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Wastewater from Washed Rice Water as Plant Nutrient Source

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Abstract: *A significant wastewater source in every household is washed rice water (WRW) because it contains leached nutrients (from washing the rice prior to cooking) that could be used as fertilizer. The paper reviewed the current understanding of the potential use of WRW as a plant nutrient source. WRW was shown to increase vegetables growth, such as water spinach, Pakchoy, lettuce, mustard, tomato, and eggplant. Different researchers have used various amounts of WRW, and their results followed a similar trend: the higher the amount of WRW, the higher the plant growth. WRW has also been used for other purposes, such as a source of carbon for microbial growth. WRW from brown rice and white rice had nutrients ranging from 40-150, 43-16306, 51-200, 8-3574, 36-1425, 27-212, and 32-560mg L^1 of N. P. K. Ca, Mg, S, and vitamin B1 (thiamine), respectively. Proper utilization of WRW could reduce chemical fertilizer use and prevent both surface and groundwater contamination and environmental pollution.*
However, only a few of the studies have compared the use of WRW with the use of conventional NPK fertilizer. The major drawback of WRW studies is that they lack depth and scope, such as determining the initial and (or) final soil physico-chemical properties or plant nutrient contents. Considering the rich nutrient content in WRW, it will impact plant Growth and soil fertility when used. As Irrigation water and plant nutrient source therefore it is recommended that studies on WRW Effect on soil microbial population plant an soil nutrient contain to be carried out to ascertain the sustainability of WRW use as a plant nutrients source..

Keywords: wastewater

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