



## Venus's Flytrap



The Venus's Flytrap (*Dionaea muscipula*) is one of the real wonders of the botanical world. At the end of each leaf it has a hinged trap which is edged with spikes and lined with three to five supersensitive trigger hairs. If a fly, spider, or other small insect brushes the hairs, the trap instantly snaps shut, and fluids inside the leaf digest the insect. Touch it with a pencil and watch the trap spring close. Raising your own Venus's Flytrap plant is both fun and easy - easy because the plants require just a few simple things: wet roots; high humidity; poor, acid soil; and full sunlight.

### Soil Mix

Most Venus's Flytraps need to be re-potted every few years because they develop a surprisingly long root system. When they need to be re-potted, transplant them in the spring or summer while they are growing rapidly. Do not transplant them when they stop growing in the fall or winter. A rule of thumb is; a plant smaller than 1/2" long should be in a 3" pot. A larger plant should be in a shallow 4" to 5" pot. Use four parts ground sphagnum moss, and five parts washed sand or perlite, as your soil mix. Make sure the sphagnum moss and sand have not been enriched with any fertilizers. Do not add lime, or any other nutrients or fertilizer.



Cover the surface of the soil with long fiber sphagnum moss. This type of moss can hold up to twenty times its weight in water. Make sure the bedding stays moist, but not soaked, to help maintain humidity.



### Water & Humidity

Water your plant often. Rain water or distilled water is best, but tap water may be adequate if the water is not too high in dissolved minerals and salts. Added chemicals, such as chlorine or fluoride can kill Venus Fly Traps, so let your tap water set over night so the chlorine can dissipate. **Never use soft water, it will kill your plants.**



Don't worry about keeping your plants too wet, but try not to keep the soil mix soggy-wet for extended periods. Never let the soil dry out. When Venus Fly traps are very wet, they should be warm and in a sunny location. Wet and cold soil is unhealthy, and can cause fungal infections, rotting, and even death.

Keep the humidity as high as possible; 40% or higher is preferable. Setting your plant in a small aquarium, or in a large pot or glass jar, is great for maintaining a humid environment. You can also set your plant on a layer of gravel and keep the gravel full of water to help keep the humidity high. Don't seal the aquarium or jar because the plant needs good air circulation and it needs an opening for insects to enter; so it can eat.

### Light

Venus Flytraps need a great deal of light to grow their best. Put your plants in a sunny window or under a grow light for about 14 hours a day. If you put your plants outside during the summer, put them in a place that will get full sun most of the day. Be sure to harden off your plants, (by putting them in a little shade until the plant gets used to the outside light) before putting them directly in the sun. Your plants will need more water and more humidity when they are outside than they do inside the house.



Leaves that are small and do not appear to be developing as fast, or leaves that are long, but very thin and floppy, indicate your flytrap may not be getting enough light.

### Temperature

Venus Flytrap plants love warm temperatures, especially if it is hot and muggy. The warmer the temperature the faster they grow. Traps that do not close very fast indicate a plant that is too cold. Venus's Flytraps will also grow at any comfortable room temperature. Try to keep your plants 60 to 80 degrees F. during the summer and 50 to 55 degrees F. during the winter.



### Feeding Venus Flytraps

Your flytrap loves to eat, to get the nitrogen and other compounds that will help it grow. Each individual trap can be fed, but the plant should not be fed more than once a week. **Remember: Do not ever feed your Venus Flytrap meat.**



Without food, the plant may survive, but it will not grow very well. A good feeding cycle for optimal growth is once a week, meaning one bug to the whole plant, not one bug for each trap. Your plant will also grow well when fed only once a month, but that isn't nearly as much fun!

Any insect that fits comfortably within the trap should be fine; flies, spiders, small crickets, small grasshoppers, large ants, small slugs, or ladybugs make great food. To help your

plant, use tweezers to hold a drowsy fly by a wing, then place the fly in a trap and move it a little to stimulate the trigger hairs near the middle of the trap, which should cause a healthy trap to close.



The plants prefer living food as they can sense movement in the trap, which causes the trap to shut tighter. However, freshly killed bugs should be fine. Do not feed the traps insects that are too big: if the trap cannot close completely around it, it may be infected by bacteria or mold, and die. Do not give your Venus Flytrap potato bugs, snails, or other insects with a hard shell.

Closing a trap takes a lot of energy. A typical trap will only trigger 3 to 6 times. If the trap catches a few bugs, it will die and a new, bigger trap will grow in its place. Be sure to cut off any traps that begin to turn brown. If the trap is closed by a finger or another non-food item, it will open again within a day or two. It is safe to trigger the traps by hand, but the trap will eventually die if it is triggered too much, and a new trap will not always take its place.



Never apply fertilizer to your Venus Flytrap; this will burn the roots, cause root rot, and may kill your plant. This plant loves poor soil and it will catch enough insects for its needs.

Playing with your Venus Flytrap is tempting but do not play with the traps excessively. The trap will not be able to catch anything for 24 hours after closing and the trap itself may become insensitive and die if it is triggered too often. Each trap can only snap shut a few times (perhaps half a dozen) before it won't respond anymore. Always remove dead traps, leaving any green stems that may remain. Leaves will not grow indefinitely so an occasional dead leaf is not uncommon.

## Winter Dormancy

Your Venus flytrap will need a few months in the winter to hibernate. During this time, many of the leaves may die, and those that do live will lie flat against the ground with short leaves. Typical dormancy period is from November until February. During this time, your Venus flytrap will still need light, but for a shorter time during the day. It will also need less watering; just make sure the plant stays humid. Cut off any browning leaves. Keep the plant cooler than in the summer. It may not be hungry, and the traps will close slower. Many flytraps may die, after a few years, if never given a true winter dormancy. As spring rolls around, give the plant more sunlight and let it grow! Once it starts, it will grow even bigger than the previous year.



## Flowering

Flytraps will typically grow a flower on a long stalk during the Spring. These beautiful white flowers can be pollinated to produce seeds. The flowers grow about 6 inches above the traps, so that pollinating insects are not as easily devoured by the plant, though the plant would love the feast after the flower is pollinated. Flowering takes a lot of energy, and the traps of a flowering



plant do not develop as well. If you prefer traps, pinch off the flower stem as you see it start to grow. Otherwise, you may either allow insects outdoors to pollinate the flower, or you can do it yourself by gently rubbing two fully open flowers face-to-face against each other. After a month or so, you can remove the tiny seed pod (it is ripe to pick when it looks like it is about to open on its own), split it open, and spread the seeds in a peat/sand/perlite mixture. Seedlings are very cute, but they can take up to 3 years to grow into an adult size plant.



## How Does The Trap Work?

The traps of Venus' flytraps produce a sweet smelling nectar that attracts insects. When the insects get close, they seek the source of nectar, and fall right into the trap!



Each trap has several tiny trigger hairs on the inside of the trap. If you look closely, you should be able to see some of these tiny triggers. When two of these are triggered, the trap snaps shut, hopefully catching what triggered it. The trap then gets tighter and tighter as it senses movement inside, eventually creating a watertight seal.

The plant then secretes digestive enzymes, and the trap becomes a stomach that digests the bug and then absorbs the nutrients. After a week or so, the trap will reopen, leaving behind only an exoskeleton that will wash away with the next rain or blow away in the wind.

The traps are pretty smart and will reopen within a day or two if nothing is inside. They also know not to close on water or wind, though a strong enough rain or wind can cause them to shut. A trap will typically only close four to six times before it dies, whether it catches food or not. If it catches food, a new bigger trap will grow in its place, if not a new trap may not grow in that location.

## Insects and Diseases

Insect pests are very uncommon around Venus Flytraps. An insect that can be a problem is an aphid; it is usually too small to be trapped by the Venus's Flytrap. Aphid damage is usually seen as distorted leaves at the crown.



Adult fungus gnats are typically a nuisance, but their larvae can cause considerable feeding damage, particularly on young plants. Root damage may also be a problem.

The best control for aphids, or any other insect pests, is to completely submerge your plant in water for two or three days. Repeat the water treatment again in a week to make sure your insect pest has been eliminated. You may also use almost any houseplant insecticide to kill your unwanted pests.

The main disease of the Venus Flytrap is **Grey Mold**, which looks similar to the mold on old bread. Prevent this disease by removing all dead leaves and traps, by not fertilizing your plants, and by giving your plant plenty of light.

## More Resources:

<http://botany.org/bsa/misc/carn.html>

<http://venusflytrap.info/feed-a-venus-fly-trap/>