

Point-of-Use Performance Evaluations

The Rose WQEMM laboratory has the capability to test point-of-use (POU) devices to determine the efficacy of disinfection on a wide-array of organisms. Currently, the lab is assessing POU devices that have the potential for use in developing regions of the world that lack adequate drinking water.

Experimental set-up for processing a spiked sample to assess the efficacy of a contact disinfectant POU device (photo taken by Dr. Angela D. Coulliette, Michigan State University)



Microcystin

The Rose WQEMM laboratory can detect and quantify microcystins in water. Microcystins are cyclic heptapeptide hepatotoxins produced by cyanobacteria. An enzyme-linked immunosorbent assay (ELISA) test is used to quantify microcystins in environmental samples. The method can test intracellular and extracellular level of microcystins. Standards and samples are pipetted into wells and microcystin toxin present in a sample is bound to the wells by immobilized antibody present in the bottom. After addition of other reagents, incubation, and washing steps; a substrate solution is added to the wells and color develops in proportion to the amount of toxin present. The intensity of color is compared to standards to quantify microcystins.

Approaches used by the Rose WQEMM Laboratory

- ELISA