

INTISARI

Untuk memenuhi kebutuhan daging unggas yang aman, sehat, utuh, dan halal maka pemotongan harus dilakukan di rumah potong unggas. Salah satu persyaratan teknis untuk rumah potong unggas adalah, bahwa lokasi rumah potong hewan tidak menimbulkan gangguan dan pencemaran lingkungan. Seperti Pusat Pemotongan Ayam PT. Ciomas Adisatwa.

Permasalahan yang ditemukan di lokasi IPAL yaitu timbulnya bau yang sangat mengganggu aktivitas peternak dan masyarakat sekitar. Walaupun menurut hasil uji kualitas air limbah, kualitas air limbah PT. Ciomas Adisatwa yang sudah memenuhi standar baku mutu air limbah, tetap saja air berwarna agak keruh. Maka dari itu dilakukan optimalisasi Instalasi Pengelolaan Air Limbah dengan *microbubble* agar dapat mengurangi beban pencemaran air limbah buangan Rumah Potong Ayam PT. Ciomas Adisatwa.

Penelitian ini bertujuan untuk mengetahui efektivitas *microbubble* dalam optimalisasi air limbah IPAL PT. Ciomas. Penelitian ini dilakukan dengan cara pengambilan sampel inlet outlet dan diuji kualitasnya. Lalu sampel tersebut di aerasi dengan *microbubble* menggunakan *sintered porous plate* sebagai diffusernya. Hasil pengujian ini menunjukkan bahwa penambahan *microbubble* sangat efektif dalam pengoptimalisasian kualitas air limbah. Efisiensi peningkatan DO sebesar 332%, penurunan COD sebesar 85,4%, penurunan kadar BOD mencapai 89,26%, TDS mencapai 60,4%, dan TSS 84, 50%.

Kata Kunci: *Microbubble*, IPAL, BOD, COD, DO, TDS, TSS, limbah, RPH

ABSTRACT

To meet the needs of safe, healthy, good, and halal poultry meat, slaughter must be done in poultry slaughterhouses. One of the technical requirements for poultry slaughterhouses is that the location of slaughterhouses does not cause environmental disturbance or pollution. That is the Chicken Cutting Center of PT. Ciomas Adisatwa.

The problem found at the wastewater treatment plant is the emergence of odor problems that greatly disturb the activities of farmers and surrounding communities. Although according to the results of the wastewater quality test, the quality of the wastewater PT. Ciomas Adisatwa, which has met the quality standards for wastewater, is still a slightly turbid colored water. Therefore an optimization of Wastewater Management Installation using microbubble is carried out in order to reduce the burden of wastewater pollution from PT. Ciomas Adisatwa.

This research aims to determine the effectiveness of microbubbles in optimizing wastewater treatment plants of PT. Ciomas Adisatwa. This research was conducted by inlet outlet sampling and quality tested. Then the sample is aerated with a microbubble using a sintered porous plate as the diffuser. The results of this test indicate that the addition of microbubbles is very effective in optimizing wastewater quality. Efficiency increase in DO by 332%, reduction in COD by 85.4%, reduction in BOD levels reached 89.26%, TDS reached 60.4%, and TSS 84, 50%.

Keywords: *Microbubble, wastewater treatment, BOD, COD, DO, TDS, TSS, wastewater, poultry slaughterhouses*