

WILD CARROT

(*Daucus carota*)

SEEDLING DESCRIPTION

The stem below the seed leaves (hypocotyl) of wild carrot is smooth and often tinged pinkish-brown. The two seed leaves are smooth, up to $\frac{3}{4}$ inch long and less than $\frac{1}{16}$ inch wide (about 1 by 20 mm). A green midvein is visible on the lower surface.

Wild carrot seedlings grow about $\frac{3}{8}$ inch (15 mm) tall by the time the first true leaves appear. True leaves are delicate, deeply lobed, and feathery or fernlike. The first leaves are smooth or have a few firm short hairs along the margins and on the underside along the larger veins. On seedling leaves, the leaf stalks (petioles) grow about $\frac{3}{4}$ to 1 inch (18 to 25 mm) long and are covered with vertical lines of bristles.

The base of the leaf stalk is membranous and wraps around the main stem or crown. When crushed, the foliage smells like carrot.

BIOLOGY

Wild carrot belongs to the Parsley family, named Umbelliferae because of the flat, umbrella-shaped flower heads common to all members. Wild carrot is a biennial, and its seeds germinate in spring. The first year of growth produces a low rosette of delicate leaves. Leaves are dark green and grow $2\frac{1}{2}$ to 7 inches (6 to 18 cm) long and $1\frac{1}{4}$ to $4\frac{1}{2}$ (4 to 11 cm) wide. They are deeply divided into long thin segments much like the foliage of garden carrots. The function of the first year's growth is to create a strong taproot, which looks like

a carrot but is pale yellow or brown. The cluster of leaves dies in the fall, but the taproot survives and, in the second year, sends up tall flower stalks and more leaves.

Flower stalks grow erect and are about $\frac{1}{4}$ inch (6 mm) thick and 1 to 5 feet (30 to 150 cm) tall. They are hairy, hollow, and ridged. Flowers bloom in late spring or early summer and continue to blossom until frost. The entire flower head, called an umbel, is a dense, flat-topped cluster 2 to 5 inches (5 to 13 cm) across. The umbel consists of many smaller flower clusters called umbellets. Individual flowers that make up the umbellets have four petals, are barely $\frac{1}{8}$ inch (3 mm) across, and are perfect (have both male and female parts). Flowers are usually white but may have creamy yellow or rose tones. The center of the umbel often has a single flower that is dark purple or red. Flower heads face upward during the day and bend down at night.



1. Seedlings have long, thin cotyledons.
2. Leaves are finely divided.
3. Second year plants send up flower stalks. Stems are minutely hairy.
4. "Queen Anne's Lace" flower head.
5. Some flower heads have a single red flower in the center.
6. Bird's nest of ripening seeds.
7. Wild carrot commonly grows on untilled ground.

After fertilization, the umbel closes up into what looks like a small bird's nest, while the seeds mature inside their capsules. The seed capsules are light brown, about 1/8 inch long, flat on one side, and have several rows of barbed prickles. An average plant produces about 4,000 seeds.

SIMILAR SPECIES

Spotted waterhemlock, poison hemlock, and wild parsnip are closely related to wild carrot. All four plants have a similar flower cluster and may be confused with one another. However, spotted waterhemlock and poison hemlock are very poisonous, while wild carrot and wild parsnip are not.

● Spotted waterhemlock (*Cicuta maculata*), also called spotted cowbane, is a perennial that grows 3 to 6 feet (90 to 180 cm) tall. Its umbel flower heads resemble those of wild carrot but are greenish-yellow instead of white. The thick stem of waterhemlock is hairless and often streaked and dotted with purple. Waterhemlock leaves are compound, 8 to 12 inches (20 to 30 cm) long, and consist of several pairs of individual leaflets. Each leaflet is 1 to 5 inches (2.5 to 13 cm) long, and has toothed margins, similar to ash or elm leaves. They are not deeply indented like the leaves of wild carrot.

The easiest way to distinguish waterhemlock from wild carrot is to examine the root system. Wild carrot has a single white taproot, whereas waterhemlock has a cluster of enlarged roots that resemble sweet potatoes. Waterhemlock roots smell like parsnips, and the stem, when cut, exudes a yellow, oily liquid with the same odor. The root crown and the lower stem are divided into hollow chambers. The whole plant is extremely toxic, but the poison is most concentrated in the lower stem and roots. Waterhemlock grows in swampy land and near streams, and is often eaten by cattle when drought makes these areas more accessible. Violent convulsions are usually followed by death, and there is no antidote for this quick-acting poison.

● Poison hemlock (*Conium maculatum*) resembles wild carrot in having feathery leaves, a single taproot, and a white umbel-type flower head. Unlike wild carrot, however, the entire plant is poisonous. The ancient Greeks served poison hemlock tea to people they wished to eliminate from their society, among them the great philosopher and teacher Socrates. Poison hemlock can be identified by its stems,

which are purple-spotted, smooth, and relatively stout, and by its leaves, which are hairless. By contrast, the stems of wild carrot are slender and quite hairy, and its leaves usually have at least a sparse covering of hairs.

● Wild parsnip (*Pastinaca sativa*) is a nonpoisonous relative of wild carrot. The two resemble each other in most respects, except that the leaves of wild parsnip are coarsely toothed rather than feathery, and its flowers are yellowish rather than white.

NATURAL HISTORY

Wild carrot originated in Europe and western Asia and now grows throughout most of North America, particularly in the eastern United States. It grows on a wide range of soils but prefers dry land over wet or poorly drained soil. The graceful, nodding, white flower heads are a common sight in old fields, roadsides, pastures, disturbed ground, and unmowed waste places. Wild carrot is not a problem weed in cultivated fields.

Wild carrot is closely related to the carrots, celery, and parsnips that we cultivate for food, and it harbors insects and fungal diseases that attack these crops. Its flowers easily cross-pollinate with the cultivated varieties of carrot, causing problems for commercial seed producers.

The leaves of wild carrot may accumulate high levels of nitrates, thereby causing nitrate poisoning or nervous disorders in livestock if eaten in large amounts. The foliage causes skin irritation in some sensitive people.

Ruffed grouse and ring-necked pheasants eat the seeds of wild carrot, but not as a major part of their diet. Wild carrot is related to celery, dill, anise, and caraway, and its seeds, when dried and ground, may be used to flavor stews and roast meat. Oil from the seeds is used in manufacturing perfumes, and an aromatic tea can be brewed by combining one pint of boiling water with one tablespoon each of the crushed seed of wild carrot and anise. The tea is said to act as a digestive aid, particularly as a gas-reducing tonic.

In the nineteenth-century medical reference, *U.S. Pharmacopoeia*, wild carrot seeds were listed variously as a diuretic, a stimulant, and a tonic for female disorders, and the roots as a treatment for jaundice and threadworms. The Mohegan Indians steeped the flowers into a tea for treating diabetes. The early English claimed that the tiny, purple, central flowers were not only effective against diabe-

tes but also served as an aphrodisiac. It is not known whether diabetics reported this side effect or whether wild carrot flower tea was prescribed to inspire affection.

The whole plant, boiled in water and mixed with alum and cream of tartar, produces a yellow dye for cloth.

Queen Anne of England wore a lacy headdress which some people thought resembled the delicate flower cluster of wild carrot. This resemblance gave wild carrot its more poetic name, Queen Anne's lace.

CONTROL

Wild carrot is not a problem in cultivated crops, but it may grow profusely in hay fields or pastures that have become weedy over time. The best mechanical control is to mow wild carrot before its seeds mature. If a hay field contains more wild carrot than hay, it may be time to rejuvenate the field by rotating to a cultivated crop for a year or two, then reseeding to hay.

Keeping fencerows and waste areas mowed helps prevent weed seed from re-infesting cropland. In areas where grass is the desired cover or crop and mowing is infrequent, applying broadleaf herbicides when weeds are actively growing eliminates wild carrot rosettes along with other broadleaved weeds that may be threatening to take over.

For specific recommendations, consult your county Extension agent or the most recent *Weed Control Manual and Herbicide Guide*, available through Meister Publishing Company, 37841 Euclid Avenue, Willoughby, Ohio 44094. Follow label instructions for all herbicides and observe restrictions on grazing and harvesting procedures.

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