

Using houseplants to reduce nitrogen by: Heather Coleman KWAS

Many terrestrial plants metabolize at a faster rate than common aquarium plants. It is also easier for us to create a suitable environment within our homes for terrestrial plants than for aquatics. Several houseplants are capable of forming aquatic roots that can be submerged in water, and can grow this way continually, so long as the leaves are immersed (in air). This is because they originate from many of the same places that our fishes do! Plants from rainforests and other places that have a distinct flooded rainy season must be able to adapt to these conditions. So how can we apply this to our aquariums?

When several cuttings are inserted just a few inches below the water, and the leaves allowed to face bright light (such as from a window) the plants will suck up vast quantities of ammonia, nitrite and nitrate. You could employ this permanently as a natural part of your filtration, or just use it during the cycling period of unplanted aquaria. I have used houseplants this way in tanks containing fish that would otherwise destroy plants. I simply placed the ends of the cuttings inside of the filter that hung off the back of the tank, and allowed the branches to trail across the canopy of the tank.

I did however have to be very careful not to damage roots when cleaning the filter out. You could adapt this to include a small area of the tank that the fish cannot access, and slip the cuttings in there. One word of caution, when the temperature of the water is too high, the ends of the cuttings will rot. I wouldn't recommend to go above 75°F.

Houseplants that can grow aquatic roots

Pothos (*epipremnum*)
Philodendron spp.
Spider plant (*chlorophytum*)
Arrowhead vine/Goosefoot (*Syngonium*)
Coleus spp.
Bacopa spp
Creeping Charlie
Swedish Ivies
Alternanthera spp

Make sure that you take the cuttings from a non-woody part of the plant, and that they are at least 6" long. You could try any trailing type of tropical. I have never tried, and would not recommend to try any plant that you know to be poisonous ie: poinsettia. Plants that grow from canes such as dumb cane (*dieffenbachia*) and *Dracaenas* will not grow this way, nor will a treeform plant. When using spider plant (*chlorophytum*) place a lamp beside the plant at night to encourage it to produce plantlets. Once plantlets are produced, only the tips where the

rosettes begin must be suspended in the water. Spider plants grow very very well this way, but will not tolerate the extra hard water of an African cichlid tank. Unfortunately, this is not a quick fix the cuttings won't take out too much nitrogen until roots have initiated (1-2 weeks). Also, remember to consider the light requirements of the plants in question. Good luck, and happy gardening.