

## ABSTRAK

Pembangunan usaha peternakan ayam selain memberikan dampak positif juga dapat menimbulkan dampak negatif terhadap lingkungan hidup bila tidak dikelola dengan baik. Masalah pencemaran yang ditimbulkan usaha peternakan ayam berasal dari limbah kotoran ternak, sisa pakan, dan air buangan yang berasal dari pembersihan kandang. Penelitian dilakukan untuk menganalisis kualitas air limbah peternakan ayam dan kualitas air permukaan di sekitar peternakan ayam yaitu pada saluran irigasi dan parit peternakan ayam berdasarkan parameter Amonia, TSS, BOD, COD, dan pH serta untuk menganalisis dan mengevaluasi pengelolaan air limbah peternakan ayam dan kesesuaiannya dengan Peraturan Menteri Pertanian Republik Indonesia Nomor 31/Permentan/OT.140/2/2014. Penentuan titik sampel menggunakan metode *purposive sampling*, pada titik 1 analisis saluran irigasi, titik 2 berada diantara saluran irigasi dan parit peternakan ayam, titik 3 analisis parit peternakan ayam yang tersambung saluran irigasi, dan titik 4 analisis parit peternakan ayam yang tidak tersambung saluran irigasi. Metode *sampling* dengan cara sesaat atau *grab sample*. Hasil analisis air limbah tanpa pengolahan diketahui bahwa parameter Amonia 5 mg/L; TSS 770 mg/L; BOD 132 mg/L; COD 100 mg/L melewati ambang batas baku mutu dan parameter pH 7,48 masih berada dalam ambang batas baku mutu air limbah Golongan I berdasarkan Peraturan Menteri Lingkungan Hidup Nomor 5 Tahun 2014. Hasil analisis air permukaan diketahui bahwa parameter Amonia, TSS, COD, dan pH tertinggi berada pada titik 4, Amonia 15,8 mg/L; TSS 1194 mg/L; COD 267 mg/L; pH 6,55 dan parameter BOD tertinggi berada pada titik 2 yaitu 25,3 mg/L baku mutu air permukaan Kelas II berdasarkan Peraturan Pemerintah Republik Indonesia Nomor 22 tahun 2021. Sehingga perlu dilakukan upaya pengelolaan yang sesuai dengan Peraturan Menteri Pertanian Republik Indonesia Nomor 31/Permentan/OT.140/2/2014 dari memperbaiki saluran air limbah dan membuat IPAL sederhana. Metode IPAL peternakan dapat menggunakan 3 alternatif yaitu Alternatif A (filtrasi), Alternatif B (*biofilter anaerob*), dan Alternatif C (metode kombinasi).

**Kata kunci:** air limbah, kualitas air permukaan, peternakan ayam

## **ABSTRACT**

*The development of a chicken farming business in addition to having a positive impact can also have a negative impact on the environment if it is not managed properly. The problem of pollution caused by chicken farming comes from livestock manure, leftover feed, and waste water from cleaning the cage. The study was conducted to analyze the quality of wastewater from chicken farms and surface water quality around chicken farms, namely in irrigation canals and chicken farm ditches based on the parameters Ammonia, TSS, BOD, COD, and pH as well as to analyze and evaluate the management of chicken farm wastewater and compliance with the Regulation of the Minister of Agriculture of the Republic of Indonesia Number 31/Permentan/OT.140/2/2014. Determination of sample points using purposive sampling method, at point 1 analysis of irrigation canals, point 2 is between irrigation canals and chicken farm ditches, point 3 analysis of chicken farm ditches connected to irrigation canals, and point 4 analysis of chicken farm ditches that are not connected to irrigation channels. Sampling method by means of a moment or grab sample. The results of the analysis of wastewater without treatment are known that the parameters of Ammonia 5 mg/L; TSS 770 mg/L; BOD 132 mg/L; COD of 100 mg/L passed the quality standard threshold and the pH parameter of 7.48 was still within the threshold of the wastewater quality standard for Group I based on the Regulation of the Minister of the Environment Number 5 of 2014. The results of the analysis of surface water showed that the parameters of Ammonia, TSS, COD, and the highest pH was at point 4, Ammonia 15.8 mg/L; TSS 1194 mg/L; COD 267 mg/L; pH 6.55 and the highest BOD parameter is at point 2, which is 25.3 mg/L surface water quality standard Class II based on Government Regulation of the Republic of Indonesia Number 22 of 2021. So it is necessary to make management efforts in accordance with Regulation of the Minister of Agriculture of the Republic of Indonesia Number 31 /Permentan/OT.140/2/2014 from repairing sewerage and making simple WWTPs. The livestock WWTP method can use 3 alternatives, namely Alternative A (filtration), Alternative B (anaerobic biofilter), and Alternative C (combination method).*

**Keywords:** wastewater, surface water quality, chicken farming