

Iowa Association of Naturalists

Iowa's Plants



Benefits and Dangers of Iowa Plants



Iowa Association of Naturalists

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 booklets 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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Benefits and Dangers of Iowa Plants

The Importance of Plants

People consider some plants beneficial and refer to others as weeds, but in nature there are no weeds and there are no universal favorites. Plants fulfill specific roles in food chains, climate, and environment and ultimately affect other plants, wildlife, and people. Plants alone hold the secret of converting sunlight and water to living tissue. They are the very basis for life on our planet.



Still, from a human point of view, some plants have beneficial traits and others, in instances, are dangerous. This booklet will show some of the ways that Iowa plants are beneficial or dangerous to people. Keep in mind that all the plants discussed in this booklet serve as members of natural communities and are, therefore, important. Excessively gathering plants for their beneficial traits has endangered some plant species. And although we may have to avoid some plants, there is never a need to eradicate a plant from its natural habitat. Plants are so important that they warrant respect and tolerance, regardless of our opinions.

An Ecological Necessity

An abundance and diversity of plants is a necessity. Plants are the basis for life on our planet and define natural communities. They provide people and wildlife with the food, shelter, and materials needed to exist. Water and air are cleansed as they are cycled through plants, and plants filter pollutants by slowing erosion, blocking runoff, and using nutrients. People benefit both directly and indirectly from the role of plants in maintaining wildlife populations and cleansing the environment.

Globally, the role of plants may be the most important role of all. Through the process of photosynthesis, green plants are the only form of life that can convert sunlight into energy and living tissue. More than half of our planet's surface is covered with deep ocean water, and in these waters algae are the sole producers of energy in the form of food that feeds the rest of the marine community and ultimately estuaries and land communities.

In recent years, evidence has been gathered that shows a serious impact from human pollutants on the life in the oceans. Carbofluorocarbons (CFCs) used in refrigeration and in the production of certain plastics destroy the earth's protective ozone layer, leading to an increase in ultraviolet radiation. This radiation has the ability to destroy algae and other small plants and animals that are the basis for the earth's food chains.

The Food Pyramid

In all living systems, plants are the basis for food chains and the cycling of nutrients. In Iowa wetlands, lakes, and streams, it all begins with algae, the main food source that feeds the tiny animal life that, in turn, is the food of larger animals. Trees and shrubs define a woodland and provide the browse, fruits, and wood that fuel woodland food chains. Similarly, prairies are places dominated by grasses and flowers which define the life within a prairie.

We can picture all the food in a natural community as a food pyramid. Plants form the bottom of the pyramid where they are the primary food for the upper layers. This bottom portion of the pyramid is wider than the rest of the pyramid. The food pyramid demonstrates the abundance and diversity of plants needed to maintain plant and meat eaters.



Wildlife Habitat

For most species of wildlife, the main ingredients that determine habitat are provided by plants. In addition to their importance in establishing food chains, plants provide structures that shelter wildlife, provide nesting materials, offer camouflage, and supply open areas.

In Iowa, destruction of habitat is the number one reason for wildlife species becoming extirpated or endangered. Habitat destruction often refers to the clearing of vegetation—trees, grasslands, or wetlands. When the plant life that defines a natural community is gone, so is the wildlife that once depended on the habitat provided by the plants.

Wildlife managers have learned about the beneficial roles plants play in establishing wildlife habitat. Foresters may select specific tree and shrub species to attract a variety of wildlife. Nut-producing trees such as oaks, walnuts, and hickories provide both food and shelter for a variety of Iowa wildlife. Planting prairie grasses and flowers along roadsides provides habitat for a variety of wildlife including meadowlarks, kestrels, partridge, and pheasants.

Anyone can attract animals to yards and fields by landscaping for wildlife. Many people are interested in attracting songbirds and butterflies into their yards. The following is a list of plants that may attract birds and butterflies.



Ten Iowa Flowers That Are Used by Butterflies

Plant

Milkweed

Asters

Goldenrod

Various clovers

Queen Anne's lace

Black-eyed Susan

Knapweed

Blazing star

Joe-Pye weed

Jewelweed

Butterflies' Uses

swallowtails, whites, sulfurs, monarch and caterpillar, pearly crescent spot, spring azure, gray hairstreak

whites, sulfurs, pearly crescent spot and caterpillar, checkered skipper

sulfurs, monarch, gray hairstreak, giant swallowtail

tiger and black swallowtails, sulfurs and caterpillars, gray hairstreak and caterpillar, silver-spotted skipper and checkered skipper

black swallowtail caterpillar, gray hairstreak

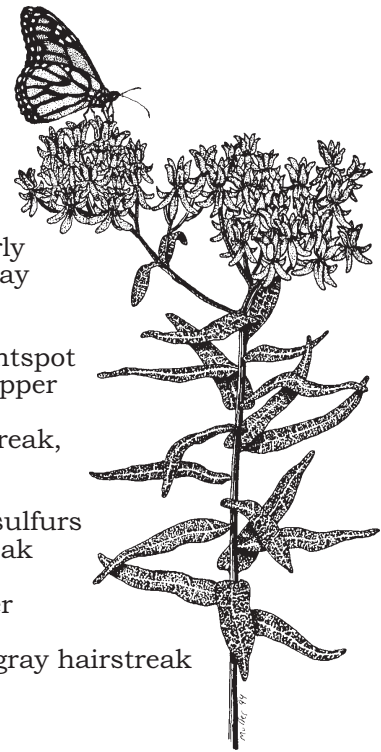
pearly crescent spot

common sulfur, checkered skipper

silver-spotted skipper

monarch, silver-spotted skipper

spring azure



Ten Iowa Plants of Special Interest to Birds

Plant

Red cedar

Various dogwoods

American elm

Mountain ash

White pine

Elderberry

Various sumacs

Virginia creeper

Wild grape

Trumpet vine

Columbine

Birds' Uses

fruit, shelter, and some nesting

fruit

nesting, food

fruit

shelter and some nesting

fruit

fruit

fruit and shelter

fruit

nectar

nectar

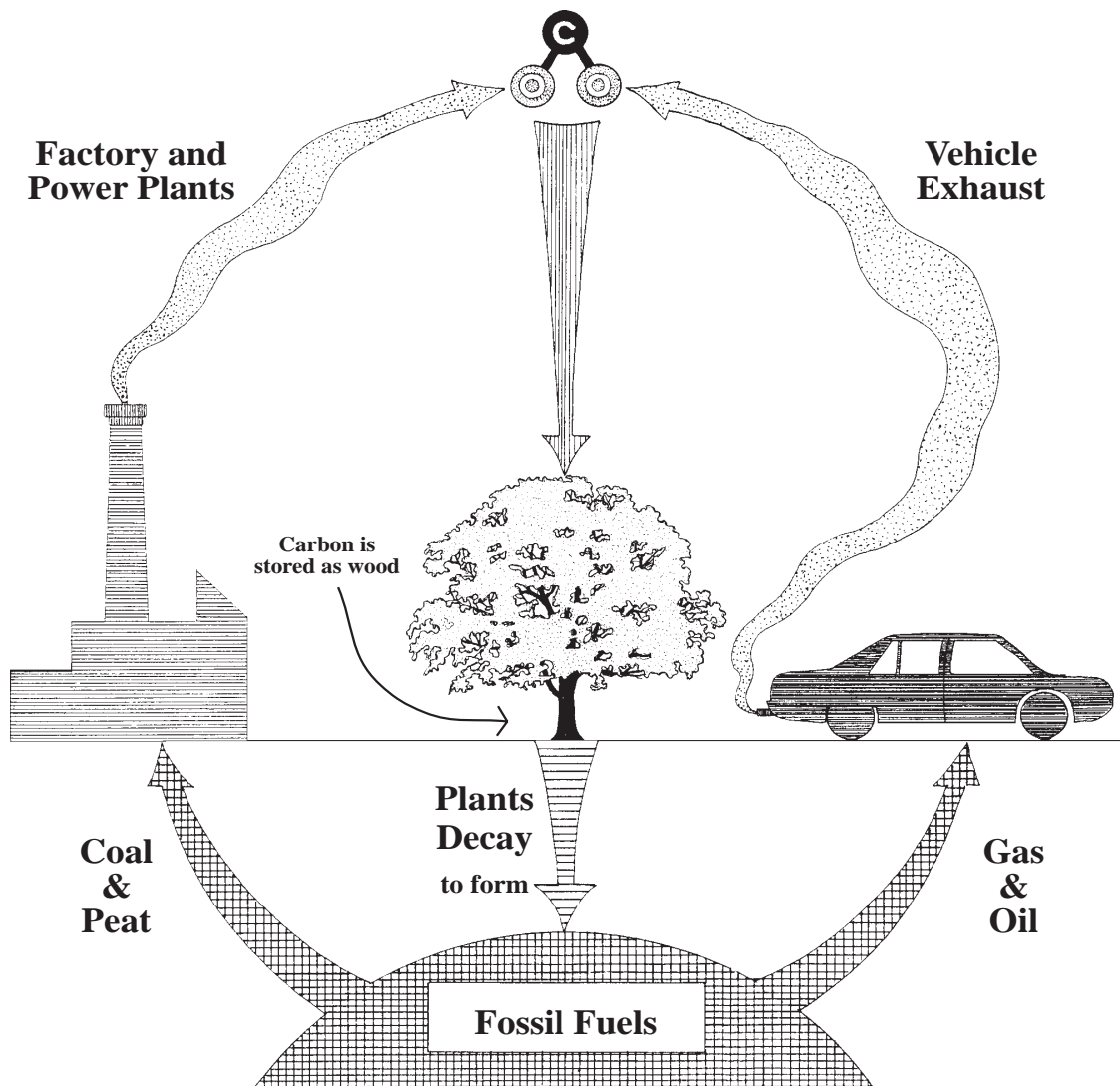


Clean Air

Plants help cleanse the air both by adding oxygen and by removing carbon dioxide (CO₂). Removing carbon dioxide from the atmosphere is especially important due to CO₂'s known contributions as a **greenhouse gas**. Burning fossil fuels and forests increases atmospheric carbon dioxide. Because CO₂ and other gases are known to trap heat around the earth's surface, most scientists believe that unless we reduce the amount of CO₂ in the atmosphere, the earth will overheat.

Plants reduce CO₂ through their effect on the carbon cycle. As plants grow, they cycle oxygen and CO₂ through their tissues during a process called photosynthesis. Some of the carbon remains stored in the tissues of the plants, resulting in a net reduction of atmospheric CO₂. When plants die and

Carbon Dioxide Pollution in the Air



*People add excess carbon dioxide to the atmosphere through the burning of fossil fuels.
Trees and other plants reduce atmosphere CO₂ by storing carbon as wood.*

decompose, or if they are burned, the carbon is released back into the soil and air. Trees store carbon as wood and are especially important as “carbon sinks.” If you look at a growing tree, all the woody stuff is actually stored carbon. A large growing tree may store 50 pounds of carbon, taken from the atmosphere CO₂, each year.

Clean Water

Plants cleanse water by reducing erosion, filtering runoff, and absorbing nutrients. Lakes, streams, and to a lesser degree groundwater benefit from the ability of plants to protect water from pollution. Where wetland, prairie, or woodland plants surround a lake or stream, the water is clearer and less polluted.

Plant roots hold soil in place. Fallen leaves or matted dead grasses protect soil from washing away with runoff after heavy rains. A thick growth of plants also slows the rate of runoff, allowing particles of soil and pollutants to settle out and be filtered from

runoff. Excess fertilizer and other nutrient pollutants may be “taken up” as food by plants, thus reducing nitrate pollution in groundwater and waterways.

The value of wetland plants in cleaning water is becoming better understood. Studies funded by the Leopold Center for Sustainable Agriculture, and others, have shown a direct benefit from wetland plants in reducing water treatment costs.

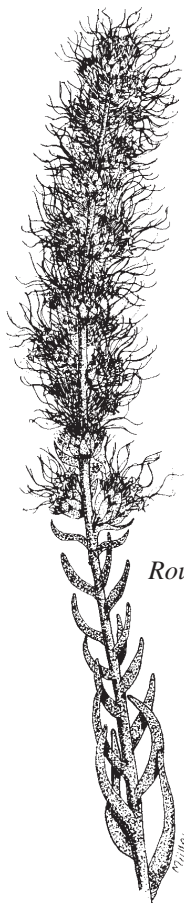


Some Favorite Plants

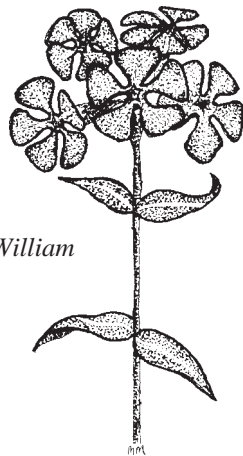
Although all plants are important in nature, many plants have proven to be of special value to people. Beauty and utility make certain plants favorites of some people.

Beautiful Plants

Beauty is in the eye of the beholder and each of us considers some plants to be more attractive than others. Over time, people have selected certain plants to be bred commercially for the benefit of beauty. The glowing colors of sugar maples line many of our town roads while the fragrance of crab apple blossoms fills our yards. Our flower gardens are full of plants derived from wildflowers that have been bred for their beauty. The following plants are a few examples of Iowa wildflowers that are closely related to some of today's commercial flowers.



Rough Blazing Star

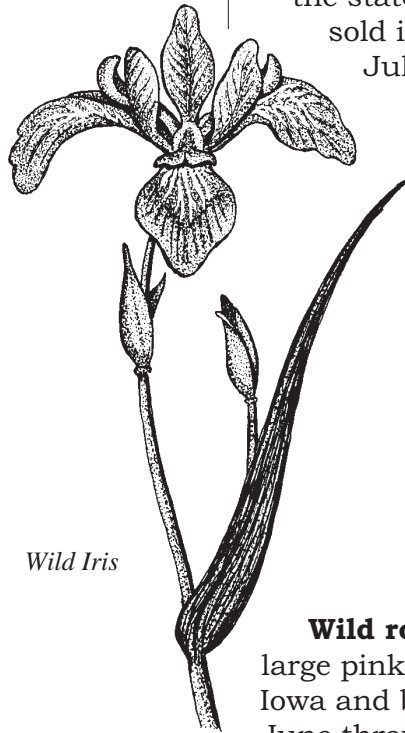


Sweet William

Sweet William, commonly called a “phlox,” has slender flowers, each with five blue-purple petals in a loose cluster. The blossom has a sweet odor and blooms from April to June in Iowa woodlands. Various hybrids of phlox are sold commercially for their beauty, sweet scent, and ability to stabilize slopes and reduce erosion. However, the Sweet William that is commonly seen growing in gardens is actually a member of the pink family of plants and is not a phlox.

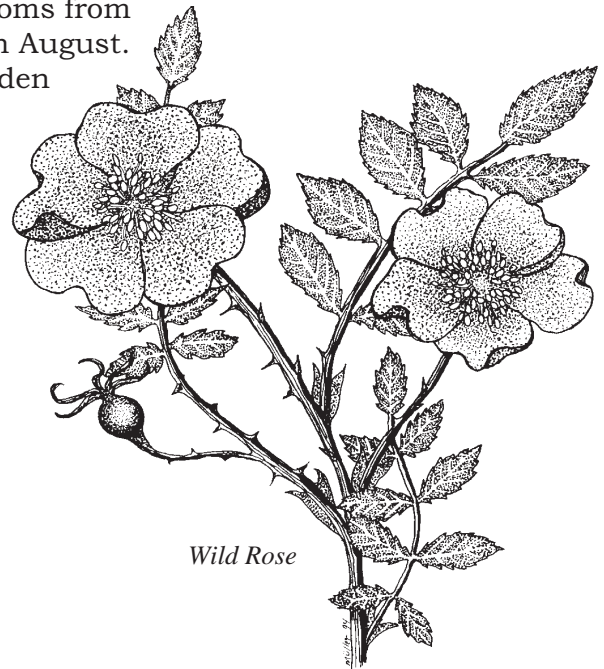
Rough blazing star grows in prairies and other grassland areas. The cluster of pink-purple flowers blooms at the top of a rigid stem which may be up to five feet tall. Blazing stars bloom from July through September. They are often sold commercially under their genus name of *Liatris*.

Wild iris, also called **blue flag iris**, grows in wet prairies, wetland edges, and road ditches throughout the state. It closely resembles the cultivated iris sold in flower stores and blooms from May to July.



Wild Iris

Wild rose grows as a small, thorny shrub with large pinkish white flowers. It is the state flower of Iowa and blooms from June through August. Climbing garden rose bushes are direct descendants of our native wild rose.



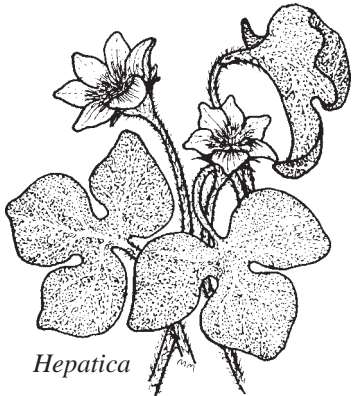
Wild Rose



Columbine

Columbine is a common wildflower in Iowa woodlands, blooming from May to July. It is very similar to the columbine sold in greenhouses. The plant may resemble a small shrub growing to 2 feet or more with the flowers dangling from the tips of the stems.

Medicines from Nature



Hepatica

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 wild-growing mints, including **catnip** and **horsemint**, 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 Indians and pioneers to treat maladies such as bee stings, stomach aches, and bronchitis. In woodlands, the inner bark of **black cherry** was used in cough medicines, and **hepatica** and **Jack-in-the-pulpit** were used to treat a variety of conditions including convulsions, asthma, and

headaches. In *Wildflowers of Iowa Woodlands*,

Sylvan Runkel quotes a Mesquaki medicine

man who described the

use of hepatica in these

words, probably refer-

ring to treating convul-

sions: "When the mouth

gets twisted and the eyes

get crossed, this root is brewed into

a tea and the face is washed until it

returns to normal."

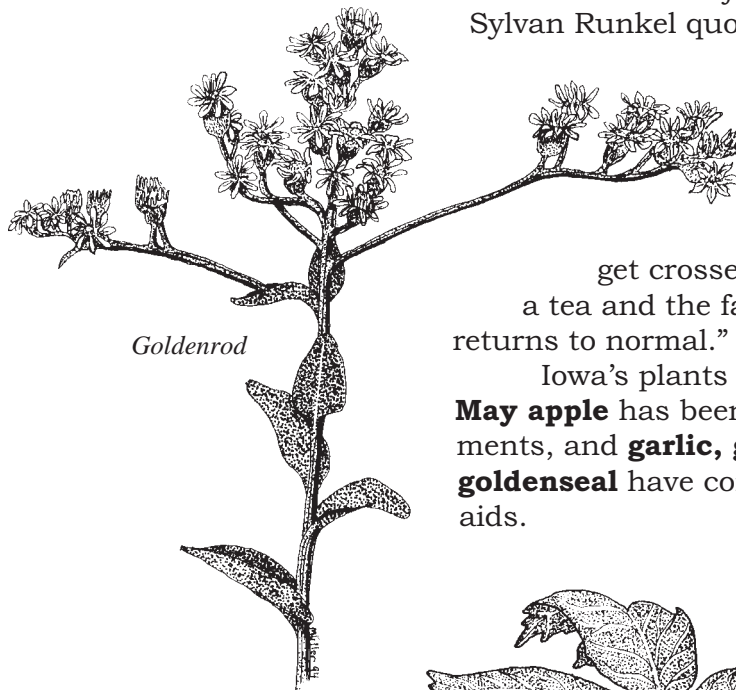
Iowa's plants are still used in medicine.

May apple has been studied for cancer treat-

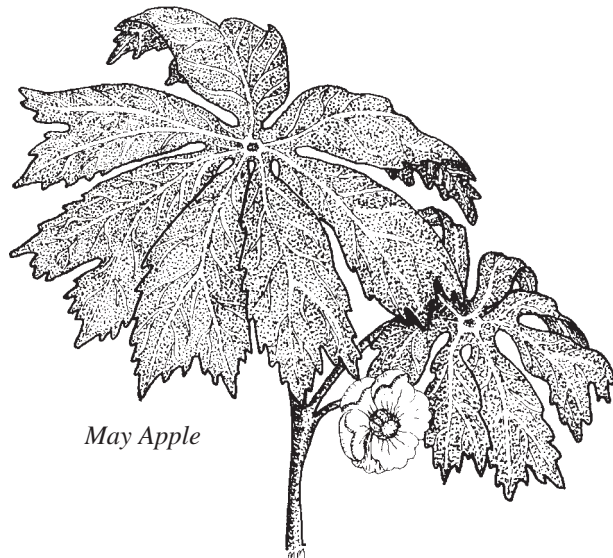
ments, and **garlic**, **ginseng**, **ginger**, and

goldenseal have commercial value as health

aids.



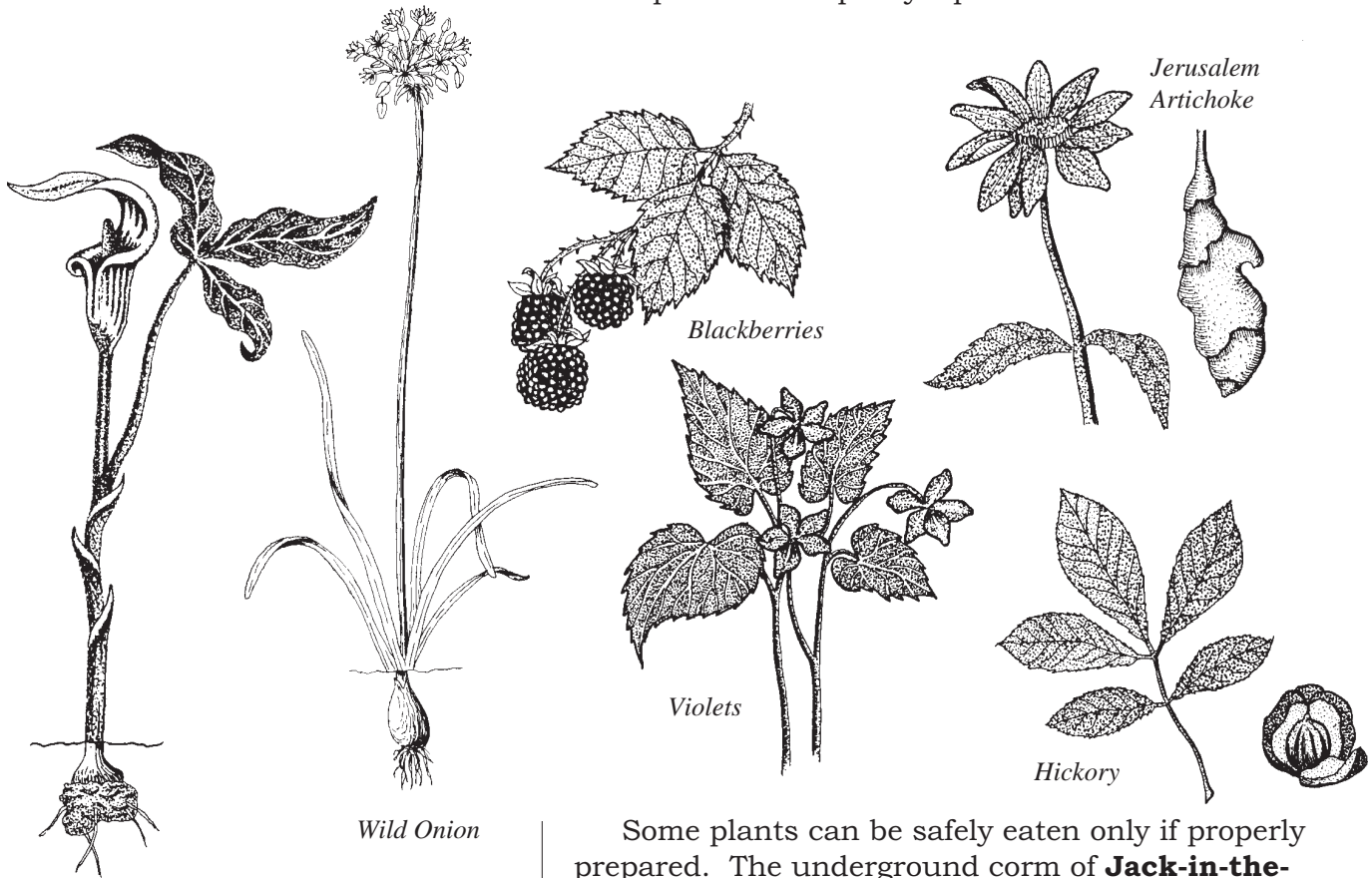
Goldenrod



May Apple

An Outdoor Pantry

For an expert in wild edible foods, a typical Iowa woodland may look like a grocery store. There are the obvious **edible fruits**—grapes, strawberries, black raspberries, gooseberries, blackberries, mulberries, walnuts, hickory nuts, elderberries and plums. But there are many more. Beneath the ground, **bulbs, roots, and corms** of plants such as Jerusalem artichoke, ground nut, wild onion, and sweet cicely provide foods and flavorings. Violets, nettles, cattails, and wild lettuce can be prepared as **salad greens**. From **within trees**, the sap of maple trees produces maple syrup.



Jack-in-the-pulpit

Wild Onion

Blackberries

Violets

Hickory

Jerusalem Artichoke

Some plants can be safely eaten only if properly prepared. The underground corm of **Jack-in-the-pulpit** is edible, but only after it has been properly boiled. When eaten raw, the bulb contains a high concentration of calcium oxalate, which can cause extreme pain in the mouth, illness, or even death.

Although a non-native plant, the common **dandelion** provides a good example of the many food uses for a single wild plant. The leaves may be used in salads and as cooked vegetables. The roots may be ground for “coffee” and cooked as a vegetable. And the blossom may be used to make dandelion wine. In addition to their food value, dandelions may have been used as vitamin C supplements, to increase appetite, as a diuretic, and to relieve some rheumatic disorders.

Plant Dyes

Although most fabric is currently colored using artificial dyes, plants were the source of the first dyes, and Iowa plants can still be used to add color to fabrics.

Dyeing is a chemical process which pulls water-soluble pigments from plant tissues and bonds the colors into a fabric. Often the pigments can be obtained by boiling the plant material. Alum or one of several other **mordants** is used to make the colors more permanent.

The following table shows some Iowa plants that can be used to dye fabrics.

Table of Colors

from "Native Dye Plants," Wilma Roberts James, 1973.

Yellows, Golds

Aster (wild, white)
Bedstraw plants
Marigolds
Cockleburs
Goldenrod
Knotweed
Meadow-rue
Oxalis
Rose hips
Sunflowers

Pinks, Reds

Bedstraw roots
Cherry bark
Lichens
Maple
Pokeberries

Yellows, Greens

Arrowwood
Bergamont
Black-eyed Susan
Daisy fleabane
Horsetail
Poplar, cottonwood
Sedges
Smartweed
Solomon's seal

Yellows, Oranges

Birch
Bittersweet
Bloodroot
Carrion flower
Coreopsis
Jewelweed
Lichens
Locust pods
Mushrooms
Primrose
Willow

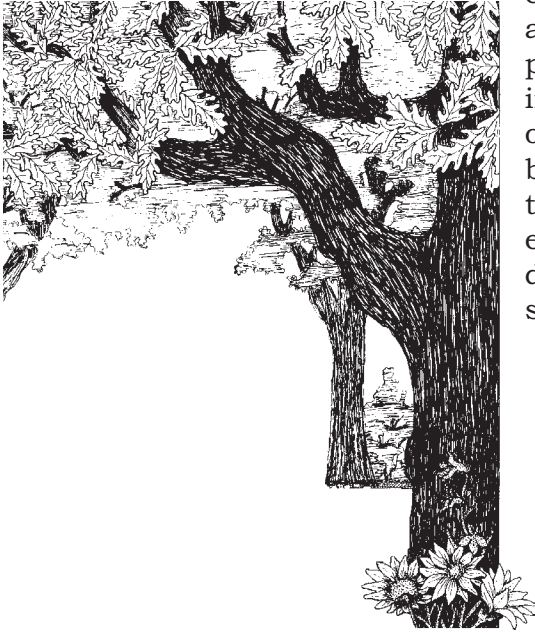
Tans, Browns

Acorns
Cherry twigs
Hickory
Oak
Rose cuttings
Sumac
Walnut

Purples, Blues, Grays

Black raspberry
Blackberry
Cherry roots
Dogwood
Elderberry
Grape
Maple leaf viburnum
Mulberry
Red cedar

A Material Resource



Plants are a great source of materials. Trees are especially important due to the strength and working ability of wood. Look around your home or work place—wood is used in the construction of our buildings, furniture, paper products, tools, and many other materials we use every day. Wood also has benefits as a source of fuel. Some Iowans burn wood to heat their homes. Hickory, ash, and oak are especially suited for use as firewood and are abundant in Iowa woodlands. The following is a list of some Iowa trees and common uses of their wood.

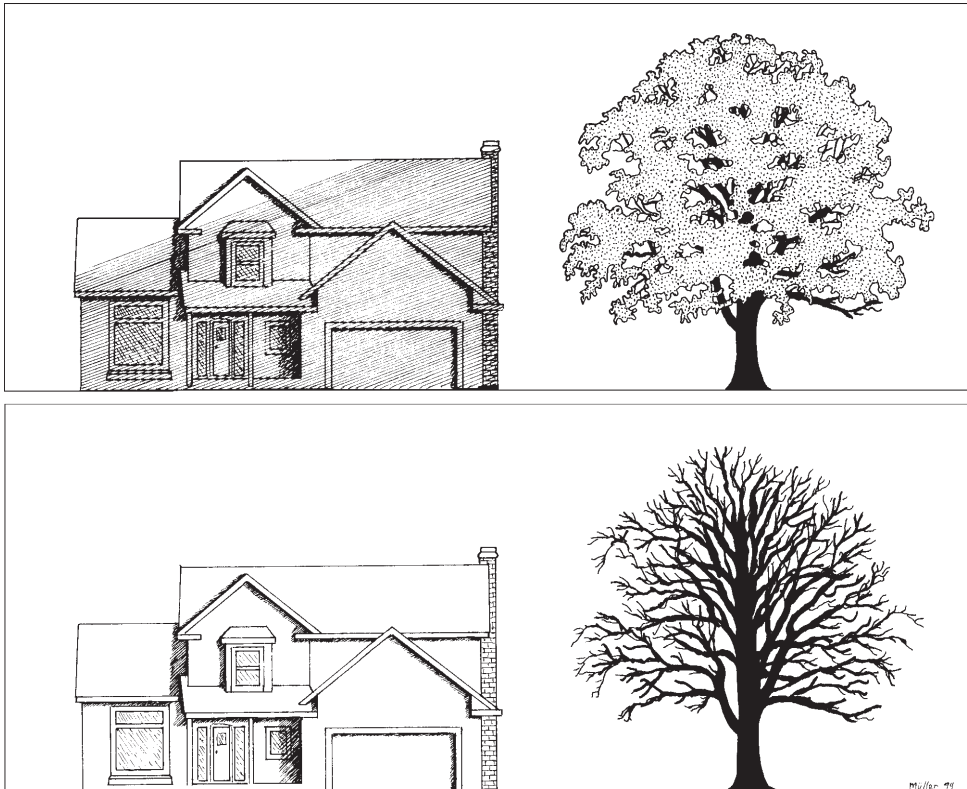
Wood Characteristics and Common Uses for Some Iowa Trees

<u>Tree</u>	<u>Wood Characteristic</u>	<u>Principal Wood Uses</u>
Basswood	<i>light, soft, tough, odorless</i>	food containers, wood pulp, cheap furniture, woodenware
Red cedar	<i>soft, light, fragrant, durable</i>	moth-proof chests, fence posts, furniture, interior finishes
Wild black cherry	<i>moderately heavy, strong, hard</i>	furniture, interior finishes, tools, implements, veneer
Cottonwood	<i>light, soft, weak, warps during drying</i>	berry boxes, crates, wood pulp, furniture
White ash	<i>heavy, tough, elastic</i>	furniture, baseball bats, tool handles, crates, railroad ties
American elm	<i>heavy, hard, strong, difficult to split</i>	furniture, crates, barrels, railroad ties
Hackberry	<i>soft, weak, heavy, coarse-grained</i>	cheap furniture, crates, boxes, fencing
Ironwood	<i>strong, hard, tough, durable</i>	levers, tool handles, mallets, fence posts
Shagbark hickory	<i>very heavy, hard, strong, tough</i>	veneer paneling, pallets, meat-smoking, firewood
Sugar maple	<i>heavy, hard, close-grained, unlike "soft maples"</i>	furniture, flooring, veneer, spools, woodenware
White oak	<i>very heavy, hard, strong, tough</i>	furniture, flooring, ship-building, wagons, firewood
Black walnut	<i>rich dark brown, heavy, hard, strong, tough, durable</i>	cabinets, veneer, furniture, gun stocks
White pine	<i>soft, light, yet does not warp or crack</i>	general construction, cabinets, interior finishes

Shade and Shelter

Windbreaks and shade trees may be important money- and energy-saving investments. For example,

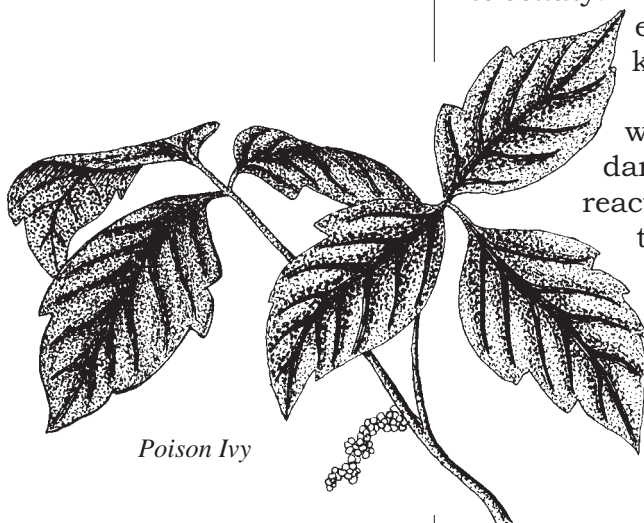
a properly placed windbreak which is 30 feet tall can reduce winds to 50 percent of their original velocity. A large shade tree will block sunlight and cool a home during the summer. During the winter the same shade tree, without its summer foliage, allows sunlight to enter and heat the home.



Possible Dangers of Iowa Plants

Iowa's woodlands, wetlands, and prairies are generally safe places. There is no need to be afraid to venture out yonder—to touch the land or experience its beauty. For most people, plant dangers can be easily avoided by using some basic knowledge and common sense.

Plants may be considered “dangerous” when they affect our health. Often the danger isn't so much the plant but our reaction to it. Some people suffer due to their allergic reaction to plants that are otherwise harmless. Some plants produce chemicals that are poisonous when eaten. The poison may be a defense used by a plant to protect it from being eaten or may merely be coincidental.



Poison Ivy

Pollen and Spores

For many Iowans some plants are a source of runny noses, congestion, asthma, and burning eyes. In a few instances these allergic reactions are serious. But generally they are a minor discomfort.

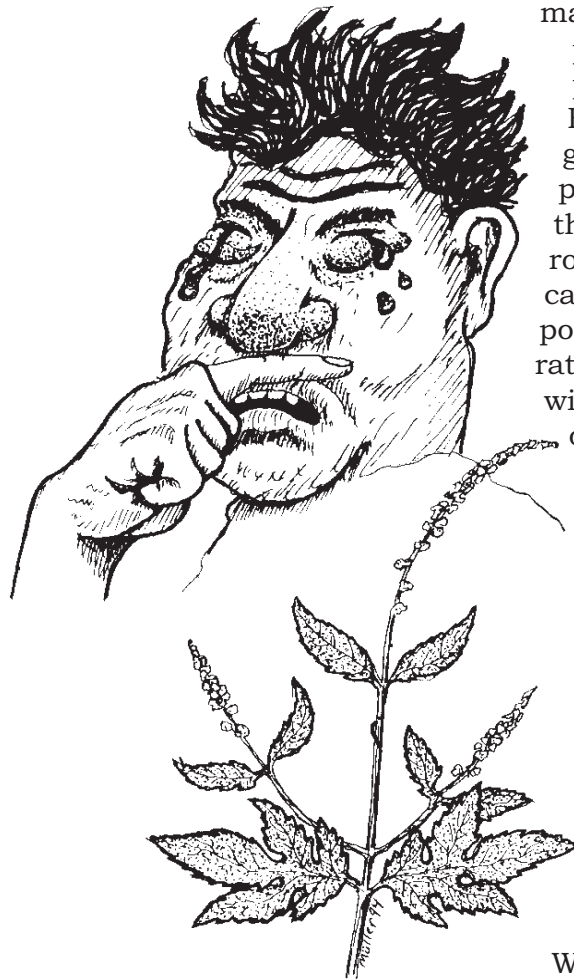
An allergy is an abnormal reaction to an otherwise harmless substance in the outside environment. Many plants produce pollen or spores that are breathed in through our nose and lungs and may cause allergic reactions. Some of the more common

respiratory allergens are oak, maple, and other tree pollens, grass and ragweed pollen, fungi, and molds. Because goldenrod often grows near ragweed, many people become convinced they are allergic to goldenrod. This is probably not the case. Goldenrod has heavy pollen, spread by insects rather than wind. It is the wind-blown pollens, like that of ragweed, that are responsible for our allergies.

Heredity and exposure are the two factors that most determine if a person will become allergic to a substance. A person with a genetic tendency to be allergic to a plant will usually develop the allergy if he or she is exposed to it for a sufficient period of time.

When normally allergic people go on a distant trip, they are often amazed at how quickly their allergic symptoms disappear. This is because they have not had time to become sensitized to the different plants in this new environment.

Although there is no known cure for allergies, people can control their allergies by avoiding the plants or pollen that cause the allergy, using medication, or increasing their resistance to the plant through injections of the allergen. Because it is nearly impossible to avoid some common plant pollens, most people rely on medicines or take injections to control their allergies.



Don't Touch That



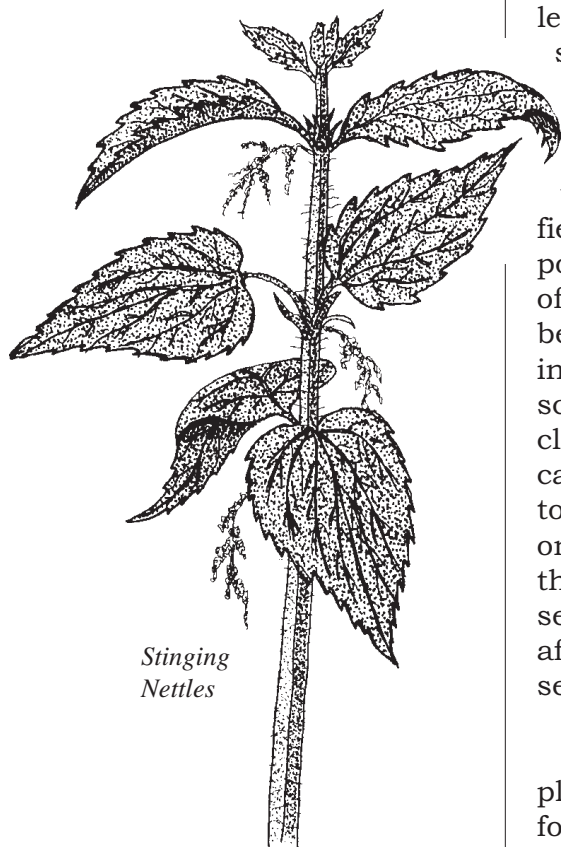
Poison Ivy

Perhaps the most famous dangerous plants are those that we hope not to touch. These plants produce chemicals that react with our skin to cause rashes, itches, hives, bumps, blisters, and sometimes pain.

Poison ivy is perhaps the most well known poisonous plant in Iowa. A poisonous oil is found throughout the plant, and the only way to contract the poison is by skin contact with the oil. Tiny drops of poison, however, may be carried on the fur of animals, on clothing or other materials, and even on particles of smoke when the plant is burned, leading people to believe they can react to poison ivy “just by looking at it.” Very dangerous reactions have occurred in people who have contracted the oil through the burning of poison ivy.

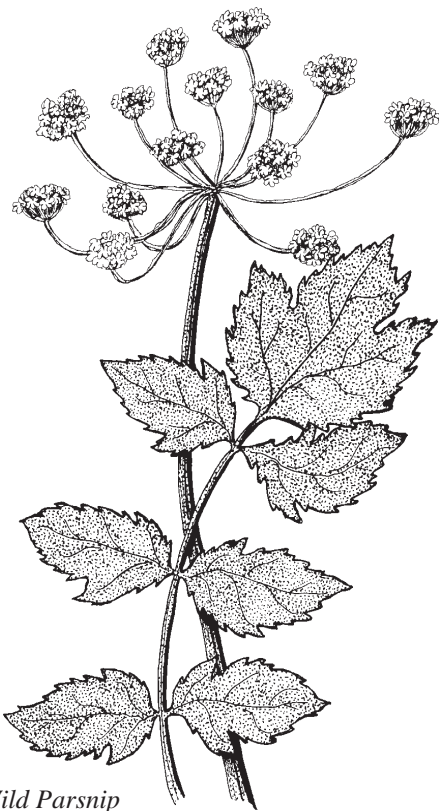
Poison ivy grows as a small plant, vine, or shrub. The leaves are compound, with three leaflets. People are often taught “leaflets of three, let it be” as a means for avoiding poison ivy. But many plants, including raspberries, strawberries, and young boxelder trees, have leaflets of three. Other distinguishing characteristics of poison ivy are a shiny leaf appearance and a lack of thorny or fuzzy stems. The leaflets grow alternately up the plant stem and occasionally have reddish veins toward the center of each leaflet. Poison ivy is closely related to poison oak, which *does not* grow in Iowa.

People should be aware of poison ivy as they walk through moist Iowa woodlands. Once identified, the plant is easy to avoid. But contact with poison ivy may cause serious discomfort in the form of itching, burning, and blisters which sometimes become infected. If you suspect that you have been in contact with poison ivy, immediately wash and scrub yourself with strong soap and water in order to clean off the poisonous oil. If this is not done, you can expect to start reacting to the poison within 12 to 24 hours. Reactions to poison ivy vary depending on the individual. But like most allergic reactions, the more a person is exposed to poison ivy, the more serious the reaction. Most animals seem not to be affected by poison ivy, and birds and rabbits may be seen feeding on the plant's berries and leaves.



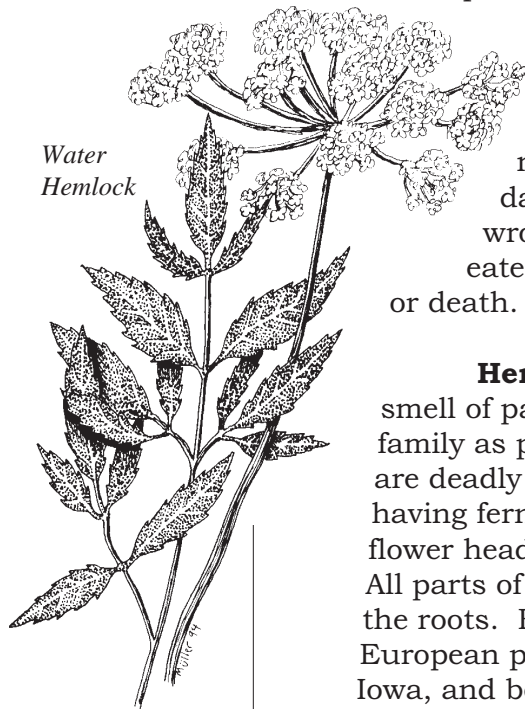
Stinging Nettle

Stinging nettles is another common poisonous plant in Iowa. Like poison ivy, it is most commonly found in moist woodlands near streams. When a person brushes up against stinging nettles, the plant



Wild Parsnip

Harmful if Swallowed



Water Hemlock

hairs deliver a small dose of poison. The poison is actually injected through the plant hair in a similar manner to the way a doctor delivers medicine through a hypodermic needle.

Stinging nettles range in height from six inches to six feet. The stem is stiff and covered with the stinging hairs. The leaves grow opposite each other along the stem and may be 2 to 6 inches long. Wood nettle is also found in Iowa and has similar stinging hairs. It is a shorter plant with alternate leaves.

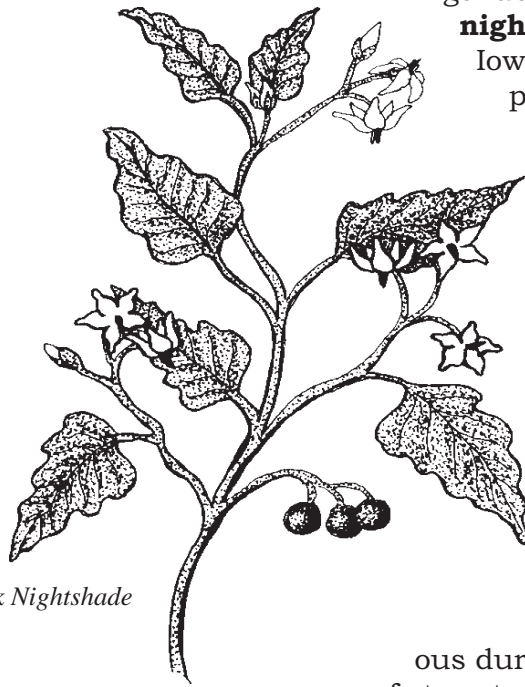
Like poison ivy, nettles are easy to avoid once they have been identified. Reactions to nettles are generally not as severe as with poison ivy. Most people get small itching or burning bumps or welts on their skin. The reaction usually wears off in an hour or two or can be treated with antihistamines. Similar reactions may occur with livestock and other animals.

There are a number of plants that affect people through contact. Walking through a field, a person may begin to itch and form welts as the leaves and stems of plants tickle the legs and arms. These reactions may be enhanced on a hot humid day as the skin becomes moist and bathed in sunlight. Plants that cause reactions only in the presence of sunlight are called photosensitive. In the presence of moisture and sunlight, contact with **wild parsnip** causes an allergic reaction in some people.

Anyone who has any doubt as to the identity of a plant or the method for eating a plant should not attempt to eat it. Some plants, when harvested and prepared correctly, are not poisonous. But many wild plants, if indiscriminately eaten, will have some type of dangerous effect on people. When the wrong plant or wrong part of a plant is eaten, the result may be serious illness or death.

Hemlocks have a deceptively pleasing smell of parsley. They are in the same plant family as parsley and carrots, but hemlocks are deadly poisonous. They are identified by having fernlike leaves and large cupped or flat flower heads composed of many small flowers. All parts of the plant are poisonous, especially the roots. Both the native water hemlock and European poison hemlock are found throughout Iowa, and both are poisonous.

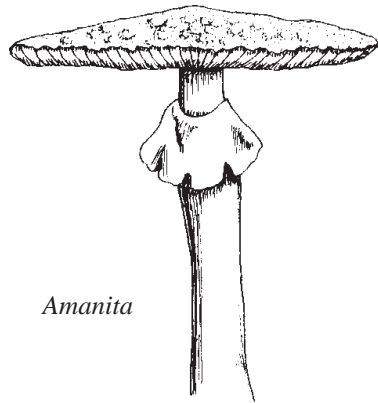
The genus *Solanum* contains both the potato and tomato, but other members of the genus are not so palatable. **Black nightshade** is a common plant of Iowa woodlands and is extremely poisonous. The plant produces dark purple berries and white star-shaped flowers. Even garden-grown potatoes can be poisonous if eaten when they are green.



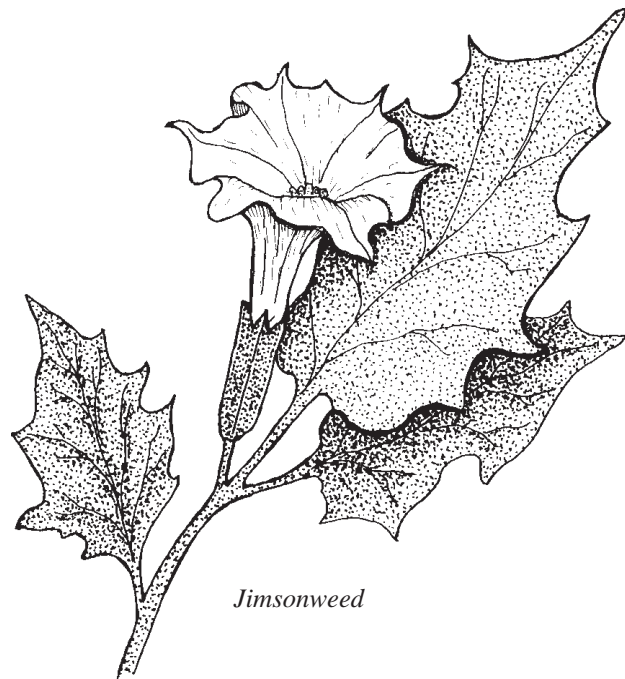
Black Nightshade

Jimsonweeds, loco-weeds, and some types of **mushrooms** are very poisonous when swallowed. **Buckeye seeds,** often collected by children, are poisonous when eaten. Many plants such as **ground plum, May apple,** and **black cherry** are poisonous during their development but are safe to eat when fully ripened.

Remember, caution is required when considering eating any wild plant. Carefully research the plant or consult an edible plants expert before eating!



Amanita



Jimsonweed

Invaders

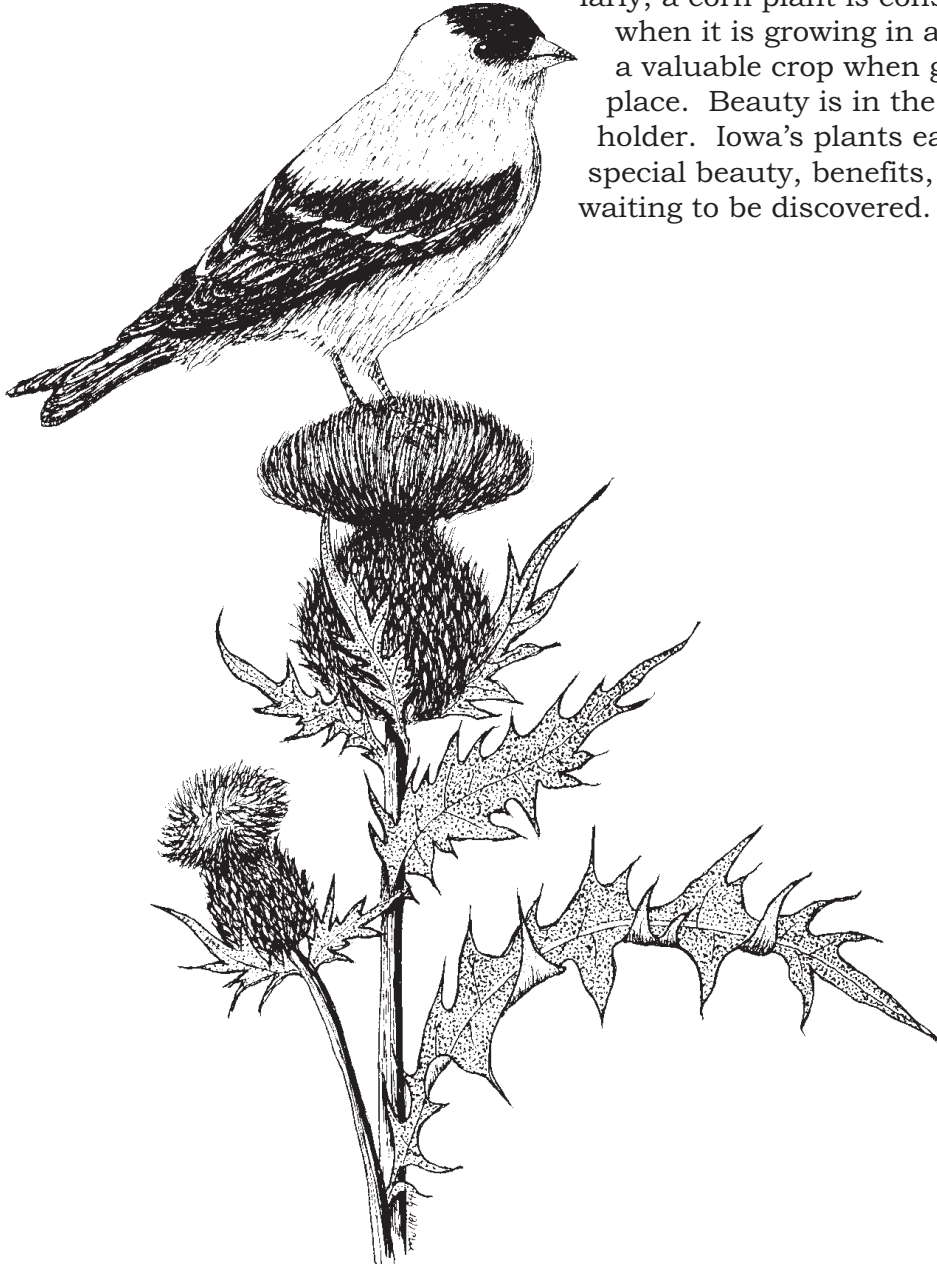
Historically, many plants have been brought to new places to generate more of their beneficial traits. Many times, however, dangerous aspects of these plants emerge as they displace native plants or become weeds in our lawns and farm fields. A few examples of these invaders are the **dandelions** in our lawns, **purple loosestrife** and **multiflora rose** in our pastures, and **brome** grass when it invades stands of native prairie. In some cases, invader plants were brought to Iowa for supposedly beneficial reasons. Multiflora rose was thought to be a good wildlife plant, and brome was a great grass for controlling erosion along roadsides. But when these plants were placed in their new Iowa soils, they quickly spread out of control.



What Is a Weed?

All plants are important. But sometimes plants grow in places where we do not want them. These plants are usually referred to as weeds—a derogatory term for an unwanted plant. Although we may refer to plants as weeds when they are growing in our lawns, gardens, or farm fields, these same plants are often beneficial to the natural environment of a woodland or grassland.

Plants such as dandelion, plantain, thistles, and Queen Anne's lace are often called weeds but actually have value for both people and wildlife. Similarly, a corn plant is considered a weed when it is growing in a bean field but is a valuable crop when grown in its proper place. Beauty is in the eye of the beholder. Iowa's plants each have their own special beauty, benefits, and dangers—waiting to be discovered.



Useful Resources

“Common, Edible, and Useful Plants of the East and Midwest,” Muriel Sweet, Naturegraph, 1975.

“The Illustrated Book of Trees,” William C. Grimm, Stackpole, 1983.

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

“Know Your Poisonous Plants,” Wilma Roberts James, Naturegraph, 1973.

“Native Dye Plants: The Iowa Dyer’s Handbook,” Linda Gucciardo, 1981.

“Poisonous Plants of the Central United States,” H. A. Stephens, University Press of Kansas, 1980.

“Trees and Shrubs,” Peterson Field Guides, George A. Petrides, 1986.

“Wild Edible Fruits and Berries,” Marjorie Furlong and Virginia Pill, Naturegraph, 1974.

“Wildflowers of Iowa Woodlands,” Sylvan T. Runkel and Alvin F. Bull, Iowa State University Press, 1979.

“Wildflowers of the Tallgrass Prairie,” Sylvan T. Runkel and Dean Roosa, Iowa State University Press, 1989.

Notes

Notes

Benefits and Dangers of Iowa Plants is one in a series of seven booklets that are part of the *Iowa Plants Series*. The booklets in the series include:

Iowa Plants

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 Other Nonflowering Plants	(IAN-306)
Iowa's Shrubs and Vines	(IAN-307)

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)

These booklets are available to download via PDF on the ISU Extension Store:

store.extension.iastate.edu

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