Iowa Association of Naturalists

Iowa's Plants

Iowa's Summer and Fall Wildflowers
The Iowa Association of Naturalists (IAN) is a nonprofit organization of people interested in promoting the development of skills and education within the art of interpreting the natural and cultural environment. IAN was founded in 1978 and may be contacted by writing the Conservation Education Center, RR 1, Box 53, Guthrie Center, IA 50115.

Iowa's Plants Booklet Series

Plants are a beautiful and important part of nature in Iowa. To assist educators in teaching their students about the common plants of Iowa, the Iowa Association of Naturalists has created a series of booklets which offer a basic understandable overview of Iowa’s plants, their ecology, and their benefits and dangers to people. The seven books in this series include:

- Iowa's Spring Wildflowers (IAN-301)
- Iowa's Summer and Fall Wildflowers (IAN-302)
- Benefits and Dangers of Iowa Plants (IAN-303)
- Iowa's Trees (IAN-304)
- Seeds, Nuts, and Fruits of Iowa Plants (IAN-305)
- Iowa's Mushrooms and Nonflowering Plants (IAN-306)
- Iowa's Shrubs and Vines (IAN-307)

For ordering information about these and other IAN publications, please see the back cover of this booklet.

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Iowa's Summer and Fall Wildflowers
Flowers are a beautiful part of the life cycle of seed-producing plants. The colors of wildflowers attract birds and insects, and through this attraction, plants are pollinated and seeds are dispersed. People are also attracted to wildflowers. We seek the natural beauty of wildflowers to brighten our summer days.

Flowers may be arranged on plants in many different ways. Some plants have a single flower atop the plant stem. Other plants may have clusters of flowers. On plants like Queen Anne’s lace, many small flowers form an umbrella-shaped umbel.

Blazingstars have an elongated cluster of flowers known as a raceme. And the flowers of purple prairie clover are arranged as a spike at the end of each flower stalk. Sometimes what appears to be a single flower is actually a “composite” of many small flowers, called florets.
A flower is composed of many parts, each playing a role in the process of producing seeds. The actual reproductive parts of the flower are the **pistils**, which contain the ovaries, and the pollen-producing **anthers** at the tip of each **stamen**. **Pollination** occurs when pollen is carried to a pistil. If pollination is successful, one or more **seeds** begin to develop within the pistil. Some flowers, such as Michigan lilies, have large stamens, anthers, and pistils that can be useful in identifying the plant. In other flowers, pistils and stamens are hardly noticeable.

For most flowers, the most colorful and noticeable parts are the **petals**. These showy structures surround the reproductive parts and are often useful in attracting pollinating animals such as birds and insects.

Behind the petals a flower usually has nonshowy **sepals**. Sometimes petals and sepals are difficult to distinguish and are collectively called **tepals**. Sunflowers and other members of the plant family known as composites have long **ray flowers** that appear to be petals. Each ray flower, however, is attached to a pistil and is therefore considered to be an individual flower.
Plants have adapted several strategies for spreading their pollen to other plants and their seeds to new places. Pollen may be carried by the wind or through the intestines and on the hair and beaks of animals. Wind-spread pollen of ragweed and many grasses often causes discomfort for allergy sufferers. The pollen of goldenrod and asters sticks to the bodies of insects as they move from flower to flower.

Seeds may be carried by wind or water, on the fur or in the mouths of animals, or through animal bodies. Some plants, such as jewelweed, have special structures that fling the seeds away from the parent plant.

Summer and fall flowers are often found in grassy areas where an abundance of wind and many insects and birds act as pollinators and seed spreaders. Showy plants such as coneflowers, clovers, and goldenrod attract nectar-feeding insects such as butterflies, bees, and moths. Less colorful flowers such as ragweed and most grasses spread their pollen by wind.

There is a close relationship between many insects and the beauty of fall wildflowers. In some cases, wildflowers depend on a specific insect or group of insects for their pollination. Only large insects, such as bumblebees, are able to pollinate bottled gentians. Butterfly milkweed can only be pollinated by butterflies and other large insects. Evening primrose opens its flowers to pollination in evenings and is, therefore, mostly dependent on moths that fly at dusk. The anatomy of a flower may allow only certain insects to reach the flower parts and effect pollination. For many plant species their survival depends on the survival of their insect pollinator.

Similarly, many insects depend on the availability of specific wildflowers. One famous example is the relationship between milkweed and monarch butterflies. The monarch caterpillars feed only on the milkweed plant. Adult monarchs may feed on other wildflower nectar, but the butterflies must return to milkweed plants to lay their eggs.
Flowers that bloom in late summer and fall have some tough obstacles to overcome. In late summer, woodlands have thick canopies and undergrowth that block sunlight from reaching the low places where flowers are most often found. Although woodlands are home to numerous spring wildflowers, summer and fall wildflowers are not so common. These later-blooming flowers are most typically found along woodland edges and open woodland areas where there is less shade.

Most summer and fall wildflowers are found in grassy areas such as roadsides, pastures, and prairies. These are places exposed to direct sunlight and wind, and plants have adapted to these conditions. Many prairie plants have thin leaves and thick stems that reduce the surface area exposed to the drying effects of wind and sun. They are also deeply rooted, reaching as far as ten feet into the soil for moisture.
Among our native prairie grasses that flower and begin producing seeds in the summer and fall are big bluestem, little bluestem, Indiangrass, switchgrass, sideoats grama, and tall dropseed. These grasses are often called “warm-season” grasses because they reach their peak during the warmer days of midsummer. Historically, these grasses dominated the landscape of Iowa. However, many cool-season grasses have been brought to our state since the time of European settlement. These “introduced” grasses have, in many cases, come to dominate the landscape. Examples of non-native, but now common, cool-season grasses that may displace our native warm-season grasses are brome grass, meadow foxtail, reed canarygrass, and Kentucky bluegrass.
Late-blooming Woodland Wildflowers

Although most late-blooming flowers are found in open grassy areas, some beautiful woodland flowers can be found in summer and fall months. Most of these flowers bloom in woodland openings and along waterways or ponds. Look for wild rose, Jerusalem artichoke, cup plant, and asters such as daisy fleabane along woodland edges. Jewelweed, hemlocks, and blue lobelia grow along woodland waters. A few flowers, such as white snakeroot and bittersweet, may grow among the shadows of summer woodlands.
A variety of flowers from many plant families bloom in the summer and fall months. However, most late-blooming wildflowers are members of only a handful of plant families. The showiest and most abundant family of fall and summer flowers is the composite family. Other plant families, including the legumes and parsley family, are also numerous and bloom during the summer and fall months.

For a more detailed description of Iowa’s summer and fall wildflowers, consult a field guide.

Flowers in the family *Compositae*, also called composites, are most represented during the summer and fall months. Included in this family are showy daisylike flowers such as sunflowers, asters, and coneflowers. Dandelions, thistles, and goldenrod are also members of this family of plants. The composites have several unique characteristics. Each flower head actually includes two different types of flowers called *florets*. Many tiny florets gathered together in the center of the flower head make up the *disc*. On a black-eyed Susan, the dark center of the flower head is actually a cluster of small disc florets. The long yellow petal-like flowers that surround the disc are actually *ray flowers*. Each of the florets of a composite has the ability to produce a seed. The white fluffy ball of seeds that surrounds a dandelion is produced by individual disc and ray florets. The vast number of seeds produced by sunflowers, asters, and thistles make them important to seed-eating birds such as goldfinches. The following is a brief description of the more common composite wildflowers found blooming in Iowa during the summer and fall months.

**Black-eyed Susans** (*Rudbeckia serotina*) are a common sign of summer in the grasslands. The “black eye” refers to the dark disc flowers in the center of the flower head. Yellow ray flowers, about an inch long, surround the disc flowers. The stem is rough and hairy with thick hairy alternate leaves. The plant blooms from June through September in grasslands and open woodlands.
Yellow coneflowers (*Ratibida pinnata*), with their dark disc flowers and surrounding yellow ray flowers, somewhat resemble black-eyed Susans. Coneflowers, however, have drooping ray flowers which are longer and thinner than those of black-eyed Susans. The plant is sometimes called gray-headed coneflower because the disc flowers are gray until the florets open and change the color of the disc to brown. The stem is slender and hairy with slender compound leaves. Yellow coneflowers bloom from June to September in dry grassland areas.

Purple coneflowers (*Echinacea purpurea*) are easy to identify. The plant may grow to a height of more than four feet. Each flower head may be more than three inches wide. The center disc flowers are bigger than those of other coneflowers. The purple ray flowers are also larger, sometimes growing to three inches. The stem and leaves are rough and hairy. The plant blooms from June through October.

Smooth asters (*Aster laevis*) are a common “daisy” of grasslands and woodland edges. The disc flowers of asters are yellow or orange tubular florets surrounded by a double set of ray flowers. The blue or purple rays are thin and form a flower head less than an inch in diameter. Below the flower head is a circle of green bracts. The plant grows to a height of one to three feet and blooms from July until frost.
Tall thistles (*Cirsium altissimum*) are a rosy, purple color with a typical thistle appearance. They are members of the composite family and have a mass of tubular florets that make up the flower head. Below the flower is a cup-shaped series of bracts with bristled points. The branched stem is typically three to seven feet tall. The leaves grow alternately along the stem and are whitish underneath. Tall thistles bloom in August and September in grasslands.

Stiff goldenrod (*Solidago rigida*) has many tiny golden flowers. The composite flowers of this prairie plant give the flower head a fluffy appearance. Plants may grow to a height of more than three feet. The leaves and stems have gray hairs. Lower leaves form a basal rosette, while the stem leaves grow alternately. Goldenrods bloom in dry grasslands from August to October at the same time that ragweed is producing pollen. Many people believe they are allergic to the showy goldenrods when it is actually the drab ragweeds that are responsible for their discomfort.

Blazingstars (*Liatris pycnostachya*) are showy prairie plants. Nearly a third of the one- to three-foot tall plant consists of a purplish flower head arranged as a long spike. Flowering begins at the top of each spike and moves downward. Individual flower heads have a mass of tubular florets. The lower part of the stem has many slender closely alternate leaves. Blazingstars bloom from July until frost.
Legumes are members of the bean family (*Leguminosae*) which includes clovers, vetches, and peas. Also included in this family are indigos, alfalfa, and lead plant.

Legumes have unique flowers. The sepals are united as a tube and are separate from the other flower parts. The five petals are typically not alike and vary as to the number of petals above and below the pistil and stamens. The leaves are compound and arranged alternately along the stem. Legumes are easily identified by their flat or rounded **pods** that contain the plant’s seeds. Some legumes, such as soybeans, alfalfa, and clovers, are grown agriculturally. In addition to their value as crops, pasture, or hay, these plants may fix nitrogen in the soil, adding nutrients that can be used by future plantings. The following is a brief description of some wild-growing legumes that are common in Iowa during the summer and fall months.

**Purple prairie clover**

(*Petalostemum purpureum*), unlike other legumes, has one large petal and four smaller ones. The small purple flowers are clustered together around a cylindrical flower spike. The flowers begin blooming at the bottom of the cylinder and blooming progresses upward during the summer months. Purple prairie clover plants grow in patches and are typically one to two feet tall. The leaves are slender and divided into three to five leaflets.
Partridge pea (*Chamaecrista fasciculata*) has a typical pealike appearance. Leaves are divided into many leaflets. The plant is sometimes called sensitive pea because when touched the leaves may curl inward. The bright yellow flowers have ten unequal stamens, four of which have yellow anthers while the other six have purple anthers. The plant produces a flat pod approximately two inches long, which contains the small brown seeds. Partridge pea blooms in dry or sandy soil from July through September.

Lead plant (*Amorpha canescens*) grows in sandy soils, often in the same places as partridge pea. It is a shrubby plant with long leaves divided into many leaflets. Hairs on the stems and leaves give the plant a whitish leadlike appearance. The tiny purple flowers grow as spikes on the upper two to seven inches of the stem. The flowers bloom from May to August. A single seed is contained in each of many silvery purple pods.
The Parsley Family

The parsley family (Umbelliferae) includes parsnips, hemlocks, Queen Anne’s lace, and rattlesnake master. The hemlocks are poisonous and may even be deadly if swallowed. But other members of the parsley family, including carrots and domestic parsnips, are palatable. The flowers in this family are arranged as flat, domed, or balled umbels. Most are white, although golden Alexander, parsnip, and yellow pimpernel are yellow. The following is a brief description of a few of the more common members of the parsley family found blooming in Iowa during the summer and fall months.

Water hemlock (Cicuta maculata) is found in wet open areas throughout Iowa. It is a tall stout plant that sometimes grows to seven feet. The tiny flowers are white and clustered tightly together in a rounded umbel. Each flower head is composed of several umbels, and each plant has several flower heads. Flowers bloom from June through August. The leaves have long petioles and are divided into three or fewer lance-shaped leaflets. All parts of the plant are poisonous, especially the seeds. However, water hemlock is less toxic than poison hemlock, and poisoning is not always fatal.

Queen Anne’s lace (Daucus carota) blooms in roadsides and prairies from May through October. Although not native to Iowa, it is now very common. It is sometimes called wild carrot. The white umbels form flat lacy flower heads that may be more than three inches wide. Old flower heads curl upward to form a nestlike cup. The leaves are thin and finely divided, similar to those of carrots. Look for Queen Anne’s lace along roadsides, pastures, and other disturbed areas.
**Rattlesnake master** (*Eryngium yuccifolium*) is a prairie relict, indicating that an area still has its historic prairie features. Several flower heads, each on its own stem, grow at the top of the plant. Flower heads are spherical umbels with many flowers and small whitish bracts. The bracts give the flower heads a rough, prickly feel and appearance. The lance-shaped leaves have bristlelike teeth and form a basal rosette. Similar leaves may be found on upper parts of the stem. The plant blooms from June through September.

*Rattlesnake Master*

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**Other Prairie Wildflowers**

In addition to members of the composite, legume, and parsley families, there are many other groups of plants that blossom in the summer and fall months. Wild roses, horsemints, catnip, and self-heal are found in open woodlands and grasslands. In damp areas, jewelweed, lilies, and gentians display their beauty. And tall plants like milkweed, evening primrose, and mullein are easily seen in road ditches, pastures, and other open areas. The following is a brief description of some more common wildflowers, from various plant families, that bloom in Iowa during the summer and fall months.

*Wild rose* (*Rosa carolina*) is the state flower of Iowa. It grows as a woody shrub in open woodlands, woodland edges, and prairies. The flowers are pink-purple with yellow stamens and may be two inches wide, blooming from June through September. The leaves are oval, sharply toothed, and divided into five to seven leaflets. Thorns are more conspicuous on larger, woodier stems. Rose fruits, called hips, remain on the plant through winter and provide a source of vitamin C.

*Wild Rose*
**Hoary vervain** (*Verbena stricta*) is a common, although not native, grassland flower that is often found growing in roadides. The leaves are at the base of the plant. Small purple flowers are arranged as a spike on the top four to eight inches of each stalk. Like purple prairie clover, blooming begins at the bottom of the spike and proceeds upwards during the summer months. The plant may grow to a height of three feet.

**Butterfly milkweed** (*Asclepias tuberosa*) is the most colorful member of the milkweed family. Bright orange flowers are clumped together at the top of the plant. The plant is specifically designed to be pollinated by larger insects. Pollen is contained in a heavy sticky structure called a pollinium. Only larger insects can pull the pollinium, and themselves, from the flowers. Smaller insects, which are too weak to free themselves from the pollinium, are often found dead on the flowers. Unlike other members of the milkweed family, no “milky” sap is found in the plant stem. Rough pointed leaves grow alternately along the plant stem. Butterfly milkweed grows from one to three feet high and blooms from July through September.

**Mullein** (*Verbascum thapsus*) is a tall plant with a long clublike spike of yellow flowers atop a thick stiff stem. The flowers bloom from June through September. Mullein is a non-native plant which is now common in disturbed areas and along roadsides where it may grow to a height of six feet. The leaves are soft and velvety and may be very large. Leaves of mullein are reported to have been used by pioneer women to rub their cheeks to a blush color.
**Evening primrose** (*Oenothera biennis*) blooms in sandy or gravelly grassland areas. It is a large bushy plant that grows to a height of three to six feet. The flowers are bright yellow, approximately two inches wide, with four petals and eight stamens. The coarse leaves have no petioles and grow alternately along the stem. Evening primrose blooms from July through September. In fall more than 50 capsules, which contain the seeds, may be clustered at the top of each plant.

**Jewelweed** (*Impatiens biflora*) is a late-blooming plant of damp woodlands and woodland edges and is especially common along waterways. It is a tall plant with a thick, watery, translucent green stem, sometimes growing as tall as five feet. The flowers are funnel-shaped. They are colored yellow-orange with reddish brown spots. A slender flower stalk is attached at the center top point of the flower. The oval leaves are more than three inches long and grow alternately on the plant stems. The liquid of the plant stem helps alleviate the itching caused by stinging nettles and other plant allergies.
### Past and Present Benefits of Wildflowers

#### Beautiful Plants

A summer drive along a prairie roadside reminds us of the natural beauty of wildflowers. Over many generations, people have borrowed the secrets of nature to commercially breed flowers for human enjoyment. Our flower gardens are full of plants derived from wildflowers that have been bred for their beauty. But it is important to remember where this beauty originated. The summer and fall beauty of blazingstars, lilies, roses, and other wildflowers is the historic resource used to produce commercial plants. The beauty still exists and blooms freely and annually in Iowa’s natural areas.

Keep in mind that, regardless of their beauty, all wild plants serve as members of natural communities and are, therefore, important. Excessively gathering plants for their beauty has endangered some plant species. Please look, smell, and enjoy the wildflowers without picking or digging them.
Plants are our main source of medicines. Scientists rely on a diversity of plant species to sift through in their search to find new treatments for disease. For American Indians and early European settlers, hundreds of different wild-growing plants provided the majority of their food, materials, and medicines. Various wildflowers, including catnip and yarrow, were used to treat a wide range of illnesses including fevers, sore throats, colds, and nervous disorders. In Iowa prairies plants such as goldenrod, sage, and flowering spurge were sought by American Indians and pioneers to treat maladies such as bee stings, stomach aches, and bronchitis. Along woodland edges jewelweed, asters, and cup plant had medicinal uses.

Because they are easily identified in fall and because they often hold their fruit through the colder months of fall and winter, late-blooming wildflowers sometimes played a critical role in providing winter nutrition for both people and wildlife. The tubers of Jerusalem artichoke may be stored and eaten like potatoes. Wild rose hips may provide an essential winter supply of Vitamin C for both people and wildlife. Seeds from composites and legumes also provide valuable food for wildlife throughout the winter.

The common dandelion, although not native to this country, is a good example of the usefulness of wild plants to the educated edible plants enthusiast. The leaves can be used in salads or for cooked vegetables. The roots can be ground for “coffee” or cooked as a vegetable. And the blossom can be used to make dandelion wine or eaten as a fried vegetable. In addition to their food value, dandelions once were used as vitamin supplements, to increase appetite, as a diuretic, and to relieve some rheumatic disorders.

Remember, caution is required when considering eating any wild plant. Do not eat any plant you cannot positively identify as being edible. Carefully research the plant or consult an edible plants expert before eating!
Late summer and fall are the peak times for viewing wildflowers along Iowa roadsides. With nearly all of our prairies destroyed, native prairie wildflowers have found a last refuge in a few pastures, pioneer cemeteries, railroad rights-of-way, and roadsides.

Each year lilies, coneflowers, black-eyed Susans, Queen Anne’s lace, and a host of other wildflowers bloom in our roadsides. In addition to the native wildflowers commonly found in Iowa roadsides, some not-so-common flowers may also be encountered. Keep an eye out for rattlesnake master, compass plant, blazingstar, and orchids. These and other plants thrive only in prairie conditions. In recent years, some very rare plants have been found growing in Iowa roadsides. Among the more fantastic
finds are two orchids—the small white lady’s slipper and the western prairie fringed orchid. The fact that such rare plants can still be found in roadsides, which through the years have been disturbed, sprayed, and reseeded, is remarkable.

Throughout Iowa, more attention is being given to roadsides managed as prairie. Nearly half of the counties in Iowa have roadside biologists who work toward managing roadsides in a way that reduces weeds, stabilizes the slopes, and increases diversity of native grasses and flowers. With an increased awareness of the value of roadside habitat and the spread of integrated roadside vegetation management programs, perhaps more rare flowers will be discovered and protected along Iowa roads.

In the summer and fall months, the beauty of Iowa’s wildflowers shifts from the woodlands to the grasslands and other open areas. Composites, members of the daisy family, dominate the show and are supported by a cast of other plant families, including the legumes and members of the parsley family. The flowers bloom through the summer months and into fall, up until the first frost.

Beauty is a functional and necessary characteristic of many wildflowers. The dazzling colors of the wildflowers provide enjoyment for people, but they are actually meant to dazzle other creatures. Many of these flowers must attract certain insects in order to be successfully pollinated.

Summer and fall wildflowers may be viewed throughout Iowa simply by slowly driving, walking, or biking along the roads and bike trails. Roadside wildflowers and native grasses are on the increase due to the birth of integrated roadside vegetation management programs. For a special look at summer and fall wildflowers, visit a native prairie remnant or reconstructed prairie area. Bring a friend and share the fun of discovering Iowa wildflowers.
Useful Resources


Iowa State University Extension publications, contact your county extension office.

“Iowa’s Roadside Wildflowers,” Iowa Department of Transportation.


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The Iowa Association of Naturalists also has produced five other booklet series that provide readers with a clear, understandable overview of topics concerning the Iowa environment and conservation. The booklets included in each of the other five series are listed below.

**Iowa Physical Environment Series**
- Iowa Weather (IAN-701)
- Iowa Geology and Fossils (IAN-702)
- Iowa Soils (IAN-703)

**Iowa Wildlife Series**
- Iowa Mammals (IAN-601)
- Iowa Winter Birds (IAN-602)
- Iowa Nesting Birds (IAN-603)
- Iowa Reptiles and Amphibians (IAN-604)
- Iowa Fish (IAN-605)
- Iowa Insects and Other Invertebrates (IAN-606)

**Iowa’s Natural Resource Heritage**
- Changing Land Use and Values (IAN-501)
- Famous Iowa Conservationists (IAN-502)
- Iowa’s Environmental Laws (IAN-503)
- Conservation Careers in Iowa (IAN-504)

**Iowa Wildlife and People**
- Iowa Wildlife and Management (IAN-401)
- Keeping Iowa Wildlife Wild (IAN-402)
- Misconceptions About Iowa Wildlife (IAN-403)
- State Symbols of Iowa (IAN-404)
- Iowa Food Webs and Other Interrelationships (IAN-405)
- Natural Cycles in Iowa (IAN-406)
- Iowa Biodiversity (IAN-407)
- Adapting to Iowa (IAN-408)

**Iowa’s Biological Communities**
- Iowa’s Biological Communities (IAN-201)
- Iowa Woodlands (IAN-202)
- Iowa Prairies (IAN-203)
- Iowa Wetlands (IAN-204)
- Iowa Waterways (IAN-205)

**Iowa Environmental Issues**
- Iowa Habitat Loss and Disappearing Wildlife (IAN-101)
- Iowa Air Pollution (IAN-102)
- Iowa Water Pollution (IAN-103)
- Iowa Agricultural Practices and the Environment (IAN-104)
- People, Communities, and Their Iowa Environment (IAN-105)
- Energy In Iowa (IAN-106)
- Iowa Waste Management (IAN-107)

√ Booklets may be ordered through the Iowa State University Extension Service at a cost of $1.00 per booklet. When ordering, be sure to use the IAN number to the right of each listed booklet title. Please send written orders and payment to:

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