

Chemical Filtration, the Importance of

Drs. Foster & Smith Educational Staff

As much as he enjoyed spending time working on his water garden, for Robert, summer meant several weeks vacationing at his lake cabin. Whenever he remembered, Robert performed his basic maintenance, cleaned his filters, and replaced any exhausted chemical filter media. However, not aware of the importance of a regular maintenance schedule, Robert frequently left on vacation without tending to his water garden before leaving. Upon his return, he found his water dark green and thick with debris and algae.



Aquatic Ecology 101

Water gardens obey the same environmental process that affect natural bodies of water where organic materials accumulate and break down to release algal nutrients such as phosphate and nitrogenous materials. It is usually an extremely slow process in large healthy systems where these nutrients are efficiently processed or removed. This gradual accumulation of nutrients is called eutrophication and is the same natural process that converts aging lakes into bogs and finally into wooded areas.

Because many water gardens do not have adequate filtration, nutrient levels tend to progressively accumulate. When routine [maintenance](#), [water changes](#), or [chemical filter media](#) replacement is not performed, the increase in nutrient levels accelerates to trigger a series of events including aggressive algae growth and eventual collapse of the entire system.

Maintaining a Low Level of Nutrients

Chemical filter media absorb organic pollutants and trap these materials to maintain a low level of nutrients in the water. It supplements [mechanical](#) and [biological filtration](#) and slows the negative effects of eutrophication. Placing chemical media such as [activated carbon](#) or [phosphate-removing media](#) in the skimmer box or any area with good water movement maximizes its efficiency. Since many chemical filter media are available in bulk and require a [filter media bag](#) to contain it, having several media bags makes regular use and replacement more convenient.

We recommend:

- [Black Magic Carbon](#) removes colors, organic pollutants, toxic compounds and medications that cause water discoloration.
- [PhosBan](#) adsorbs phosphate from ponds plus other pollutants to help prevent algae problems.
- [Media Bag](#) makes changing media easier with velcro closures.