



Poison Oak and Poison Ivy

Rhus diversiloba T. & G and *Rhus radicans* L.

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Poison oak is common in western Oregon and Washington. Its near relative, poison ivy, is found in eastern Oregon and Washington, throughout Idaho, and eastward. Both plants are native to the Pacific Northwest.

They are so similar in their appearance, growth, effects on humans, and responses to control efforts that their common names often are interchanged.

These plants are found in fencerows, waste areas, open forests, hill pastures, cut-over forest lands, stream banks, and rocky canyons in most Pacific Northwest counties. Each autumn, their brilliant red foliage attracts unsuspecting people who gather them for house decoration and then suffer poisoning, sometimes requiring hospitalization.

Poisonings are not limited to autumn, however. Swimmers, boaters, fishermen, hikers, and picnickers are most frequently exposed to and poisoned by these plants. These two plants substantially limit the use and enjoyment of our natural environment.

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Figure 1.—Shiny, reddish, three-part leaves should be a warning sign in the early spring.



Figure 2.—Three-part leaves and a fruit that is often shining yellowish or white and ridged are typical of both poison oak and poison ivy.



Figure 3.—Poison ivy leaflets are smoother than poison oak, and ivy's two lateral leaflets have short stalks.

Value and Use

Poison oak and poison ivy are eaten by goats and sheep as well as deer and other wildlife. Animals do not appear to be sensitive to the poison. Bees make a popular honey from their pollen, the only part of the plant that does not contain the toxic substance. Birds feed on the fruits during the winter and are largely responsible for the number of plants, especially near trees and fences.

These values generally are not considered significant virtues, however, since many non-poisonous and desirable plant species, both native and introduced, provide equal or better animal forage and erosion control. The colorful autumn foliage adds to the scenic beauty of the countryside, but is a deceptively sinister attraction.

Identification

Poison oak and poison ivy are in the Sumac (*Anacardiaceae*) family. The major taxonomic authority in this region, *Vascular Plants of the Pacific Northwest* (by Hitchcock, et al.), assigns the name *Rhus diversiloba* T. & G. to poison oak and *Rhus radicans* L. to poison ivy. The names *Toxicodendron diversilobum* for poison oak and *T. radicans* L. or *T. rydbergii* for poison ivy also have been used.

Poison ivy and poison oak normally grow as shrubs from 3 to 10 feet tall, but they also grow as woody vines that twine around trees and larger shrubs. They reproduce both by seed and by lateral underground rootstocks. The vine develops rootlets on the stems, enabling the vines to adhere to tree trunks and other surfaces.

Poison ivy and poison oak are readily identified by their leaves. Young leaves are shiny red, turning to shiny green. Leaflets are from ½ to nearly 2 inches long. They grow in groups of three on a common stem and resemble oak or ivy leaves. Each of the three leaflets of poison ivy has a stalk, whereas only the terminal leaflets of poison oak have stalks. The tips of poison ivy leaflets are acutely pointed, while poison oak leaflets are more rounded. The leaf surface is glossy and may have a blistered appearance. Flowers are greenish-white, about ¼ inch across, and are borne in clusters on a slender stem. The fruits are white, berrylike, glossy and dry when ripe, with a striped stone inside the papery shell. Berries of poison ivy are about ⅓ inch in diameter, whereas those of poison oak are slightly larger.

Poisoning

Caution: If you know or suspect that you are susceptible and you intend to work near poison ivy or poison oak, avoid both direct and indirect contact with the plants. Wear rubber gloves and other protective clothing.

All parts of poison ivy and poison oak plants except the pollen contain an extremely poisonous oily substance, urushiol, during the entire year. This toxin causes painful irritation and blistering of the skin. Poison ivy and poison oak dermatitis is apparently an anaphylactic reaction; that is, it occurs only after sensitization by previous exposure. Human reactions vary from extreme

susceptibility to near immunity. Many people are immune when young, but suddenly or gradually become sensitive with age, possibly due to sensitization through repeated exposure.

A few cases have resulted in death because the poison affected large areas of the body or was severe internally. Such cases are rare, but doctors should be consulted in moderate to extreme cases.

To cause poisoning, the oil usually must contact the skin, either directly by touching the plant, or indirectly by touching things that have touched the plant such as gloves or other clothing, tools, animals, water, or firewood. The toxin may move systemically within the body after penetrating the skin. Broken blisters will not spread the poison because their content is solely body fluid. The harmful oil infiltrates the inner skin almost immediately. The exact time depends upon the amount of oil the skin has come in contact with.

Symptoms can begin within a few hours after contact, or can arise 3 to 5 days later. Washing is important to remove excess poison which might be transmitted to other parts of the body or to another person.

People who are exposed to poison ivy or poison oak should thoroughly wash the exposed skin with soap and cold water, followed with rubbing alcohol or a solution of water and alcohol in equal proportions to dissolve the unabsorbed poison. This solution must be used liberally to remove the poison, because the solution only flushes away the poison—it does not inactivate it. Bathing only spreads the toxic liquid to contaminate other body parts because the oil is transported by water.

Contaminated clothing and bedding can carry the poisonous oil for years. If poisoning occurs even after laundering, dry cleaning may be necessary. Do not wash contaminated clothes with other clothes. Take care to rinse the washing machine thoroughly.

Smoke from burning poison ivy and poison oak has poisoned people who were otherwise immune. Inhalation of such smoke results in lung poisoning that can require hospitalization and intensive care. The oil is not volatile at bonfire temperatures. Any transmission from smoke is by droplets on particles of dust and ash in the smoke, rather than from vapors.

Control

Mechanical Control

Poison ivy and poison oak plants can be removed by grubbing or hand pulling in areas that contain valuable ornamentals. All precautions discussed above should be followed. Persons who are sensitive to poison ivy and poison oak probably should not attempt hand methods of control. Roots and rootstocks can be removed most easily when the soil is thoroughly wet. Grubbing or pulling when the soil is dry and hard is almost futile because roots break off in the ground, leaving large pieces that can sprout vigorously later.

Poison ivy and poison oak vines climbing on trees should be cut at the base, and as much of the vine as possible should be pulled away from the tree. Often, tree roots and poison ivy roots are so intertwined that grubbing is impossible without injuring the tree.

Remember that the roots and stems removed during grubbing are poisonous.

A poison ivy or poison oak seedling 2 months old usually has a root system that a single mowing will not kill. Seedling plants at the end of the first year have well established rootstocks that only grubbing or herbicides will kill. Seedlings will recur as long as seedbearing plants are in the general area.

Mowing with a scythe or sickle is not an efficient means of controlling poison ivy and poison oak. It has little effect on roots unless it is repeated frequently. Cutting plants and allowing the sap to be exposed can present considerable risk to those who might come into contact with it.

A single plowing is of little value in combating poison ivy and poison oak, but good seedbed preparation and planting cultivated crops for 1 or 2 years will control them.

Weed burners are not practical or efficient for controlling poison ivy and poison oak.

Biological Control

Though some animals graze poison ivy and poison oak and may limit abundance of those plants, grazing will not eliminate the weeds or stop their spread unless it continues intensively for several years. No parasitic insects or microorganisms have been found to suppress poison oak or poison ivy.

Caution: Poisonous oils may be transferred from animals grazing in or moving through poison ivy or poison oak to people who handle those animals.

Chemical Control

Several commonly used brush killers control poison ivy or poison oak. Foliage spraying should be done in the late spring or early summer (June in most areas) after poison ivy or poison oak are in full leaf. Regrowth and missed plants should be resprayed the same year. Herbicides may drift if sprayed during breezy conditions and must be applied carefully in areas where susceptible plants are growing.

Selective herbicides can remove poison oak and poison ivy without destroying grass. Those herbicides can damage valuable plants such as ornamentals, however, so herbicides must be carefully applied. Some of these herbicides can be obtained in pre-mixed, ready-to-use forms in small consumer packages in garden and lawn stores.

Poison oak and poison ivy can be effectively controlled by treating the lower stems with herbicides registered for such a method in the winter when the plants are leafless and dormant.

Winter application is relatively safer than in other times of the year because there are fewer ornamental and other valuable plants nearby that may be injured by carelessness or accidental spraying. Also, leafless stems provide less exposure of the operator to the poisonous plants.

The purchase and use of some of these herbicides requires an applicator's license.

Soil-applied herbicides of some types are appropriate for control of poison oak and poison ivy in certain cases, but such herbicides are less selective and should not be used where susceptible plants are growing. If used at high rates, such herbicides may kill



Figures 4-6.—Poison oak and poison ivy can grow as shrubs, vines, or trees.



Figure 7.—In the winter, the leafless branches of poison oak or poison ivy still hold the harmful oils.

plants of all kinds on the site, leaving the soil bare for several years. Be sure that the long-range effects are desired on the site before using soil herbicides.

As with most perennial weeds, repeat applications over several years should be anticipated for complete control.

For suggested herbicides, refer to the *Pacific Northwest Weed Control Handbook*, an annually revised Extension publication available from the Extension Services of Oregon State University, Washington State University, and the University of Idaho.

Carefully read and follow label directions when using any herbicide.

Photographs provided by Larry Burrill, Extension weed specialist, Oregon State University.

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