie Ecosystem in Kansas

Fire and nomadic herbivores, such as bison and elk, played an important roll in shaping and developing Kansas prairies. Historically, only a portion of a prairie would burn. Fires were either intentionally set by Native Americans or started by lightning. During the growing season, large herds of bison were attracted to the recently burned areas for the succulent new growth. Bison would continue to graze these sites until the herd depleted the vegetation in the area or moved to another part of the prairie. At the same time, nearby unburned areas remained relatively undisturbed.

The following season, last year's burned-and-grazed sites would produce a patchy stand of grasses and forbs with bare ground in between – ideal habitat for grassland wildlife. These areas were also less likely to burn than the undisturbed sites because there was little or no fuel available to carry a fire. However, the undisturbed portion of the prairie would burn, and now these freshly burned areas were what attracted bison

and other herbivores. Over time, a patchwork of areas disturbed and undisturbed by fire and grazing were scattered across the prairie. This mosaic of plant structures and diverse species were attractive to all grassland wildlife.

With settlement, fires and large herbivores were eliminated from much of the prairie. At first, early pioneers plowed only parts of the prairie. This not only destroyed the native grassland, but also prevented fires from consuming entire landscapes. Without fire, isolated prairies were soon invaded by woody vegetation and choked with litter from dead vegetation. Bison and elk were hunted to near extinction, or driven west in search of new grasslands and replaced with cattle. Eventually, cattle were confined to fenced grasslands that were continuously overgrazed each year. This led to further degradation of the remaining native grasslands. In less than a hundred years, the complex relationship between fire and nomadic grazing were eliminated from the prairie landscape.

Today, no single management practice can recreate the plant diversity and structure that result when both fire and grazing are used together in a patch burn grazing system. Prescribed burning or traditional grazing systems, especially early intensive grazing systems, will produce a uniform stand of vegetation that is attractive to very few grassland species. Haying and mowing also create a homogeneous stand of vegetation that is similarly unattractive to grassland wildlife as compared to the plant diversity and structure that historically occurred on the prairie with patch burn grazing.

Why Patch Burn Graze?

Patch burn grazing is an alternative to traditional intensive grazing systems. Instead of depending on interior fencing to focus grazing in a portion of a unit, a manager instead uses post-fire re-growth to attract cattle to selected areas. At the same time, other portions of the unit remain open to grazing but are underutilized, thereby allowing plants to rest while root reserves build-up.



Bobwhite quail requires nesting cover, brood cover, covey headquarters, and winter food arranged and included in their home range in order for a covey to survive and reproduce. Patch burning is a management tool that can improve bobwhite quail habitat.

Patch burn grazing benefits a wide range of wildlife species, particularly grassland birds, by providing a mosaic of different vegetation types. Burned and grazed patches will support early successional plants and a variety of native forbs that provide bobwhite quail food. Late successional plants are more common in areas that have not been burned or grazed for one or two years. Patch burning provides dense nesting cover, open brooding areas, and escape cover which improves the survivability of young birds.

The diversity of structure and plants created through the combination of burning and grazing is not re-producible by either of these methods used alone or by any other management practices.



Greater and lesser prairie chickens require large blocks of open, native prairie for their survival and reproduction. Patch burning management can help control unwanted trees, improve native forb and legume composition, preserve booming grounds, and improve native grass vigor.

Assistance for designing a prescribed burn plan is available at the local Natural Resources Conservation Service (NRCS) Office. A Prescribed Burn Plan shall be prepared and signed by the landowner for each burn. All NRCS employees who participate in prescribed burning must have proper certification and training.

A written burn plan will be prepared by certified individuals. All patch burns will follow Conservation Practice 338, Prescribed Burning. Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets (Form KS-ECS-338), technical notes, and narrative statements in the conservation plan or other acceptable documentation. All necessary permits must be obtained before implementation of the practice.

As a minimum, a Prescribed Burn Plan will include:

- Map indicating the location of the burn.
- Resource management objectives and timing of the burn.
- Pre-burn vegetative description of the area.
- Acceptable conditions for prescribed burn.
- Description of pre-burn preparation.
- Description of the firing technique to be used.
- Equipment /personnel/safety requirements.
- Special precaution areas.