

Filtration of domestic wastewater by multi soil layering system

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We researched the environmental problem of water pollution and found that it is caused by domestic wastewater. We found that even in Japan, which is called a developed country, there are many areas that do not have sewage systems. Therefore, our goal was to create a filtration device that could be used in those areas. Domestic wastewater mainly contains phosphorus and nitrogen, and in this experiment, we attempted to reduce phosphorus. In building the device, we used a multi-soil layer system to construct the filtration device to reduce the environmental impact and cost. Then we measured the post-filtration phosphorus value of water with phosphorus above the effluent standard. As a result, phosphorus was reduced below the effluent standard of 8.0 mg/L, so we considered that it has sufficient cleaning ability. However, this filtration device is considered to have a limit, we would like to investigate the degradation of the device's ability and study its limit.

Keywords: multi soil layering system, domestic wastewater, filtration