

Ministry of Health Polytechnic of Bandung

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Abstract

Dewi Untari Ratna Ningsih

**DIFFERENCES OF ULTRAVIOLET-C LAMP POWER TO DECREASE
THE NUMBER OF COLIFORM BACTERIA IN TAP WATER IN PT.
CHITOSE INTERNATIONAL TBK 2021**

Ix + 68 pages + 14 tables + 10 attachments

Tap water at PT. Chitose Internasional Tbk does not meet the requirements because it is contaminated with Coliform bacteria, so a disinfection process using UV-C light is needed. The purpose of the study was to determine the difference in the power of ultraviolet-c lamps on decreasing the number of Coliform bacteria in tap water. The UV-C lamp power used is 15 watts, 30 watts, and 36 watts, a wavelength of 254 nm and a contact time of 45 seconds. This type of research is a true experiment with 6 repetitions and the research design is pre-posttest without control. The sampling technique is grab sampling. The population is tap water in ground tank 1, the sample is part of tap water in ground tank 1, the sample size is 36 samples. The data analysis test is the One Way Anova test. The results showed that 15 watts, 30 watts, and 36 watts UV-C lamps could reduce the number of Coliform bacteria by up to 100%. The ANOVA test results P value $0.134 > 0.05$, which means that there is no difference in lamp power to decrease the number of Coliform bacteria in tap water. Industry can apply a disinfection process using UV-C light to reduce the number of Coliform bacteria in tap water. Further researchers are advised to use a lower UV-C lamp power and the research is carried out continuously.

REFERENCES : 25 (1991 – 2020)

KEYWORDS : Tap water, UV light, UV-C lamp power, Coliform