A Study on the Purification Capacity of *Zizania Latifolia* Community for Improvement of Water Quality of Effluent from Agricultural Land of Yongsankang River in Korea

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Abstract

This study measures the hydrophytes distributed in the investigated areas and their purification capacity for improving the water quality of effluent from agricultural land of Yongsankang River in Korea from March of 1997 to November of 1999. Water quality of effluent from agricultural land shows the increase of pollutants of nitrogen and phosphorous during the farming season and these nutrients decrease with streaming down as paddy-drainage outlet-wetland. *Zizania latifolia* community in the distribution of hydrophytes was dominated and it forms a large community owing to its high adaptability to environmental changes. After 5 days of growth, in laboratory condition, total nitrogen and phosphorus contents in leaf and root of *Zizania latifolid* increased After 24 hours, it reveals that purification capacity of NH_3-N, NO_3-N, PO_4^{3-} of *Zizania latifolia* were 13.33, 16.66 and 4.50mg. 1^{-1}. 100g. d^{-1}. wt respectively. Therefore, rivers with the inflow of effluent from agricultural land are the regions that water pollution is expected by nutrients and when these pollutants flow into the mainstream of the Yongsankang river, natural purification is done at downstream of rivers with developed natural wetland and the water quality of mainstream can be improved.