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Although some people consider the sunflower a weed, here is what one person said:

"The sunflower always was out in the open. It did not hide in dark places and it did not seek the shade. It made its own way.

It was no parasite. It stood by the dusty roadside and out on the high prairie - and you always knew what it meant...it turned its gold petals and black center always toward the sun. No matter how fiercely the heat beat down, it faced the music and it never blinked. It never wavered. It never lost courage. It was the last bit of vegetation to surrender to the hot winds. It loved life and it was genuine. I like to think of the sunflower as typifying the people of Kansas. I am sure it does."

(From www.geobop.com)

Fun Facts

about

**Grasses, Trees,
Wildflowers, and Shrubs**





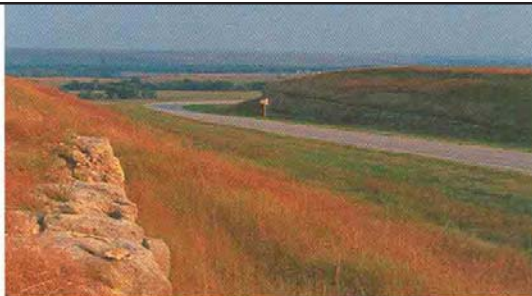
This booklet is designed to help you see the miles of Kansas scenic byways with new eyes.

Included are photos and brief descriptions of common sights. It is a booklet that young and old will enjoy whether you are a visitor to the state or a life-long Kansan.

There are many identification booklets available for the grasses, wildflowers, and trees in this region. However, this booklet will help you look at grasses, wildflowers, shrubs, and trees from a different angle. We hope it helps you see and appreciate these common features.

Two other booklets also are available. One describes farm and ranch features in Kansas; the other highlights birds and wildlife. Each booklet has a map of the scenic byways of Kansas and a game for kids.

We hope that this little booklet will put a smile on your face as you drive around our scenic byways.



G R A S S E S

Why do people speak with such reverence about the tallgrass prairie?

It is an endangered ecosystem – and when the grasses are tall and one looks over the expanse, the prairie is as awesome to some as the ocean and mountains are to others. Only 4 percent of the original tallgrass prairie in North America still exists and over half of that amount is found in Kansas.

A national preserve for the tallgrass prairie is located in Chase County along the Flint Hills Scenic Byway.

Why is so much of the tallgrass prairie found in the Flint Hills?

Because limestone rock lies right under the topsoil throughout the Flint Hills, the ground is almost impossible to plow. Not all plants like this condition! Tallgrass prairie grasses and other friendly flora don't mind and just wind their roots downward into the rock cracks and crevices.

Original prairie is found where the sod has not been broken.

What's the name of the grass that is so famous?

It's *big bluestem*. This grass can grow as tall as ten feet depending on the moisture and depth of soil.



Pioneers used to talk about riding horseback through grasses that were at eye level! Big bluestem usually reaches its zenith at mid-summer. One more interesting fact is that *what you see above ground makes up only one-third of the grass*. The rest is in the root system.

Isn't grass just grass?

Look closely, and you'll see different colors, different shapes, and different sizes. In fact, **nearly 250 different species of grasses grow in Kansas!**

A keen observer will be able to tell the differences between a *tallgrass prairie*, a *mixed or mid-grass prairie*, the *short grass prairie*, or the *sandsage prairie*.

These four ecosystems have a different grouping of grasses because of variations in soils, precipitation, and temperatures. Most of the prairie west of the Flint Hills is mixed grass. The short grass prairie is evident in the western fifth of Kansas. Sandsage prairie is especially abundant along rivers and streams in the southwest quarter of the state.



Where did the main prairie grass names come from?

Big bluestem can grow up to ten feet and has a bluish stem! The bluish color is caused by a waxy layer on the surface of the stem that helps prevent water loss. As the growing season progresses, this wax rubs off and the stems appear more brownish or reddish. Big bluestem is sometimes known as "*turkey foot*" because of the three to five spike-like projections that emerge at the top of the grass when it blooms.

Little bluestem is the smaller cousin of the big bluestem.



Big bluestem



Indian grass has a golden-yellow plume-like flower head. This seed head resembles the head feathers once worn by several prairie tribes.

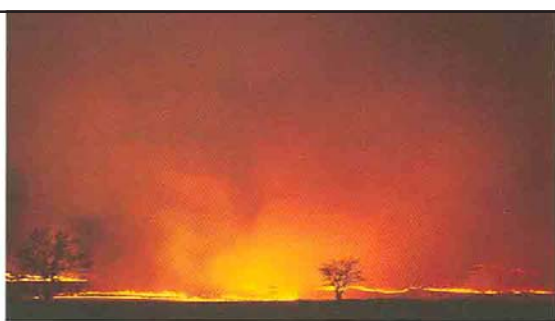
Side-oats grama refers to the small clusters of flowers (oak-like looking), which eventually contain seeds that hang down uniformly on one side of the seed stem.



Switchgrass is named after the "switch-shaped"



seed head that characterizes the plant in the mid-summer to fall.



Are those big grass fires on the prairie an accident?

Prairie fires have happened for millennia. They are caused by lightning strikes and, in the last few centuries they have been set by Native American tribes or ranchers. While there is some debate about how often a pasture should be burned, there is a general belief that periodic burning helps the grasses.

How are grasses able to come back after a prairie fire?

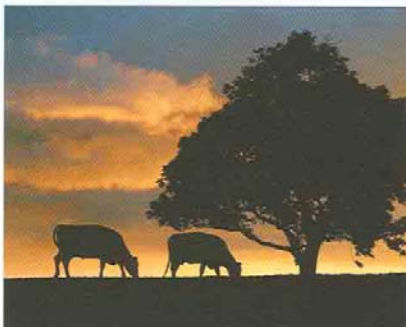
Big bluestem, for example, is one of the grasses that has a special type of growing tissue hidden at the base of the plant. It protects the plant from grazers and fire and allows it to respond quickly after being burned or grazed.

By the way, are some grasses more tasty to cows than others?

Cows are picky eaters just like humans! Their favorite, as determined by observers of cattle, is eastern gamma grass, also referred to as bovine ice cream! This grass is a close relative of corn. They also really like big bluestem and side-oats grama.

Word is that

the big bluestem has a juicier stem than little bluestem!



W I L D F L O W E R S

What is the state flower?

In 1903 the Kansas legislature named the *Helianthus*, or **wild native sunflower**, our state flower. The *Helianthus annuus* can grow to be ten feet tall. It flowers from July to September. Native Americans utilized the entire plant. The seeds are edible; the seeds and seed shells, if roasted, were used as a coffee substitute; extracted oil was used for cooking and soap making; and yellow dyes have been made from the flowers and black dye from the seeds. Parts of the plant have been used as silage for cattle. There are a dozen species of sunflowers in Kansas.

When do wildflowers start dotting the countryside?

All of a sudden wildflowers of all sizes and colors start to dot the landscape in the spring. How do they know when it's time (or safe) to come out?

The environment holds the answers; each species waits for different signals. Soil temperature, soil moisture, and day length are among the most important of the signals.





Where did wildflower names come from?

Daisy fleabane – Long, long ago Europeans believed that the odor of this plant repelled fleas, thus the name fleabane! By the way, daisy fleabane roots taste like carrots!

Butterfly milkweed – When in bloom, the butterfly milkweed attracts butterflies and many other insects. *Milkweeds are poisonous* but here's how the Monarchs use it to their advantage! Monarch caterpillars not only tolerate the poison but can store it in their bodies.



Therefore, the caterpillar and later the adult Monarch butterfly are unpalatable to predators like birds!



Common milkweed. There is a milky liquid inside the stem. The thick bitter sap protects the milkweed from hungry insects and other leaf eaters. If you eat the sap, you would suffer serious digestive problems.

This plant is often called *wild cotton* or *silkweed* because each seed bears a small tuft of silky hairs at one end. These hairs act like tiny parachutes, sometimes carrying seeds miles from the parent plant!

Purple Poppy Mallow is sometimes called *wine cup* because of its cup shape and wine color. It was also known as *Cowboy Rose* because of its frequency on the cattle ranges of the Old West. This is also the plant known as *Indian bread* or *Bread Root* because of its edible root that was pounded into crude flour and baked. *That's a lot of names!*

One more fascinating tidbit: the Purple Poppy Mallow is a relative of the marshmallow plant, the original paste used for the puffy sweets on S'Mores!



S H R U B S

Imagine being the first person to take a bite of yucca!

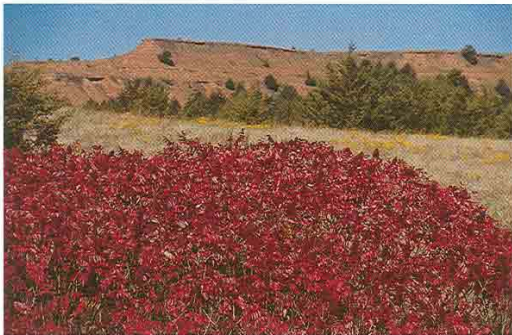
Hey, maybe that's how it got its name! Native Americans used yucca root to ease stomach aches. Perhaps it tasted like castor oil! Certain tribes also found that it helped prevent hair loss! The leaves were used to make clothing, sandals, and baskets. It is also referred to as *soapweed* because when the roots were soaked and rubbed they produced a soap substitute.

Yucca has also been called *Dagger plant* or *Spanish bayonet* because the sharp leaves are one to three feet long and have tall spikes of white flowers when in bloom.



Where is a good multifunction stop for birds?

If you were a bird and wanted an escape place, shelter from severe weather, and food in the form of insects, fruits, and seeds, you'd find a sumac thicket. Sumac turns red in the fall and can be seen throughout hillsides and ditches.



What are the thickets with the berries?

Most likely, they are the **wild plum**, also known as *sand hill plum*. Lots of people pick the berries and make jam or jelly. Native Americans used the wild plum stone for game pieces. The wild plum has become known as the indicator of when to plant a garden. Plant when the wild plum blooms.

T R E E S

What is the state tree?



The **cottonwood** became Kansas's state tree in 1937. It is well adapted to life on the prairie.

Because the seeds are dispersed by wind, many end up on the surface of water and are stranded along river banks or ponds. That's why there are so many cottonwoods along rivers. They also like water! The rustling sound of cottonwood leaves is distinct and

soothing to those who live on the prairie.

Do all cottonwood trees produce cotton? Only the female tree produces the fluffy white seeds in the early summer.



How does the leaf help a tree?

Chlorophyll is what makes the leaves green and it's that green pigment that helps the plant capture energy from sunlight. In the leaves, energy from the

sun, water, and carbon dioxide are converted into sugars that provide food for the plant.

How does a leaf know when to fall from the tree?

During the winter, trees don't need as much water, sunlight, or sugar, so the leaves can stop working. The tree and leaf have a mutual agreement to separate from each other during the winter.



How do leaves know when to change color?

As the leaf starts to separate from a tree, the water supply is cut off from the tree. Without water the leaf can't make new chlorophyll, thus the green color disappears. The other colors have been in the leaves all along but were hidden by the dark green. When the chlorophyll fades, the lighter fall colors can be seen.



What is that tree with silvery leaves?

Oak, silver maple, and other species have leaves that are dark green and shiny on one side and silvery-pale on the other. *It almost looks like an optical illusion in the wind!*



Does popcorn grow on trees in Kansas?

The flowering blooms of the **catalpa tree** look like popped popcorn when they blossom in May and June. The fruit of the catalpa are long pods that look like huge green beans!

What do some trees symbolize?

The **oak tree** is a symbol of strength -- "*tall oaks from little acorns grow*".

The **redbud** is a romantic tree. It has pink blossoms in the spring, heart-shaped red leaves in the fall.

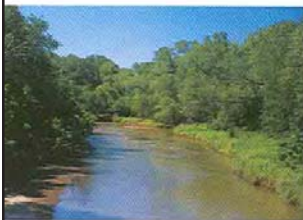
The **red cedar** is symbolic of a lone Native American wrapped in a cloak standing tall against the winds and storms of the prairie.

Did you know the spread of a tree's root system is at least equivalent to the spread of its crown?



If I'm driving through the countryside and see clumps of trees on the horizon, what should I expect to see?

- A group of **cedars** often indicates a cemetery.
- A grouping of trees might indicate a homestead or farm site.
- A strung out grouping of trees will usually indicate a river or creek.
- To migrating birds, a clump of trees is a sight for tired wings!



What are those long lines of trees?

If you notice a line of trees that borders roads or outlines farm fields, then you're looking at a hedgerow. Hedgerow planting started in Kansas in the 1850s to protect crops from roaming cattle!

It is estimated that 39,400 miles of hedgerow were planted in Kansas between 1865 and 1939 as a living fence with the young trees (most often Osage orange) planted closely together. A good hedgerow was "*Horse high, bull strong and hog tight.*"

Sometime there are long rows that are three to five rows wide.

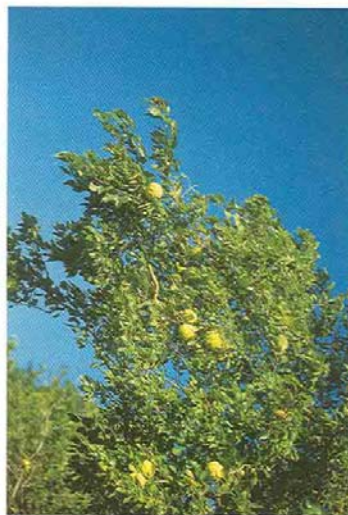
According to the Department of Agriculture, windbreaks are planted to protect homesteads and animal lots. **Shelterbelts** were planted primarily to protect fields from wind erosion. *They are usually planted at right angles to the prevailing wind.* Lower growing species are on the side with most exposure to the wind.

Shelterbelts also provide protection and nesting areas for birds and mammals. *Osage Orange* and *Mulberry* are popular trees for windbreaks.

What are those trees in the fall with what looks like a weird looking green apple?

The female **Osage Orange** tree, seen often in hedgerows, produces what looks like a big overgrown green mulberry!

Squirrels love the seeds within the hedge "apple" even though they are hard to reach. Piles of shredded hedge apple are a sure sign of squirrels in the area.



Did you see it?

Mark down how many different color wildflowers you see:

- Pink
- Purple
- White
- Yellow
- Orange
- Blue
- Red
- Other _____

Check when you see the following trees:

- Female Cottonwood
- Osage Orange (Hedge)
- Cedar
- Oak (There are many varieties!)
- Other _____

Find the beauty of Kansas!

14 names of trees, shrubs, and grasses are hidden in the box. Some of the them go forward, some backward. Some up and down. Others down and up. Then there are those at a diagonal. *Can you find them all?*

A game for the kids!

Which grass name sounds like a breakfast dish served by your grandmother? _____

Which grass sounds like something early settlers used to spank their kids?

What name would you have given to the purple poppy mallow? _____

You never know where you'll discover the natural beauty of Kansas!

Circle the words as you find them.

Here's a hint...

LOOK FOR BLUESTEM, CATALPA, CEDAR, COTTONWOOD, DAISY, ELM, MAPLE, MILKWEED, MULBERRY, OAK, OSAGE, REDBUD, SUNFLOWER, AND YUCCA.

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SCENIC BYWAYS Etiquette

Kansas scenic byways are to be enjoyed by everyone.

Please help us preserve this beautiful land by not picking the flowers and native grasses, and by not straying onto private land.

Of course, please do not litter.

This magnificent scenic land is home to many Kansas residents who welcome you to their communities, shops, and restaurants.

Please respect their privacy by not photographing cowboys or their families.

Stay out of the way of cattle drives.

Do not climb fences or gates.

And please, help keep everyone safe by obeying posted speed limits.

This booklet is one of a series produced for your enjoyment by the Kansas Scenic Byways Program. Authors of the booklets are: Marci Penner and Debbie Divine. Photographs are by Mil Penner, Mike Blair, and Harland Schuster. Other contributors to the project are Craig Freeman, Tom Eddy, Gary Weisenberger, Ken Brunson, Joel Yoder, and Bobbie Pray. Graphic design consultants were Catalyst Creative Services, Inc. of Hutchinson, Kansas. Printing was done by Mennonite Press, Newton, Kansas. Thanks to the Kansas Scenic Byway Committee for its encouragement and assistance in completing these booklets.

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Enjoy Kansas Scenic Byways!

