

INTISARI

Saluran air irigasi lahan sawah di Desa Bekonang, Mojolaban teraliri limbah cair alkohol dari industri pembuatan alkohol. Penelitian ini bertujuan untuk mengidentifikasi kandungan limbah cair industri alkohol, dan mengetahui pengaruh limbah terhadap kualitas air irigasi dan karakteristik tanah sawah yang teraliri limbah cair alkohol. Sampel tanah pada lahan yang teraliri limbah cair alkohol diambil pada lahan yang terletak pada jarak saluran irigasi 200m, 500m, 800m, 1100m, dan 1400m baik di lahan bagian kiri maupun kanan saluran. Sampel tanah diambil pada kedalaman 0-20cm. Parameter limbah cair dan air irigasi berupa pengukuran suhu, pH, DHL, TSS, TDS, BOD, COD, dan sulfida. Analisis parameter tanah berupa pengukuran tekstur, pH H₂O, pH KCl, DHL, KPK, P-tersedia, K-tersedia, N-total, C-organik, bahan organik, dan sulfida. Pengujian data menggunakan One Way Anova pada taraf kepercayaan 95% dan di uji lanjut dengan Uji Tukey dengan taraf kepercayaan 95%. Limbah cair alkohol memiliki pH yang tergolong sangat masam, kandungan BOD dan COD pada air itigasi tinggi,. Tanah yang teraliri limbah cair alkohol menunjukkan nilai DHL, KPK, K-tersedia, sulfida, C- organik, dan bahan organik yang lebih tinggi dibandingkan tanah yang tidak teraliri limbah cair alkohol. Nilai pH lahan sawah yang teraliri limbah cair alkohol tebu menunjukkan nilai yang lebih rendah dibanding dengan tanah yang tidak terdampak limbah cair alkohol. Hasil pengukuran parameter tidak menunjukan adanya pengaruh limbah cair industri alkohol terhadap kualitas air irigasi dan karakteristik tanah, sehingga pengukuran digunakan sebagai acuan bahwa limbah cair alkohol baik diperuntukan pertanian di lahan penelitian.

Kata kunci : limbah cair alkohol, karakteristik kimia tanah, air irigasi

ABSTRACT

The irrigation water channel for rice fields in Bekonang Village, Mojolaban is filled with alcoholic liquid waste from the alcohol manufacturing industry. This research aims to identify the content of liquid alcohol industrial waste, and determine the effect of waste on the quality of irrigation water and the characteristics of rice fields that are irrigated with liquid alcohol waste. Soil samples from land that was irrigated with liquid alcohol waste were taken from land located at irrigation canal distances of 200m, 500m, 800m, 1100m and 1400m, both on the left and right sides of the canal. Soil samples were taken at a depth of 0-20cm. Liquid waste and irrigation air parameters include measurements of temperature, pH, DHL, TSS, TDS, BOD, COD and sulfide. Analysis of soil parameters in the form of texture measurements, pH H₂O, pH KCl, DHL, KPK, P-available, K-available, N-total, C-organic, organic matter and sulfide. The data was tested using One Way Anova at a 95% confidence level and further tested using the Tukey Test with a 95% confidence level. Alcoholic liquid waste has a pH that is classified as very acidic, the BOD and COD content in the treated water is high. Soil that is irrigated with liquid alcohol waste shows higher DHL, KPK, K-available, sulfide, C-organic and organic matter values than soil that is not irrigated with liquid alcohol waste. The pH value of rice fields that are irrigated with sugarcane alcoholic liquid waste shows a lower value compared to land that is not affected by alcoholic liquid waste. The results of parameter measurements do not show the effect of alcohol industrial liquid waste on irrigation water quality and soil characteristics, so the measurements are used as a reference that alcohol liquid waste is good for agricultural purposes on the research land.

Key words: alcohol liquid waste, soil chemical characteristics, irrigation water