**Field Experiment**

The following shows the analysis report provided by Francisco (2022) from the streak and spread plate analysis to compare the effectiveness of alcohol-based and UV-based disinfection. Agar plates are incubated for twenty-four hours to allow visible colony growth. Colonies are counted in every replication. Scores are gathered for data comparison. Please see appendix \*\* for certificate of analysis.

Legends:

a(1-3) – control

b(1-3) – alcohol

c1 – 10 sec UV Disinfection of pen 2

c2 – 20 sec UV Disinfection of pen 3

c3 – 30 sec UV Disinfection of pen 4

Table 1

**Experiment Analysis**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Agar Plate | Microbiological Culture Technique | No. of  Colonies | Colony Average | Colony Size Average (cm) | Zone of Inhibition Average |
| A1 | Streak Plate Method | 44 | 22.66 | 0.36 | - |
| A2 | 7 | - |
| A3 | 17 | - |
|  | | | | | |
| B1 | Spread Plate Method | 9 | 9.66 | 0.193 | 0.681 cm |
| B2 | 13 |
| B3 | 7 |
|  | | | | | |
| C1 | Streak Plate Method | 6 | 4.33 | 0.126 | - |
| C1 | 5 | - |
| C1 | 2 | - |
|  | | | | | |
| C2 | Streak Plate Method | 4 | 3.66 | 0.1 | - |
| C2 | 3 | - |
| C2 | 4 | - |
|  | | | | | |
| C3 | Streak Plate Method | 3 | 2.33 | 0.87 | - |
| C3 | 2 | - |
| C3 | 2 | - |

Agar plate A1 with microbial culture technique of streak plate method produce 44 colonies. Plate A2 produce 7 colonies and A3 produce 17 colonies. The Three replication produce an average of 22.66 colonies with an average colony size of 0.35 cm.

Agar plate B1 with microbial culture technique of spread plate method produce 9 colonies. Plate B2 produce 13 colonies and B3 produce 7 colonies. The Three replication produce an average of 9.66 colonies with an average colony size of 0.193 cm with a zone of inhibition average of 0.681 cm.

Agar plate C1 with microbial culture technique of streak plate method produce 6 colonies. Replication 2 produce 5 colonies and replication 3 produce 2 colonies. The Three replication produce an average of 4.33 colonies with an average colony size of 0.126 cm.

Agar plate C2 with microbial culture technique of streak plate method produce 4 colonies. Replication 2 produce 3 colonies and replication 3 produce 4 colonies. The Three replication produce an average of 3.66 colonies with an average colony size of 0.1 cm.

Agar plate C3 with microbial culture technique of streak plate method produce 3 colonies. Replication 2 produce 2 colonies and replication 3 produce 2 colonies. The Three replication produce an average of 2.33 colonies with an average colony size of 0.87 cm.