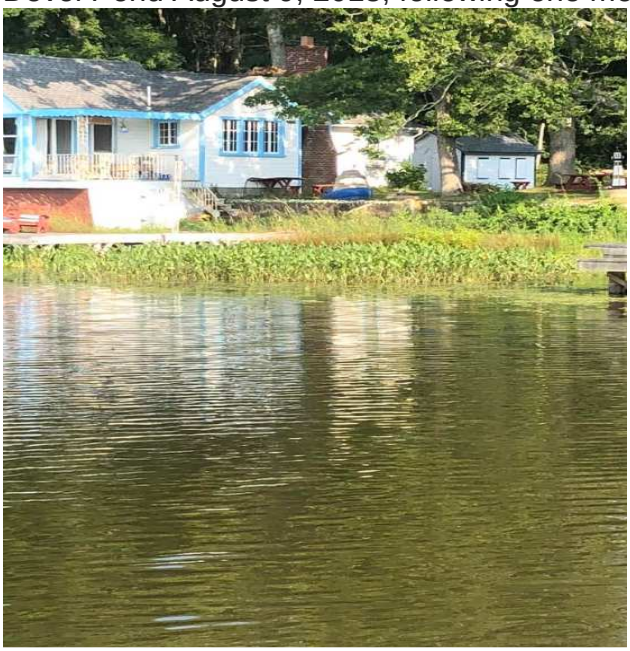
SUCCESS!!!

Devol Pond in 2009

Devol Pond August 9, 2018, following one month of testing



Alpha phase test at farm in Tiverton, RI pictures when launched August 11th 2018 and results as of August 19th 2018, respectively:

HABs in Devol Pond (and most others) are caused by high levels of phosphorus (it is the limiting nutrient) from runoff containing agricultural and human waste (cow farms, septic systems, and lawn fertilizers). The plants tested extract high amounts of phosphorus and nitrogen from fresh water. Initially, we tested tomatoes, a few types of spinach, and vetiver, because they take up high amounts of and nitrogen, they are not invasive and can't survive a freeze. The most successful species, as we hypothesized, is Sunshine Vetiver. (*See*, http://www.vetiver.org/USA-USDA-NRCS_Sunshine.pdf. Last accessed August 20, 2018).

The picture below was published in a study titled "VETIVER SYSTEM TECHNOLOGY FOR PREVENTION AND TREATMENT OF POLLUTED WATER AND CONTAMINATED LAND"(found at http://www.vetiver.org/ICV6_PROC/ENVIRONMENTAL%20PROTECTION/Vetiver%20Grass%20Technology%20for%20prevention%20and%20treatment%20of%20polluted%20water%20and%20contaminated%20land.pdf last accessed August 20, 2018).

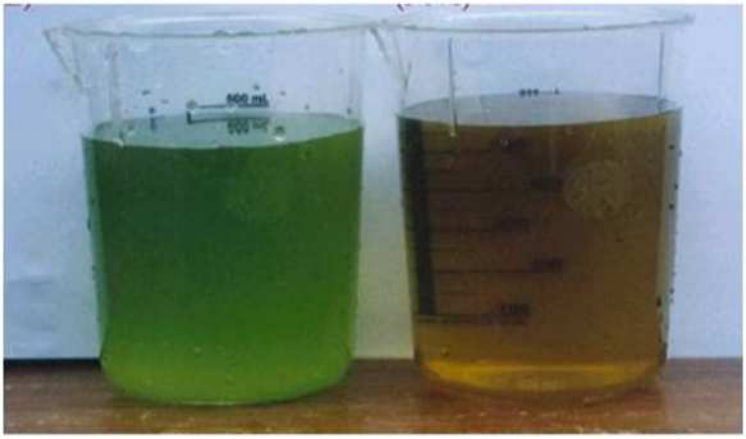


Figure 7. High N and P removal capacity of Vetiver: blue green algae infested waste water (left) with high nitrate (100 mg L^{-1}) and phosphate (10 mg L^{-1}), same effluent after 4 days of treatment with Vetiver (right) reducing N and P level to 6 and 1 mg L^{-1}, respectively. Algal infestation was eliminated from the effluent.

The results are speaking for themselves!

The plan is to continue and expand testing in Devol Pond, Sawdy Pond, and the South Wautuppa under the scientific advisement of Professor Chen-Lu Yang at UMASS Dartmouth Center for Innovation and Entrepreneurship.