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Methods and Devices for Rapid Concentration of Waterborne Pathogens from Surface Waters for use with Rapid Molecular Methods

John Payne and Ann Packingham InnovaPrep, USA

InnovaPrep has developed a suite of systems for concentration of bacteria and other biological particles from liquid samples. Volumes of water from a few millilitres to tens of litters of water are processed through flat membrane filters or hollow fibre membrane filters to capture any biological particles that are present. The biological particles are then efficiently recovered from the membrane surface with tangential flush using carbonated "wet foam". The wet foam is expanded up to six times the original liquid volume and becomes highly viscous, allowing it to act at the membrane surface and recover the particles into volumes significantly smaller than can be attained with traditional liquid elution's. The process is scalable, efficient, and typically results in concentration factors of approximately 1000X per concentration stage.

The InnovaPrep concentration and wet foam elution processes will be presented along with developmental and commercially available InnovaPrep concentration systems. Data from case studies will be presented, including concentration efficiencies and concentration factors.

apack@innovaprep.com

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