

Growing Guide: Carnivorous Plants

When you're trying to determine the best growing environment for a plant it's wise to identify its native habitat, and carnivorous plants are no exception. These fascinating plants get one or more of the nutrients they need by trapping other living organisms and extracting nutrients as the bodies decompose. How did carnivorous plants come by this strange adaptation? They evolved to inhabit areas with boggy, nutrient-poor soils — areas where plants that draw nutrients from the soil via their roots can't survive.



These highly specialized plants require specific growing conditions, which can make them challenging to grow indoors or in an outdoor school garden. Some of the species are very slow-growing — so slow that you might think they're in some sort of suspended animation! Others may decline, slowly or quickly; although this is disappointing, remind yourself and your students at the outset that this is a real possibility. And some plants may surprise you by thriving and even flowering! Giving the plants conditions as close to their natural habitat as possible will offer the best chance for success.

Keeping their native habitat in mind, the needs of most carnivorous plants make sense:

Light: At least six hours of direct sun indoors, such as a south-facing window or under bright grow lights; a greenhouse is ideal. Outdoors this can include some dappled sun or part shade.

Water: Most carnivorous plants must have their roots in a consistently moist/wet growing medium. The water should be low in minerals or mineral-free. Use only distilled water or rainwater; tap water may contain substances that can be harmful to the plants, such as fluoride. Sit pots in a tray filled with about ½" of water and let them soak up the water; avoid watering from above. Don't let the growing medium dry out!

Growing medium: Many carnivorous plants are native to wetlands, where the soil is acidic, consistently moist, and very high in slowly decaying organic matter. To recreate these conditions, pot up your carnivorous plants in a blend of equal parts sphagnum peat moss, and horticultural sand or perlite. (Some growers recommend two parts peat moss to one part sand or perlite.) Do NOT use compost, garden soil, regular potting soil, or fertilizer in your planting mix!

Fertilizer: None! The plants have evolved to obtain their own nutrients. Fertilizing them, as you would a houseplant, can kill them.

Feeding plants: This is the fun part! If your plants live outdoors, or you can bring them out on warm, sunny days, they will likely catch the insects they need, all on their own. However, indoor plants need to be fed. For most carnivorous

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species, freeze-dried mealworms, bloodworms, and crickets are good choices – but no more than one insect per week! Never feed them table scraps, hamburger, or other non-insect foods!

Here are profiles of three relatively easy to grow carnivorous plants.

Purple Pitcher Plant (*Sarracenia purpurea*)

Fun fact: The purple pitcher plant is the flower emblem of the Canadian provinces of Newfoundland and Labrador!



Native to sunny peat bogs in the Upper Midwest, New England, and Central and Eastern Canada, this cold-hardy perennial's leaves form 6" high, tube- or pitcher-shaped structures that flare to an opening at the top. One of the more diminutive sarracenia species, it's especially suited to indoor growing.

In the wild, insects are attracted to the bright color and enticing scent at the lip of the opening, and some lose their footing and slide into the pitcher. Foiled from climbing out by the downward-facing hairs lining the pitcher, they soon drown in the water that collects in the bottom of the pitcher. Enzymes secreted by the plant, as well as microbial activity quickly start the work of decomposing the insect and extracting the nutrients.

Purple pitcher plants are generally not suitable for terrariums, because it's difficult to get them enough light without corresponding heat buildup inside the terrarium. Like most plants native to temperate environments that experience cold winters, purple pitchers need a period of dormancy during which they stop growing and rest. Sometimes the leaves will die back. Place the plant in a cool but not freezing location from November to February or so (an unheated room or garage is ideal, as long as the temperature remains above 20 degrees F.). In March, move them back to their warmer home and they'll begin to grow anew.

Venus Flytrap (*Dionaea muscipula*)

Fun fact: Venus flytraps can count! If an insect touches a trap's trigger hair once, nothing happens. If it touches it twice, or touches two trigger hairs, the trap snaps shut. This prevents the trap from wasting energy by closing on a drop of rain or bit of wind-blown debris.

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Venus flytraps are perhaps the most famous of all the carnivorous plants. There is only one species — *Dionaea muscipula* — and it has a very limited native range, growing only in the coastal bogs of North and South Carolina. However, many cultivated varieties of this popular plant are now available.

Venus flytraps open their mouth-like traps, awaiting unsuspecting insect visitors that are attracted to their color and nectar. When an insect enters the trap and sets off the dual trigger (touching one hair twice or two hairs in succession), it creates an electrical signal that allows the trap to close in less than half a second, effectively creating a jail cell with its sharp protrusions. As the insect inside struggles to escape, it continues to move the trigger hairs, stimulating the trap to fully close and begin producing digestive enzymes. After about a week, the trap will reopen, with any undigested remains of the insect.

If you're feeding your flytrap freeze-dried prey, you'll have to trick it into thinking it has a live insect. Carefully reach into the trap with a toothpick to "tickle" the hairs to initiate the trap's closing. When the trap is almost fully closed, reach in and tickle again to stimulate digestion.

Don't trigger the hairs just for the fun of watching the trap close! This movement wastes the plant's energy and can harm it if done repeatedly!

Venus flytraps are suitable for open terrariums, as long as they get adequate air circulation. And because they're native to a warm, temperate region, they need a rest period in winter. Move the plants to a cool spot for a few months in winter. The leaves may die back, but the plants will begin growing again when you bring them into a bright, warm location.

Cape Sundew (*Drosera capensis*):

Fun Fact: Cape sundew flowers produce copious amounts of tiny, dust-like seeds that can fall or float onto neighboring plant pots and germinate — so much so that the plant can become a weed in carnivorous plant collections!



Cape sundews are native to wet bogs of the subtropical Cape region of South Africa. They're considered a tropical plant and will happily grow indoors year-round — without needing a period of dormancy. This makes them especially popular as houseplants and classroom plants, where they'll usually thrive on a sunny windowsill. They are good candidates for a terrarium, as long as it's open to allow good air circulation.

This otherworldly plant has straplike leaves covered in colorful tentacles, each tipped by what looks like a drop of water. In reality, the drop is a sticky goo secreted by a gland that contains nectar to

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attract insects, adhesives to trap them, and digestive enzymes to decompose them.

Some of their favorite prey include gnats, fruit flies, and house flies. If you're feeding your plant with a dead bug, wiggle it with a toothpick so it touches several sticky hairs. This will help stimulate the plant to wrap the leaf around the insect, usually over the course of a few hours.

Note on Purchasing Plants

Unscrupulous collectors who take plants from the wild have decimated populations of endangered native plants. Purchase plants only from reputable sources that ethically propagate the plants on site, rather than poaching plants or seeds from wild areas.

Read Plant Delights Nursery's [philosophy on endangered plants](#) and be sure to ask any supplier for their policy and procedures for acquiring plants.

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