



## **Nutrient Status of Runoff Water from Rice and Wheat Fields of Ludhiana District of Indian Punjab**

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**Abstract:** A study was undertaken to monitor the status of nitrogen (N), phosphorus (P) and potassium (K) in the runoff water from rice and wheat fields. A total 50 samples of runoff water from rice and wheat fields from different villages of Ludhiana district of Indian Punjab were collected. The analysis of collected samples indicated a significant variation in concentration of N, P and K. The highest values of N, P and K concentrations were computed to be 33.7, 5.5 and 20.0 ppm in the runoff water from rice fields, whereas 33.3, 6.5 and 20.0 ppm in the runoff water from wheat fields, respectively, which are being above permissible drinking water standards. The values of N and K concentration exceeding the permissible limit were 12 and 50 per cent of the collected water samples from rice and wheat fields respectively. Thus, the long term use of runoff water from agricultural fields for recharging groundwater aquifers without its treatment is not recommended.

**Keywords:** N, P, K Support vector machine (SVM), Runoff water, Rice, Wheat, Water band index

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