

An Analysis of Plasma Performance for a Swine House Air Quality Control

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I. Introduction.

Currently, pathogens or viruses found in pig farms include PRRS caused by the bacterial step-step bacteria. Mouth Sinusitis Streptococcus in the genus Streptococcus Hepatitis A is a type of H1N1 flu (H1N1), which is a new strain of human. The spray, the antiseptic, the chemical system, and together with the use of UV light, together with the normal conditions, humidity control, temperature and air flow rate is another suitable way. This can reduce the length of stay for disinfection.

II. Experimental Setup

This is to build up plasma air purifier system in which the voltage at output is measured to be around 12 kv.

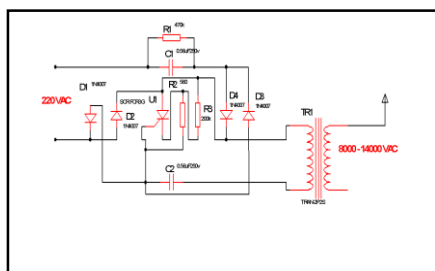


Fig. 1 High Voltage Circuit for Plasma Source

III. Results.

Ozone monitoring wind speed effects on air quality in the plant and ventilation. That is consistent with the amount of oxygen we consider from the oxygen that corresponds to the amount of plasma.

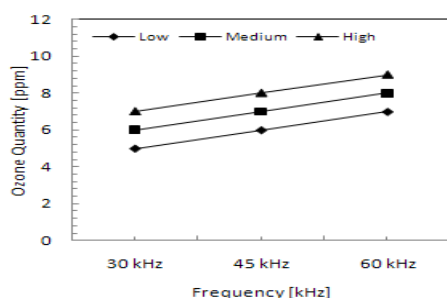


Fig.2. Ozone quantity vs Frequency at 11 kV at various of flow speed

The study was set to develop an air purification system for a swine house. The plasma with oxygen was mixed to produce the ozone gas with raging 4-10 ppm that active for the sterilize performance.

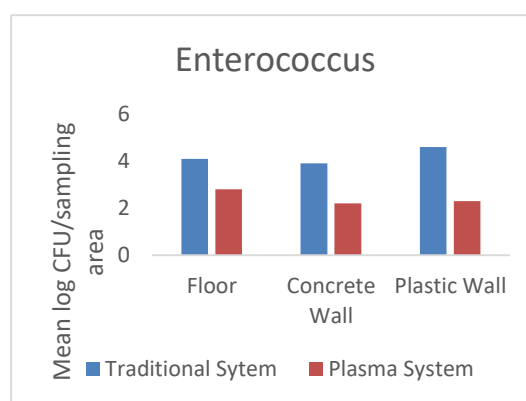


Fig.3. Average Enterococcus counts for normal and plasma method.

It was found that the value obtained from each random location. The floor value is highest, followed by concrete walls. And the least is the plastic wall. Plasma is infection is more effective than normal.

IV. Conclusions

Increasing the voltage and frequency, the amount of ozone increased was directly related to the volume. The range of ozone is between 5 ppm and 9.5 ppm. The amount of disinfection that can be used to assure that the system is ready for air treatment and disinfection.

References

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