ANALISIS PERUBAHAN KUALITAS AIR IRIGASI AKIBAT LIMBAH INDUSTRI TAHU DI DUSUN JANTEN, KALURAHAN NGESTIHARJO, KAPANEWON KASIHAN, KABUPATEN BANTUL

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ABSTRAK

Sentra industri tahu yang berada di Dusun Janten, Kalurahan Ngestiharjo, Kapanewon Kasihan, Kabupaten Bantul menghasilkan sisa pengolahan berupa limbah cair yang dibuang ke saluran irigasi. Limbah yang dibuang tanpa diolah dapat terakumulasi bisa membahayakan dan berdampak negatif pada lingkungan. Penelitian ini bertujuan untuk mengetahui perubahan kualitas air irigasi dan tingkat pencemaran air irigasi di Dusun Janten Kalurahan Ngestiharjo, Kapanewon Kasihan, Kabupaten Bantul. Penelitian ini menggunakan metode deskriptif kuantitatif, metode penentuan titik sampel secara *purposive sampling*. Parameter yang diukur meliputi sifat fisika (temperatur, TDS, TSS) dan sifat kimia (pH, BOD, COD, DO, nitrat, total fosfat). Analisis kualitas air dilakukan dengan membandingkan hasil pengujian lapangan dan laboratorium terhadap baku mutu air kelas III berdasarkan Peraturan Pemerintah Nomor 82 Tahun 2001. Penentuan status mutu air menggunakan Metode STORET dengan penilaian parameter fisika, kimia, dan biologi untuk menentukan tingkat pencemaran berdasarkan skor yang diperoleh. Hasil analisis menunjukkan bahwa limbah tahu telah menyebabkan perubahan penurunan kualitas air irigasi di Dusun Janten Jika titik sampel 1 *inlet* (kontrol) dibandingkan dengan titik sampel 7 *outlet*, Parameter yang mengalami perubahan yaitu TDS 136mg/L menjadi 162 mg/L ,BOD 2,7 mg/L menjadi 60,2 mg/L ,COD 7,8 mg/L menjadi 137,5 mg/L ,TSS 11 mg/L menjadi 26 mg/L ,DO 6,5 mg/L menjadi 0,6 mg/L , dan Fosfat 0,600 mg/L menjadi 1,092 mg/L. Kualitas air irigasi Sungai Bayem berdasarkan analisis dengan metode STORET memiliki skor -40 yang tergolong pada kelas D dengan kategori cemar berat.

Kata Kunci : air irigasi, baku mutu air kelas III, kualitas air, metode STORET

ANALYSIS OF IRRIGATION WATER QUALITY CHANGES DUE TO TOFU INDUSTRIAL WASTE IN JANTEN HAMLET, NGESTIHARJO VILLAGE, KASIHAN DISTRICT, BANTUL REGENCY

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ABSTRACT

The tofu industrial center located in Janten Hamlet, Ngestiharjo Village, Kasihan District, Bantul Regency produces processing waste in the form of liquid waste that is discharged into irrigation channels. Waste discharged without treatment can accumulate and pose dangers with negative impacts on the environment. This research aims to determine changes in irrigation water quality and the level of irrigation water pollution in Janten Hamlet, Ngestiharjo Village, Kasihan District, Bantul Regency. This research uses a quantitative descriptive method, with purposive sampling method for determining sample points. The parameters measured include physical properties (temperature, TDS, TSS) and chemical properties (pH, BOD, COD, DO, nitrate, total phosphate). Water quality analysis was conducted by comparing field and laboratory test results against class III water quality standards based on Government Regulation Number 82 of 2001. Determination of water quality status uses the STORET Method with assessment of physical, chemical, and biological parameters to determine the pollution level based on the score obtained. The results of the analysis indicate that tofu wastewater has caused a decline in the quality of irrigation water in Dusun Janten. When sampling point 1 (inlet/control) is compared with sampling point 7 (outlet), several parameters show significant changes. Total Dissolved Solids (TDS) increased from 136 mg/L to 162 mg/L, Biological Oxygen Demand (BOD) increased from 2.7 mg/L to 60.2 mg/L, Chemical Oxygen Demand (COD) increased from 7.8 mg/L to 137.5 mg/L, and Total Suspended Solids (TSS) increased from 11 mg/L to 26 mg/L. In contrast, Dissolved Oxygen (DO) decreased from 6.5 mg/L to 0.6 mg/L, while phosphate concentration increased from 0.600 mg/L to 1.092 mg/L.The irrigation water quality of Bayem River based on analysis using the STORET method has a score of -40 which is classified as class D with heavily polluted category.

Keywords : *irrigation water, STORET method, water quaility, water quality standard class III*