

Enhancing Water Purification with Angiosperm Xylem Filters

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Abstract : One in four people in the world still lack access to clean drinking water, and there is a current lack of cost-effective ways for water-scarce regions to access it. This study seeks to investigate the solutions to water filtration in rural China as well as test the feasibility of using angiosperms as xylem candidates. Four angiosperms that are found in China and around Asia were subject to three tests to test their filtration capacity: ink water filtration, creek water filtration, and microparticle filtration. Analysis of the experiments demonstrated that *Celtis Sinensis* was able to produce one of the clearest solutions, filter out large debris and bacteria, and reject microparticles almost completely. *Celtis Sinensis* proves that angiosperm xylem filters are also competent filter candidates and, due to their availability in China, can be used as a nearby source of water filtration. Further research should be done on scaling production to a larger scale and also on the filtration of viruses.

Keywords : xylem filter, water quality, China, angiosperms, bacteria

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