

**INDEKS KUALITAS TANAH SAWAH TERALIRI LIMBAH CAIR
PABRIK GULA MADUKISMO DI DESA TIRTONIRMOLLO
KECAMATAN KASIHAN KABUPATEN BANTUL**

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ABSTRAK

Limbah cair Pabrik Gula Madukismo mengalir $\pm 33,39\%$ tanah sawah di Desa Tirtonirmollo. Keberadaan limbah pada air irigasi dapat mempengaruhi kualitas tanah sawah. Penelitian ini bertujuan untuk menentukan karakteristik air irigasi dan menentukan Indeks Kualitas Tanah (IKT) sawah di Desa Tirtonirmollo, Kasihan, Bantul. Metode penelitian yang digunakan adalah metode survey. Pengambilan sampel tanah menggunakan metode *purposive sampling* dan pengambilan sampel air irigasi menggunakan metode *grab sample*. Penilaian karakteristik air irigasi berpatokan pada PP No. 82 Tahun 2001 dengan parameter yang diamati yaitu: COD, Nitrat, Nitrit, Ammonium, Phospat, TSS, dan pH. Penilaian IKT didasarkan pada kriteria Mausbach dan Seybold. Berdasarkan hasil penelitian, karakteristik air irigasi telah memenuhi baku mutu air irigasi kecuali untuk parameter COD. Air irigasi yang teraliri limbah spiritus memiliki nilai COD sebesar 1029 mg/L sedangkan air irigasi yang teraliri campuran limbah gula dan spiritus memiliki nilai COD sebesar 122 mg/L. Hasil IKT memiliki kriteria baik dengan nilai 0,637 pada area sawah tidak teraliri limbah; 0,688 pada area sawah teraliri limbah spiritus; dan 0,714 pada area sawah teraliri campuran limbah spiritus dan gula.

Kata kunci: Limbah cair, Karakteristik air, IKT, Tanah sawah.

**QUALITY INDEX OF RICE FIELD SOIL FLOWED BY MADUKISMO
SUGAR FACTORY LIQUID WASTE IN TIRTONIRMOLO VILLAGE
KASIHAN DISTRICTS OF BANTUL REGENCY**

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ABSTRACT

The liquid waste of Madukismo Sugar Factory flows $\pm 33.39\%$ rice fields in Tirtonirmolo Village. The presence of waste in irrigation water can affect the quality of paddy soil. This research aims to determine the characteristics of irrigation water and determine the Soil Quality Index (SQI) of the rice fields in Tirtonirmolo Village, Kasihan District, Bantul Regency. This research implements a survey method. Soil samples were taken using purposive sampling method and irrigation water sampling was taken using grab sample. Assessment of irrigation water characteristics is based on PP No. 82 Tahun 2001 with observed parameters, they are: COD, Nitrate, Nitrite, Ammonium, Phosphate, TSS, and pH. The IKT assessment is based on Mausbach and Seybold criteria. Based on the research results, the characteristics of irrigation water have fulfilled the quality standard for irrigation water except for COD parameters. Irrigation water flowed by spiritus waste has a COD value of 1029 mg /L, while irrigation water flowing a mixture of alcohol and sugar waste has a COD value of 122 mg /L. IKT results have good criteria with a value of 0.637 in the rice field area is not flowed by waste; 0.688 in the rice field area flowed with alcohol waste; and 0.714 in the rice field area with a mixture of alcohol and sugar waste.

Keywords: Liquid waste, Characteristics of water, SQI, Rice field soil.