VII Simpósio de Microbiologia Agrícola
Inovação e Sustentabilidade para transformar o campo
18 a 21 de maio de 2026

Environmental Monitoring and Disinfectant Evaluation Against the Predominant Microorganism in a Biologicals Manufacturing Facility

L. Dias[1], L. Machado[1], W. Mesquita Mendes[1]; R. Assman[1]AC. Ré[1*]
[1]Allbiom Biotecnologia, Rodovia Abrão Assed, SP-333, Km 4 Cajuru/SP
**anacarolina.re@allbiom.com*

Contamination in biologicals manufacturing facilities is a recurring challenge, as it compromises the quality and efficacy of bioinputs. In this context, environmental monitoring emerges as a tool to map the microbial profile of the facility, supporting the development of control programs and in defining disinfection strategies to mitigate contamination risks. Thus, our aim was to monitor microbial growth in the Allbiom facility from January to March 2026, identify the predominant microorganism, and evaluate the effectiveness of disinfectants agents against for its control. We used passive air sampling, in which culture plates were exposed for 1 hour in six strategic areas. After 48 hours, colony-forming units (CFUs) were counted, and the predominant morphology was isolated and identified by 16S rDNA sequencing. Antimicrobial activity was evaluated using the disk diffusion method, with the following groups (n=8): 1) 0.9% saline solution (negative control), 2) 1% sodium hypochlorite, 3) 1% quaternary ammonium disinfectant, 4) 1% hydrogen peroxide disinfectant, 5) 70% ethanol, and 6) 1% bromoacetamide disinfectant. Environmental monitoring revealed a predominance of bacteria in the facility, with higher contamination in the bioreactor area, particularly in March (662 CFUs), where the predominant microorganism was identified as *Burkholderia glumae*. Antimicrobial activity results (mean ± SD, mm) showed that only groups 4 (24.5 ± 1.12), 2 (21.12 ± 2.30) and 6 (16.88 ± 2.64) produced inhibition zones. Our results allow the identification of critical contamination points and provide a technical basis for the development of more targeted and efficient sanitation protocols for the routine of a facility.

KEYWORDS: sedimentation plates, disk diffusion, 16S rDNA sequencing, bioinputs.