

A photograph of a yellow and black butterfly with its wings spread, perched on a tall, purple, spiky flower. The flower is part of a cluster of similar plants in a lush green field. In the background, there are rolling green hills, a road, and some trees under a clear blue sky.

**PLANTS OF THE BLACK JACK
PRAIRIE & IVAN L. BOYD
MEMORIAL PRAIRIE PRESERVE**

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THE IVAN L. BOYD MEMORIAL PRAIRIE PRESERVE

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To most people, the word prairie means grasses. There would indeed be no prairie were it not for the grasses. However, no prairie could survive without the legumes and other forbs - what people call wildflowers. On close examination, you will find that every square inch of the prairie surface is occupied by a plant. Where one plant does not grow, another will take over and fill in the niche. No space is left to go idle. This is also true under the surface. The roots explore every particle of soil. Many species have tap roots that extend to as much as 30 feet into the ground, bringing up minerals and moisture. Eventually, dead leaves and stems accumulate on the prairie surface where they decompose and become available as fertilizer for future plant use. This is the process that builds rich prairie soil. No matter how insignificant, every plant is an important constituent of this complex process. The absence of one species may throw the entire prairie plant system out of balance. An invader plant such as a ragweed or dandelion is dealt with severely and soon finds the competition too severe and gives up the contest.

The panorama of showy flowers on the prairie starts in the early spring and continues until late fall. In two to three-week intervals during the summer, the scene changes and a new set of flowers is in bloom. In April and May, look for prairie hyacinth, blue-eyed grass, puccoon, and star grasses. Prairie clover, wild indigo, several milkweeds, gayfeather, and New Jersey tea brighten the landscape in June and July. Two of the most interesting plants blooming in September and October are the white Ladies' Tresses (a species of orchid) and the brilliant blue Downy Gentian. Both of these are rather unique to the Black Jack Prairie. We are fortunate to have them because they seem to be absent in most other prairie patches explored in this vicinity. Fall is dominated by a variety of Composites with an array of shades of yellow.



Photos courtesy of Roger Boyd

The Black Jack Prairie is known by some as a “people's prairie.” It is for us to see and enjoy. It is for us to observe, study, and appreciate. It isn't for hay; it isn't for grazing. Excessive cutting, burning, or grazing is harmful to any prairie. We should be thankful to those who made this virgin land available to the public. It might well be that South Douglas County is the only unique place in Kansas to be so fortunate. Many Botany and Ecology classes have roamed over this area. Special groups have admired and been awed by the wildflowers that are constantly on display.

Blackeyed Susan seems to be suitably named. They are very conspicuous throughout the upland prairie. They are usually more abundant in the higher ground, where they can compete with the short grass plants. Frequently, the Blackeyed Susan will survive along the byways if mowing is less frequent.

Black Sampson or pale-purple-rayed coneflower is a common forb of the prairie. The leaves and stem have a stringent effect when eaten and no doubt many grazing animals avoid this plant because of this reason. The seeds look like miniature sunflower seeds and are often a source of food for birds and rodents.



Photos courtesy of Roger Boyd

Goldenrods are readily recognized and are well-known autumn flowers. Several species enhance our Kansas prairies. Insects are attracted to them, among which are the honey bees. Goldenrods have been accused of making life miserable for hay fever sufferers, but presently, there seems to be very little evidence that this golden flower is guilty. The pollen is heavy and not carried far by the wind.

Asters are every bit as numerous as the goldenrods in the fall array of flowers. They are very popular with insects and produce an abundance of nectar. Honey bees will work themselves to death carrying this raw ingredient to their hives.

Kansas Gayfeather and Pitcher Sage produce an outstanding bluish tinge to the late summer array of color. These plants can be readily purchased at a variety of nurseries and make a beautiful array of flowers in your garden.



Goldenrod

Gayfeather

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Photo courtesy of Roger Boyd

The Rosinweeds, of which there are three species in Eastern Kansas prairies, are worthy of mention. According to Aldo Leopold in *Sand County Almanac*, the bison relished the leaves of Rosinweeds like we might enjoy lettuce. Native American children, as well as those of the pioneers, chewed the resinous gum that often oozed from these plants. An accumulation of rosin in old plants makes gum chewing very undesirable, as the author and his son learned from bitter experience. One species of Rosinweed is called Compass Plant and believe it or not, the paired basil leaves do point north and south. You must, however, examine them early in the spring because these bottom leaves soon wither away.

The legumes of the prairie, while not all being desirable grazing plants, are very essential in fixing nitrogen in the soil. The most common of these are Bush Lespedeza, Prairie Clover, Partridge Pea, Wild Indigo, Lead Plant, and Tick Trefoil. White and Purple Prairie Clovers are very numerous and the most showy of the July and August prairie flower garden. Lead Plants also contribute a purplish hue to the summer panorama. Each prairie legume as well as many of the rest of the wildflowers have an interesting story about them, but time and space do not permit us to share them here.



Haddock, M. (2021). Purple prairie-clover. Kansas Wildflowers and Grasses. K-State Libraries. Retrieved July 2024, from <https://kswildflower.org/largePhotos.php?imageID=497&aCategory=f&lastModified=2021-08-27>.

Haddock, M. (2007). Whole-leaf rosinweed. Kansas Wildflowers and Grasses. K-State Libraries. Retrieved July 2024, from <https://kswildflower.org/largePhotos.php?imageID=1122&aCategory=f&lastModified=2007-10-05>.

The grasses have a long season. They are the first to appear in the spring and the last to disappear in the fall. True to its name, June Grass matures and sheds its seed early in the summer. Clumps of these little plants are scattered and never become abundant. Another grass that ripens its seeds in June is Porcupine Grass. The seed heads look like miniature javelins, and many boys enjoy throwing them at the backs of others. When these seeds fall to the ground they have a way of twisting into the ground. This is caused when the humidity changes and the awns (bristles) will twist and spiral, thereby drilling their way into the soil.

Sideoats Grama is an interesting and very delicate grass. It has long stems with short oat-like pieces hanging down off of the stems. It has a tongue-twisting scientific name, *Bouteloua curtipendula*. This Latin name describes the plant. “Curtu” means “short” and “pendula” means “hanging down.” This grass matures in late July and early August and, by doing so, avoids competition with the fall grasses that are generally taller and much more abundant.

Gama Grass is a tall grass plant, and very few of this species are found in the Black Jack prairie. The seeds of this plant look like single rows of corn. If one chews the base of one of its stems, it tastes like corn. Indeed, Gama is believed to be a very close relative of Maize, if not its ancestor. Some geneticists believe corn is the accidental cross-between Teosinte and Gama Grass in tropical conditions. Gama seeds ripen one seed at a time at the terminal end of each row. The maturing of the entire crop may extend over two months. Typically, this tall grass frequents the lowlands, but if clumps of it get established in higher ground, it will continue to live indefinitely and removing it may be like trying to uproot a well-established tree.



Sideoats Grama

Gama Grass

Public Domain Image

Haddock, M. (2021). Eastern gamagrass. Kansas Wildflowers and Grasses. K-State Libraries. Retrieved July 2024, from <https://kswildflower.org/largePhotos.php?imageID=710&Category=g&lastModified=2021-08-27>.

Dropseed is a grass that matures late in the summer or early fall. It is readily recognized by the sheathing of the seed stalk until the seeds are almost mature and then by the dropping of the seeds as they mature. Observation of this plant would indicate that it cannot tolerate much competition and will thrive better in a pre-climax prairie or near rocky outcroppings. It does have the promise of being a suitable grass to sow along newly developed highway roadsides.

Cord Grass is frequently called Slough Grass and by the early pioneers as “rip gut” because of the razor-sharp barbs on the edge of the leaves. At one time, it was well established in all lowland prairies and was ideal for preventing erosion. Before the days of the tractor, when horses were the power on the farm, hay from this grass was a very dependable crop, even during dry years. If necessary, three or four crops could be mowed. It had many uses, among which were covering haystacks, roof coverings for cattle, hog sheds, and mulching in barns. Horses didn’t get fat on it but would eat it as a supplement to the regular Timothy and clover hay diet. During the drought of 1936, cattle were observed standing on their hind legs and pulling the Slough Grass roofs off of old hay-roofed sheds. The hay was estimated to have been exposed to the weather for 20 years or more.



Lavin, M. (2022). *Beckmannia syzigachne* - American sloughgrass. Flickr. Retrieved July, 2024, from https://www.flickr.com/photos/plant_diversity/52209015362/in/photostream/.

Michel, B. (2022). *Prairie Dropseed*. Mid-season Natives Coming in Strong. National Park Service. Retrieved July, 2024, from <https://www.nps.gov/jeff/blogs/7-24-2022-mid-season-natives-coming-in-strong.htm>.

The two dominant grasses of the tallgrass prairie are Big and Little Bluestem. Without these two, a prairie would not be a prairie. Little Bluestem dominates the upland, and Big Bluestem is the lowland. For thousands of years, the bison and other grazing animals thrived on these nutritious plants. In the days of the bison, the seeds of these plants were naturally returned to the prairie by the animals. The seeds germinated, and the prairie regrew. Since that time, hay harvesting has taken everything from the tallgrass prairie and returned nothing. Furthermore, the best quality hay is obtained by mowing in early August, long before the seed production of many of the prairie plants. Consequently, new plants do not replace old plants, and eventually, degeneration sets in. Most of the grasses, all of the asters and goldenrods, as well as the Downy Gentian and the orchid-like Ladies' Tresses, are deprived of seed production when cut in August. The bison, no matter how numerous these animals may have been, left some plants undisturbed, but the mower leaves none.

It is believed that historically, prairies probably spontaneously burned 2 out of every 5 years. Burning was usually caused by lightning strikes which may have started hundreds of miles away. Native Americans often caused burns to remove the old dead vegetation in order to stimulate new, lush growth which would attract game. Pioneers may have used prescribed (planned) burning around their homesteads to keep them from being burned by wildfires. Today, prescribed burns are used to remove dead vegetation, stimulate new growth, and more importantly, remove woody vegetation.



Photos courtesy of Roger Boyd

Once settlers moved in and the number of wildfires decreased, woody plants began encroaching upon the prairie. Without fire (or mowing), prairies were quickly overcome by shrubby vegetation and trees. The homesteaders' fence rows and pastures were ready sources of seeds for woody vegetation. Birds and mammals also spread seeds. Before the arrival of the pioneers (mid-1850s), the Midwest landscape was maybe 95% prairie and 5% trees and woody vegetation. Now, very little prairie remains - only about 1%.

Today, suppressing woody vegetation in remaining prairies continues to be a constant battle. Prescribed burns are used for this purpose. Most counties in the Midwest regulate prescribed burns. Burns must be called in and registered ahead of time with the authorities. The threat of any spread of fire is always a concern. Burn bans (which ban ANY type of burning) are often in place if winds will be over 15 mph during the day.

Safety is paramount when conducting a prescribed burn. Guidelines and safety measures should be reviewed so that everyone helping knows the plan. Everyone should have some means of communication during the burn. Radios are best as you most likely will not have the convenience of dialing numbers on a cell phone during an emergency. It is best to have a mowed perimeter to help prevent the fire from jumping into adjacent properties. Neighbors should be given advance warning.



Prairie Burning

Photos courtesy of Roger Boyd

Burning is started up-wind (the edge of the field farthest from the direction from which the wind is blowing). This is called the "backburn." In Kansas, this is usually on the northern or eastern edge. The fire is started small to ensure it can be contained so the crew knows what to expect. The crew works around both sides of the field once a wide enough path is burned on the up-wind edges. When the down-wind edge is reached, the crew chief ensures no one is inside the burn area before lighting the "head fire." (Few people can outrun a head fire in tall, thick grass.)

After ensuring the inner area is clear, the "head fire" can be lit. The head fire will often create its own wind and will move rapidly across the area toward the backburn. Once the head fire has met the backburn, the crew checks the perimeter to ensure all the fire is out on the outer edge. Any burning trees or logs are either thoroughly dowsed, felled, and dragged into the burned area. The area should not be left until the fire is contained and out. The local fire management authorities should be notified when the prescribed burn is completed.

The prescribed burn of the Black Jack Prairie and Ivan L. Boyd Memorial Prairie Preserve is performed annually by the Palmyra Fire Department. Santa Fe Trail Historical Society of Douglas County appreciates their willingness to perform this valuable service and their professionalism, knowledge, and skill as they do so. Thank you firefighters!

Make a trip to this prairie sometime, or better still, organize a group, and we will have a guided tour. We believe you will find it worthwhile. Remember, this is our heritage; let us pass it on to future generations for their enjoyment.

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AFTERWORD

Dr. Ivan L. Boyd was Emeritus Professor of Biology at Baker University in Baldwin City, Kansas. He was instrumental in convincing Russell Hayes to sell the Black Jack Prairie to the county. He then consulted with the county about its management for 15 years. His efforts at preservation and promotion of historic prairie lands led to the Prairie Preserve being named in his honor.

The Santa Fe Trail Historical Society of Douglas County was established in 1967. Its mission is to promote, protect, and preserve the history of Southern Douglas County. The group cares for, protects, and maintains multiple historic sites, including the Black Jack Cabin and Santa Fe Trail wagon ruts and Walking Trail, Black Jack Prairie and Ivan Boyd Memorial Prairie Preserve, Clearfield One Room Schoolhouse, Vinland Grange Hall, Signal Oak, Palmyra Well, and the 1906 Santa Fe Depot in Baldwin. It also oversees collections of archives and artifacts and promotes, interprets, and educates the public about the area's history through tours, communications, publications, presentations, and other activities.

Visit our website at www.santafetraildouglas.org for information about local and Santa Fe Trail history as well as group activities!

The current members of SFTHS are indebted to those who founded the society and contributed so much to the promotion, protection, and preservation of the history in our area. Booklets such as this have greatly enhanced our knowledge of local history. We hope that the re-release of this information reaches new generations and allows the spirit and intentions of our prior members to live on!

This 2024 second edition was reproduced and updated by:

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