

COTTON BALLS AS MINI-AQUARIUMS FOR MARINE MICROBES

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The vast majority of marine bacteria are difficult or impossible to cultivate in a lab setting. This limitation has inhibited the production of marine natural products produced by marine microbes using traditional methods. In this preliminary study, a series of cotton balls are used to retain sea water from the Gulf of Mexico over a thirty day period. A total of thirty experiments, lasting from 1 to 30 days are conducted using a control (seawater plus cotton) and the experimental system (seawater plus nutrients plus cotton). While little to no growth was observed in the control and it underwent significant loss of water content, the nutrient based cotton samples showed little loss and had maintained living microbes in the high salinity environment for several weeks. In addition to chemical analysis of the solution, samples are saved and examined using optical microscopy to identify both the density and the type of microbes present.