Appendix 11

ABSTRACT FORMAT

ABSTRACT

Title : Effect of Automatic Disinfection Box using Ultra Violet Light on Microbial Growth of MIcroorganisms

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Novel Coronavirus cause great number of hospitalities and casualties. In addition, humans are constantly in contact with germs and bacteria. Many objects we come in contact with every day are covered in microorganisms that are potentially harmful to normal people with normal immunity and may passed from person to person when poor hygiene is practiced.

Researchers aim to determine the effectiveness of ultra violet lights in disinfecting using an automatic disinfection box. Specifically, the researchers ought to find the significant difference for disinfecting between UV-based disinfectant and alcohol-based disinfectant, the significant effect of UV intensity, and the difference among the different duration in terms of its effectiveness.

Researchers conduct streak plate and spread analysis on four similar pens under normal condition. Effectiveness of UV based and Alcohol based disinfectant were measured based on number of colonies in different treatments. Different treatments were replicated thrice and were compared to a baseline treatment wherein the agar plate was not exposed to UV or Alcohol. Results revealed that the baseline treatment was relatively higher compared to Alcohol based and UV based treatments. This suggests that Alcohol based and UV based disinfectant were more effective in terms of bacterial inhibition.

Study shows that there is enough evidence to conclude that UV and Alcohol based disinfectant exhibit no significant difference when it comes to their effectiveness, UV intensity has a significant effect in terms of effectiveness, the different durations (10, 20, 30 seconds) of UV exposure show no significant difference in terms of effectiveness.

Keywords: Ultra Violet, Microorganisms. Microbial Growth, Arduino, Disinfection