

Utilization of Surrogates to Assess the Removal of Algal Toxins in Conventional Drinking Water Treatment

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PROJECT: ASU-03-2018

STATUS: X NEW Continuation

Rationale

The occurrence of algal toxins in source water bodies poses a technical challenges for the production of drinking water. Information regarding their removal during water treatment procedures is largely based on anecdotal evidence.

Objectives

The goal of this project is to evaluate the removal of 3 organic compounds as surrogates of toxin in conventional water treatment processes including coagulation, flocculation and sedimentation.

Approach

The objectives will be achieved by performing bench scale experiments according to the ASTM D2035- standard practice for coagulation, flocculation and sedimentation. The experiments will be performed using coagulant and polymer doses commonly used in drinking water industry.

Variable

Coagulant and polymer doses are as follows: Alum (0, 10, 25 and 40 mg/L; Magnafloc LT-7996 (0 and 2.7 mg/L).

Key Deliverables:

- Identification of appropriate surrogate to assess the efficacy of drinking water treatment processes for toxin removal.
- Impact of coagulant and polymer doses on the removal of toxin during water treatment processes.
- Identification of optimum conditions for the removal of toxins during drinking water treatment processes.

Budget Requested

\$20,000, research staff salary and laboratory supplies

Project Duration

- June 2018 to May 2019