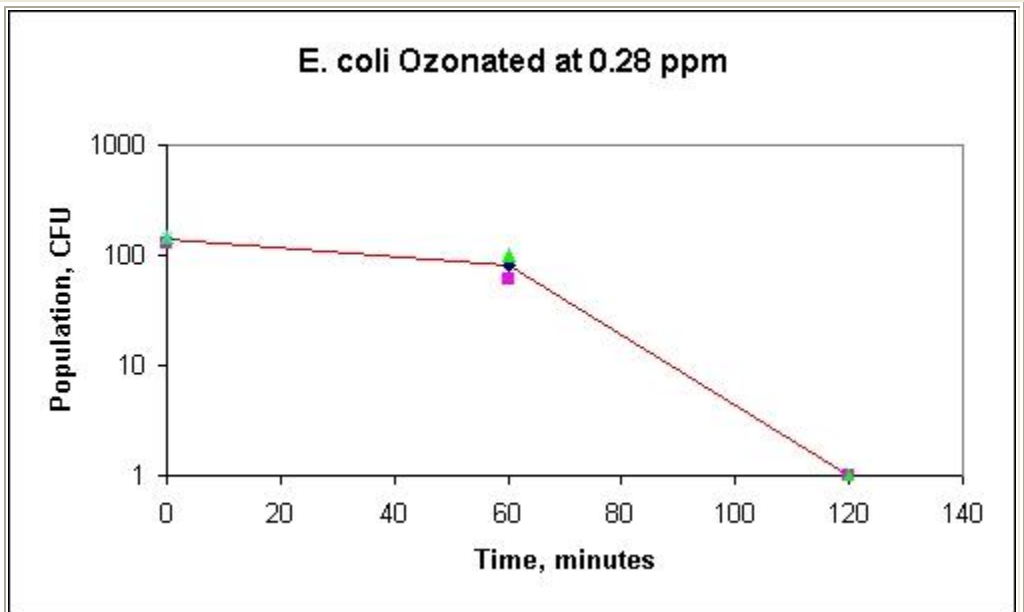


# Results of E coli exposed to airborne ozone

Penn State University March 24, 2000

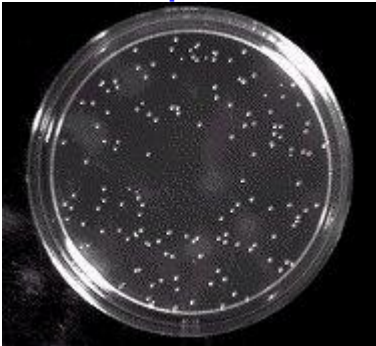
Exposure of E. coli to low levels of airborne ozone (0.1-0.5 ppm). Average ozone level 0.28 ppm. Temperature 75 degrees, 22% relative humidity,

Test performed by Penn State Biology Dept.; W. Kowalski, Brad Striebig, T. Whittam, W. Bahnfleth.

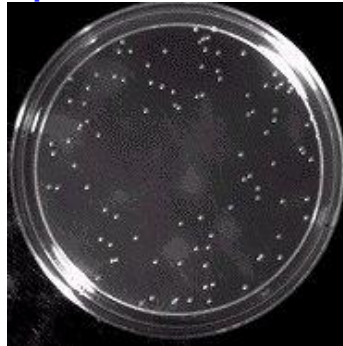


CFU = Colony Forming Units

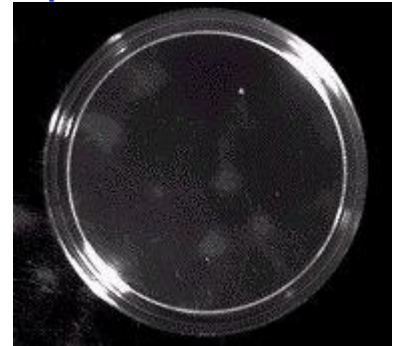
E coli not exposed to ozone



Exposed to ozone 1 hour



Exposed to ozone 2 hours



**After 3 hours there were no E coli survivors remaining in the petrie dish**

"Experiments performed by the authors have found that high bacteria death rates can be achieved with airborne ozone. In these experiments, Escherichia coli and Staphylococcus aureus cultures on plates were inserted in a test chamber through which ozone was pumped. The degree of bacterial disinfection and exposure time compared well with the best results achieved in water by other investigators.

The ozonation of bacteria in air should produce even higher death rates of the bacteria because of more uniform exposure of the cell surface to ozone. Ongoing research at Penn State has found airborne concentrations of ozone highly effective at disinfecting surfaces. The levels of ozone capable of producing rapid sterilization appear low enough that natural decay, may be sufficient to render the sterilized air breathable without recourse to ozone filtration. The results presented here demonstrate that high degrees of bacterial sterilization can be achieved with airborne ozone."