

Introduction

- ❖ Sanitization of cleanrooms in animal facilities is important as it ensures the level of contamination by different means including personnel activities and failures of HVAC system.
- ❖ Cleanrooms are highly controlled to provide a protective working environment. Designed to minimize the transfer of contamination
- ❖ In our monitoring program we assess the total microbial load and molecules present in living cells as an energy source ATP (adenosine triphosphate). Data of RODAC plate count and ATPase assay (adenosine triphosphate) method from one year of environmental monitoring are discussed.

Aims

- ❖ To assess the cleaning efficacy of animal rooms inside vivarium.
- ❖ To check the level of contamination after the personnel activity.
- ❖ To check the integrity of both methods ,RODAC plate method and ATP detection of biomolecules.

Methods

- ❖ Four animal holding rooms were screened for both microbial as well as organic contaminants for one year as regular routine environmental monitoring at LARC

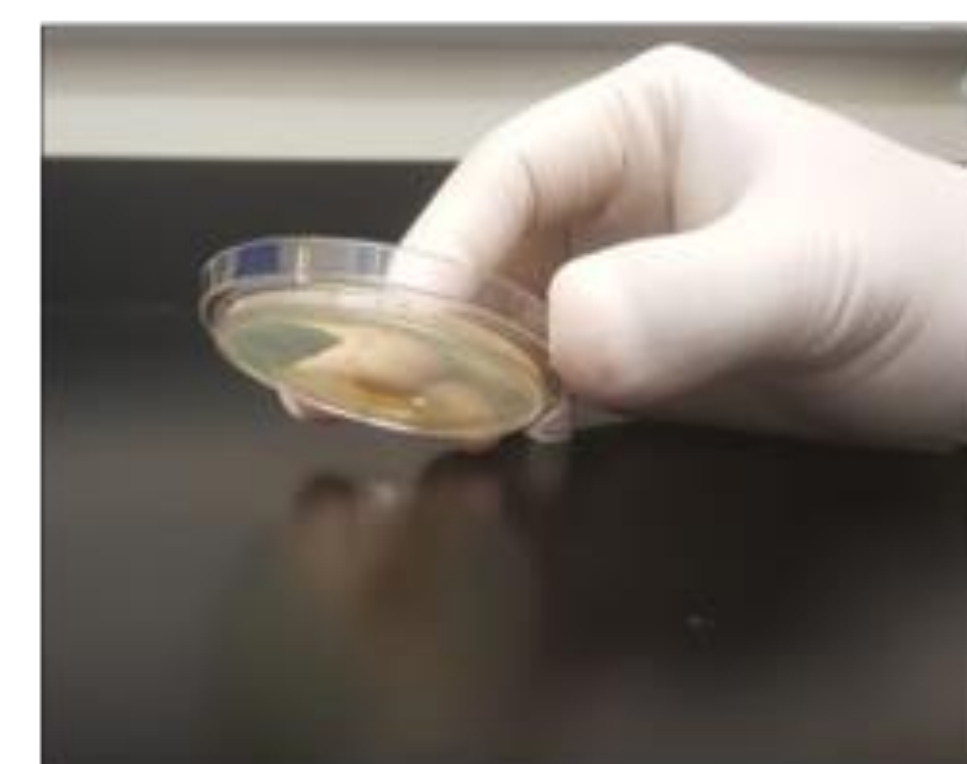
Sampling

- ❖ Evaluation of bio contaminants done by random sampling from four animal rooms at LARC'S vivarium.
- ❖ Each rooms was sampled from four different spots i-e floor, wall, working station and conduit.

Microbial count

- ❖ Soyabean Casein Digest Agar is used for quantification of total environmental flora.
- ❖ Molten agar cooled to 45°C is poured to plate in such a way to make a dome shape (convex position).
- ❖ A 25cm square area is sampled by pressing the RODAC plate on flat surface. Sampling spot is immediately sprayed with IPA to avoid the growth of other organisms.
- ❖ The plates are incubated at 37 °C for 48 hours.
- ❖ After 2 days of incubation the colonies are counted as an average in terms of CFU per area.

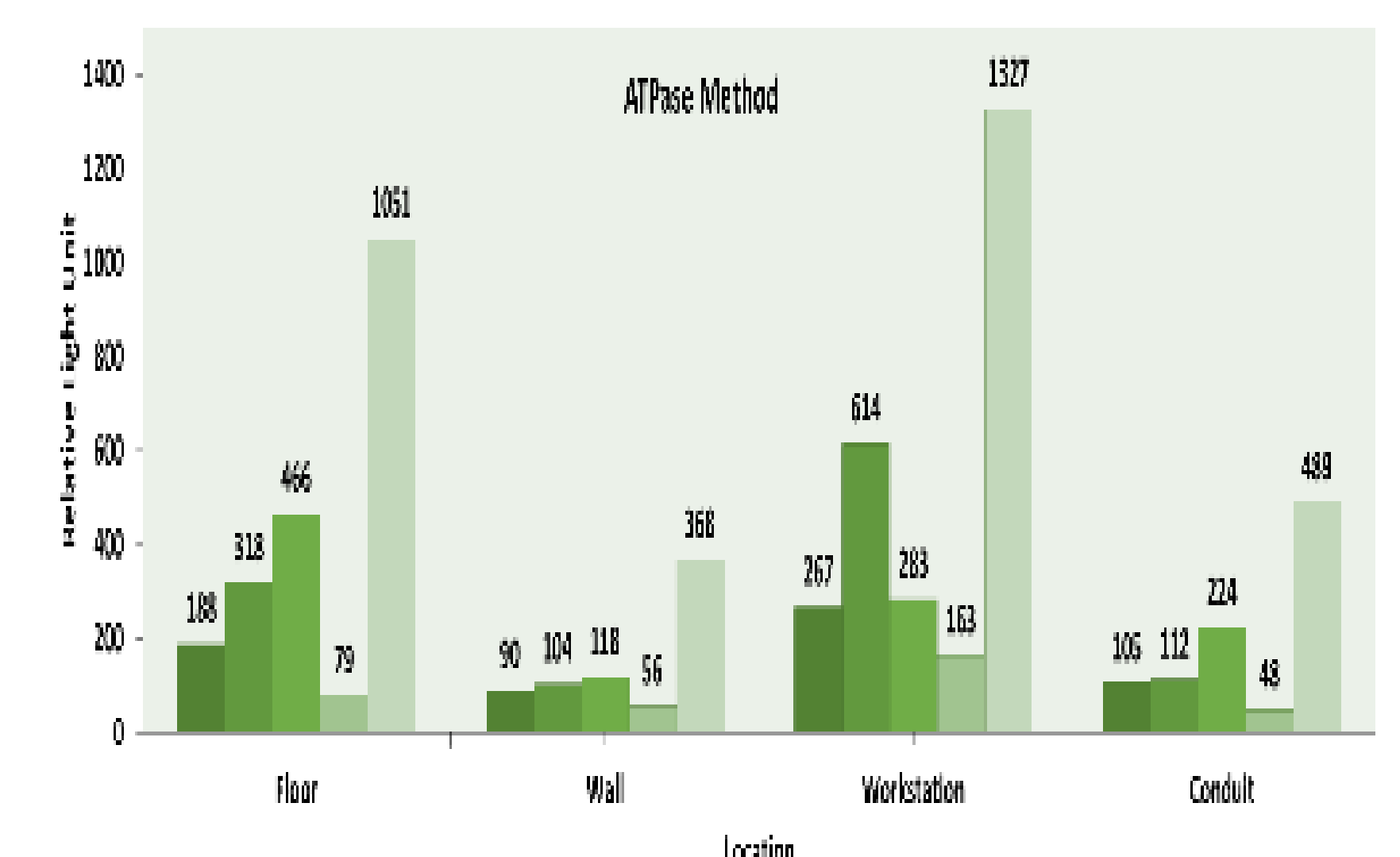
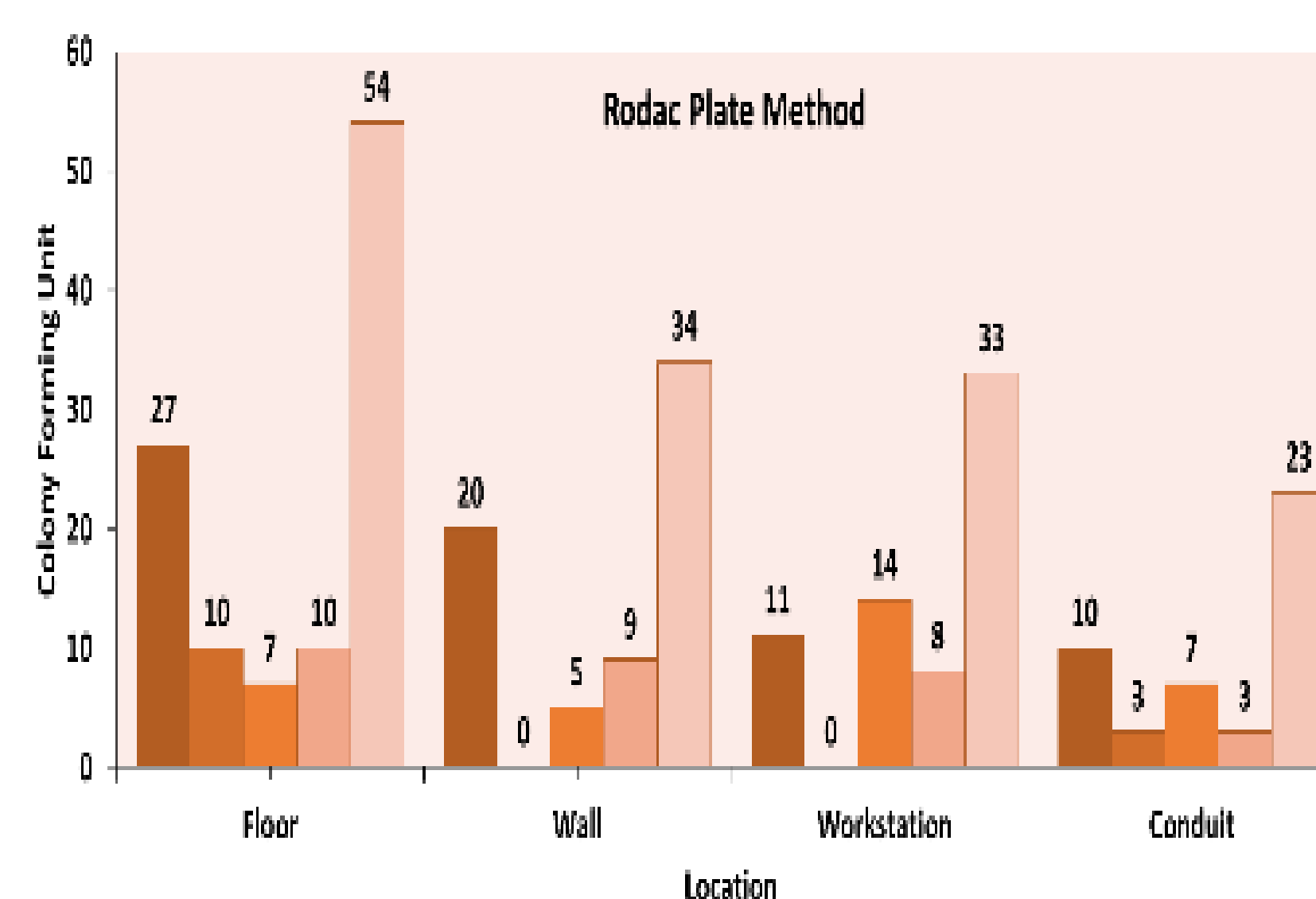
Rodac Plates Method



ATPase Method



Results



Area	CFU
Floor	25
Wall	25
Work station	25
Conduit	25

Area	RLU
Floor	200
Wall	200
Work station	250
Conduit	150

- ❖ One year monitoring of four different animal holding rooms by both methods shows that Room No H 144 is the cleanest with well maintained environmental conditions. Microbial contamination is 21 Cfu per year and its organic molecules reading is 616 RLU (Relative light units).
- ❖ Among the 4 different locations of rooms, conduits were found to be less microbial load with an average of 5.75 Cfu/year.
- ❖ Regarding ATP molecules(organic contamination), working station were found with more count of energy molecules. An average of 331.75 RLU per year as compared to other sites of the room.

Conclusion Although ATP is considered as an energy molecule for living cells including bacteria and fungi their abundance is not indicative of microbial contamination. Only a small extent of correlation is present between energy molecule and bioburden.