



The University of Oklahoma

DEPARTMENT OF BOTANY AND MICROBIOLOGY

Effect of Oxine Against *Alicyclobacillus acidoterrestris*

Alicyclobacillus acidoterrestris ATCC 49025 (type strain) was obtained from the American Type Culture Collection. *A. acidoterrestris* was cultured on ATCC medium 1655, essentially a glucose minimal medium adjusted to pH 4. Cultures were grown at 45° C. This culture is a very vigorous spore former.

Cells from overnight-grown cultures were suspended in 100 ppm synthetic hard water adjusted to pH 4.

Oxine activated with phosphoric acid (1/20, 2 minutes) was added to a final concentration of 30 ppm. Samples were withdrawn at 1 and 10 minutes and neutralized in 1,000 ppm sodium thiosulfate. Viable cell counts were determined in liquid medium using the five-point most probable number method. The following was observed.

Untreated control	9.2×10^5 cells per ml
1 minute exposure	1.6×10^4 cells per ml
10 minute exposure	1.7×10^1 cells per ml

Viable cell counts were reduced by more than 99.99% after treatment with 30 ppm Oxine for 10 minutes. This is significant, especially in consideration of the number of cells present as spores rather than vegetative cells in the assay.

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