BIOLOGICAL TREATMENT METHOD AND APPARATUS FOR ORGANIC WASTEWATER

ABSTRACT

High-load treatment at a COD_{Cr} volume load of 1.0 $kg/m^3/d$ or more or a BOD volume load of 0.5 $kg/m^3/d$ or more is performed by a multistage activated sludge process utilizing predation by animalcules. In order to improve treatment efficiency and treated water quality and decrease the sludge volume, animalcules of the filter-type predators is made dominant actively, and the growth of animalcules of the aggregate predators that deteriorate treated water quality is reduced. Organic wastewater is biologically treated with bacteria in a first biological treatment tank 1. First biologically treated water containing a dispersed bacteria from the first biological treatment tank 1 is transferred to a second biological treatment tank 2 and treated therein to become a second biologically treated water. The second biologically treated water is subjected to solid-liquid separation in a settling tank 3. Separated sludge is returned to the second biological treatment tank 2. The second biological treatment tank 2 contains a carrier 22 for supporting animalcules.

Figure 1