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・要旨 (200 語以内) = 「Zirconium was loaded onto orange waste, a cheap and available agricultural waste material, to investigate the feasibility of its utilization for phosphorus recovery from secondary effluent, side-stream liquid in sewage treatment plant, and secondary effluent in piggery waste water, which contain 5.9, 68.2 and 42.0 mg/dm<sup>3</sup> phosphorus, respectively. The phosphorus removal from side-stream liquid by using zirconium-loaded saponified orange waste (Zr-SOW) gel increased with an increasing solid/liquid ratio. The secondary effluent in sewage and piggery treatment were treated in a column packed and fluidized bed by Zr-SOW gel and a dynamic adsorption capacity of 1.0 mol-P/kg was found to be attained. The adsorbed phosphorus was successfully eluted as a concentrated form by using small amount of 0.2 M NaOH. 」

・キーワード (5 語以内) = Phosphorus, secondary effluent, side-stream liquid, adsorption-desorption, zirconium loaded onto saponified orange waste