

【Title of Paper】

**Removal characteristics of musty odor "geosmin" by biofiltration
using various carriers**

【Author's Name】

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【Abstract】

Eutrophication in freshwater lakes and reservoirs causes water bloom and nuisance odors in drinking water. These problems have come to threaten safety and quality of water supply. Here we report the removal characteristics of nuisance odor, especially musty odorous geosmin in the surface water of a dam, using biofiltration reactors packed with several carriers (granular activated carbon (GAC), ceramics A20 and ceramics A15; which particle size are different, honeycomb tube). From the experiments of continuous authentic geosmin addition in a dam water, the removal capacities of geosmin were as follows: GAC > ceramics A15 > ceramics A20 > honeycomb tube. There was no degradation lag period after experiment started, even though the concentration of geosmin in the dam water was always below permissible limits during six month before starting the experiment. This result suggested when microbial community suitably exists in the reactor, geosmin can be sufficiently degraded by cometabolism in the aggregated microorganisms. The high Removal rate of geosmin per surface area of two types of ceramics was not so different comparing with much lower removal rate of honeycomb tube.