Ozone resistance of spores of 2 strains of Bacillus isolated from laboratory animals was examined. Each of 0.02 ml of phosphate-buffered saline at pH 7.0 containing 10^6 Bacillus spores was dropped onto sterilized filter strips, wood chip bedding, pellets of diet, cloth pieces and stainless steel plates. After drying at room temperature, the test materials were exposed to ozone gas of different concentrations at 90% RH. Exposure to 200ppm ozone for 6 hours was sufficient to kill spores in filter strips, but a little higher concentration or a little longer period of ozone fumigation was necessary for sterilization of wood chips, cotton cloth pieces and steel plates. The present results indicated that 600ppm ozone fumigation for 6 hours might be effective for routine sterilization of cages, wood bedding, working clothes and other materials used in laboratory animal facilities. However, exposure to ozone gas of 500 or 1,000 ppm for 6 hours or 200 ppm for 24 hours could not kill spores in pellets of diet, suggesting that dietary protein inhibited the bactericidal activity of ozone.

PMID: 1577079 [PubMed - indexed for MEDLINE]