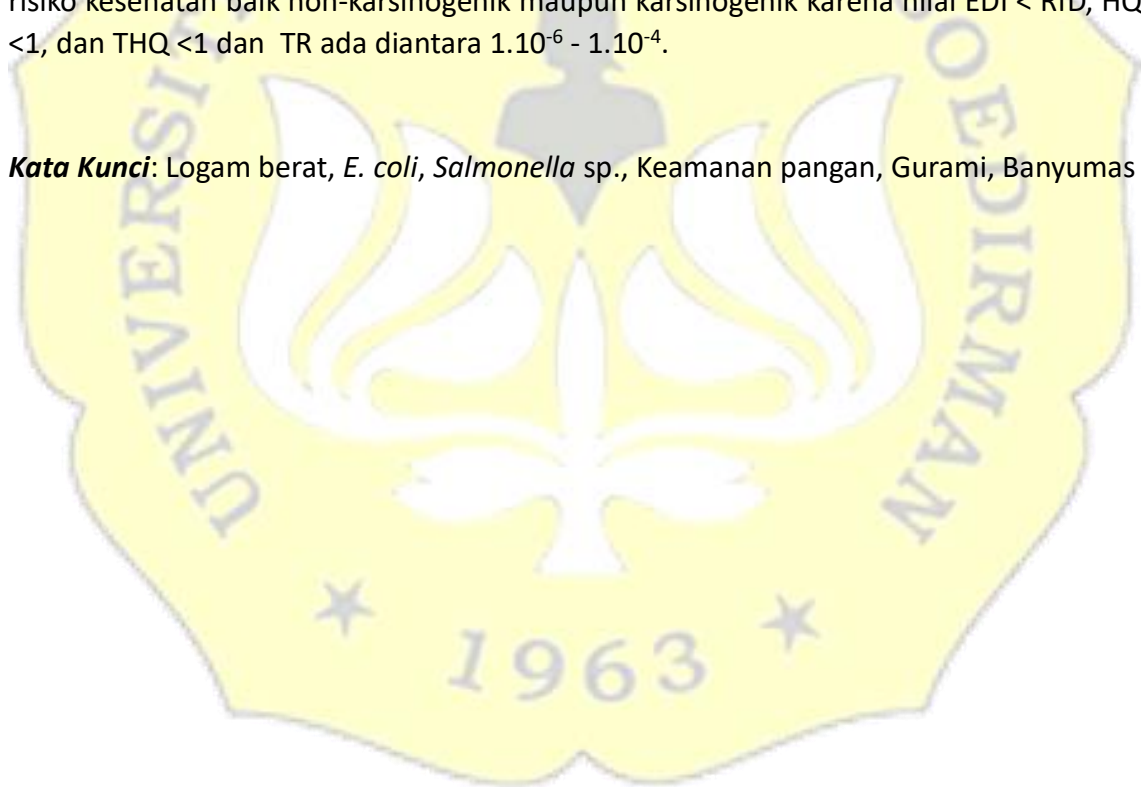


## ABSTRAK

Distribusi dan potensi risiko kesehatan tiga logam berat Cd, Cr, dan Pb pada 10 kolam budidaya Ikan Gurami (*Osphronemus gouramy*) di Banyumas, Jawa Tengah telah diselidiki untuk keamanan pangan. Cd, Cr, dan Pb merupakan logam berat beracun yang secara alami terdapat di ekosistem. Level mereka meningkat karena aktivitas antropogenik sehingga mengancam biota air dan manusia. Penelitian ini bertujuan untuk menilai kandungan kontaminasi Cd, Cr, Pb dan *E. coli* dan *Salmonella* sp. pada air dan Ikan Gurami dari kolam budidaya yang dianalisis menggunakan *Atomic Absorption Spektrophotometry*. Kandungan logam berat Cd, Cr, dan Pb pada sampel air masing-masing sebesar <0,0066; <0,0048; <0,0058 mg/l. Kandungan logam berat Cd, Cr, dan Pb pada Ikan Gurami masing-masing sebesar <0,008; <0,005; dan 0,1150-0,1641 mg/kg. Kandungan *E. coli* pada air nilainya antara  $7.10^1 - 24.10^6$  sedangkan *Salmonella* sp. hanya ditemukan di stasiun. Kadar Pb pada Ikan Gurami dan *E. coli* pada air berbeda signifikan berdasarkan sumber air. Penilaian risiko kesehatan manusia menunjukkan tidak ada risiko kesehatan baik non-karsinogenik maupun karsinogenik karena nilai EDI < RfD, HQ <1, dan THQ <1 dan TR ada diantara  $1.10^{-6} - 1.10^{-4}$ .

**Kata Kunci:** Logam berat, *E. coli*, *Salmonella* sp., Keamanan pangan, Gurami, Banyumas



## ABSTRACT

The distribution and potential health risks of the three heavy metals Cd, Cr, and Pb in 10 gourami (*Osphronemus gouramy*) aquaculture ponds in Banyumas, Central Java have been investigated for food safety. Cd, Cr, and Pb are toxic heavy metals that are naturally found in ecosystems. Their levels are increasing due to anthropogenic activities that threaten aquatic biota and humans. This study aims to assess the contamination content of Cd, Cr, Pb and *E. coli* and *Salmonella* sp. in water and Gourami from aquaculture ponds which were analyzed using Atomic Absorption Spectrophotometry. The content of heavy metals Cd, Cr, and Pb in the water samples were  $<0.0066$ ;  $<0.0048$ ;  $<0.0058$ mg/l. The content of heavy metals Cd, Cr, and Pb in gourami were  $<0.008$ ;  $<0.005$ ; and 0.1150-0.1641 mg/kg. The content of *E. coli* in water is between 7.101 – 24.106 while *Salmonella* sp. found only at the station. Pb levels in Gourami and *E. coli* in water differ significantly based on the water source. The human health risk assessment showed that there were no health risks, both non-carcinogenic and carcinogenic, because the EDI  $< RfD$ , HQ  $< 1$ , and THQ  $< 1$  and TR values were between  $1.10^{-6}$  -  $1.10^{-4}$ .

Keywords: Heavy metals, *E. coli*, *Salmonella* sp, Food safety, Gurami, Banyumas

