

ANALISIS KUALITAS AIR IRIGASI SEPANJANG PABRIK TAHU DI DESA TUKSONO, KABUPATEN KULON PROGO

Oleh : Afina Rokhimatunisa

Dibimbing Oleh : Susila Herlambang

ABSTRAK

Industri tahu merupakan salah satu contoh industri makanan yang menghasilkan limbah cair. Industri tahu tidak hanya menghasilkan limbah cair, namun juga menghasilkan limbah padat. Limbah padat biasa dimanfaatkan sebagai pakan ternak dan biogas sedangkan limbah cair hanya dibuang di irigasi tanpa pengolahan lagi. Penelitian ini bertujuan untuk mengetahui kualitas air irigasi di Desa Tuksono akibat pencemaran limbah cair produksi tahu dan untuk mengetahui status mutu air irigasi yang ada di Desa Tuksono, Kabupaten Kulon Progo. Penentuan pengambilan titik menggunakan metode survei, metode penentuan sampel titik berdasarkan kriteria jarak dan sumber polutan. Penetapan status mutu air menggunakan metode Indeks Pencemaran (IP) dengan baku mutu Peraturan Pemerintah No. 22 Tahun 2021. Parameter yang diteliti yaitu temperatur, pH, *Total Dissolved Solid* (TDS), *Total Suspended Soil* (TSS), *Biochemcial Oxygen Demand* (BOD), *Chemical Oxygen Demand* (COD), dan *Dissolved Oxygen* (DO), dan Nitrat. Hasil penelitian menunjukkan bahwa kualitas air irigasi mengalami penurunan setelah menerima masukan limbah cair tahu. Parameter BOD mencapai 94 mg/L dan COD mencapai 317,5 mg/L yang telah melebihi baku mutu air Kelas. IV. Berdasarkan perhitungan metode Indeks Pencemaran diperoleh nilai IP sebesar 2,305 yang menunjukkan bahwa status mutu air irigasi di Desa Tuksono termasuk dalam kategori cemaran ringan

Kata Kunci : air irigasi, indeks pencemaran, kualitas air, limbah cair, status mutu air.

ANALYSIS OF IRRIGATION WATER QUALITY ALONG TOFU INDUSTRY CHANNELS IN TUKSONO VILLAGE, KULON PROGO REGENCY

By: Afina Rokhimatunisa
Supervised by: Susila Herlambang

ABSTRAC

The tofu industry is one of the food industries that produces liquid waste. In addition to liquid waste, the tofu industry also generates solid waste. Solid waste is commonly utilized as animal feed and biogas material, while liquid waste is often discharged directly into irrigation channels without prior treatment. This study aimed to determine the quality of irrigation water in Tuksono Village affected by tofu wastewater pollution and to assess the water quality status of the irrigation water in Tuksono Village, Kulon Progo Regency. Sampling points were determined using a survey method, while the selection of sampling locations was based on distance criteria and pollution sources. Water quality status was assessed using the STORET method based on the water quality standards stipulated in Government Regulation No. 22 of 2021. The parameters analyzed included temperature, pH, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), and Dissolved Oxygen (DO). The results showed that the quality of irrigation water declined after receiving inputs of tofu wastewater. The BOD concentration reached 94 mg/L and the COD concentration reached 317.5 mg/L, exceeding the Class IV water quality standards established under. Based on the Pollution Index calculation, the PI value was 2.305, indicating that the irrigation water quality status in Tuksono Village was classified as lightly polluted.

Keywords: irrigation water, pollution index, wastewater, water quality, water quality status.