WASTE MANAGEMENT AND CONTROL IN ANIMAL HOUSE ISOLATION BUILDING OF CLEVB, (1) EVALUATION OF DISPOSAL OF SPECIMENS AND BIRD CARCASSES FOLLOWING EXAMINATION AFTER CHALLENGE WITH VIRULENT BACTERIAL STRAINS.

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INTRODUCTION

- A necropsy (post mortem examination) is the examination and dissection of a body after death, systematic examination of the entire carcasses and the collection of samples to determine the cause of death.
- That is to Identify changes produced by virulent challenge organisms prior to death and aids to diagnose and judge in the vaccine evaluation.
- Hygienic handling of carcasses and samples and forwarding specimens to a laboratory then disposal of contaminated clothing, equipment, carcasses and specimens is necessary for protection of people and external environment from infection.
- Incineration, disinfection and autoclaving are the key steps of waste management.

OBJECTIVES

The objectives of this work are to fill gaps related to:
1: Hygienic handling of lab animal carcasses and specimens post challenge test with virulent bacterial strains.
2: Safe disposal of contaminated clothing, equipment, carcasses and specimens.
3: Protection of workforce and external environment from infection.

MATERIAL & METHODS

Evaluation of strategy applied for waste management to protect people and environment from infection.
1- Hygienic disposal of the dissected carcasses by incineration in the animal house isolation building.
2- Effective cleaning of equipment and buildings by Soaps and detergents.
3- Disinfection using one of either phenolic compound, aldehydes, oxidizing agents, halogens or quaternary ammonium compounds.

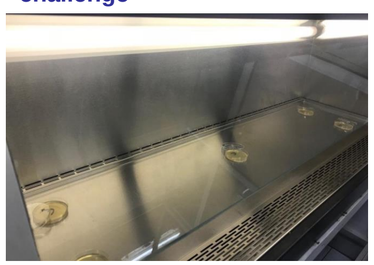
4- Testing and monitoring of used biological safety cabinet (after re-isolation of challenge strain), bench work and the building at site of work after disinfection by distribution of TSA medium plates then incubated overnight.

RESULTS

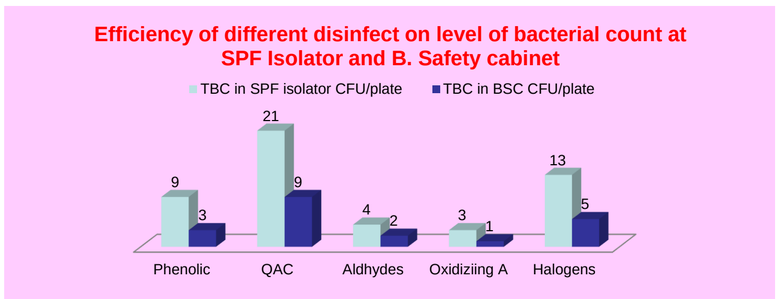
The finding of viable organisms post treatment of the animal isolator and cabinet with disinfectant was varied according to the used disinfectant (details mentioned in Table). In case of any bacterial growths, cleaning and disinfection should be repeated.

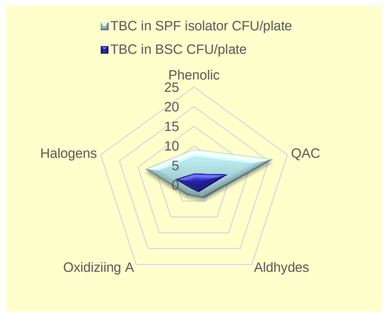
Animal isolator with challenged lab animal with virulent bacterial strain (p. multocida)

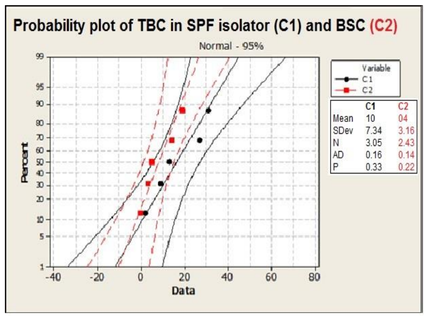
Re-isolation of virulent bacterial strain from lab animal post challenge



Testing of animal isolator (Used for challenge) and BSC (Used for re-isolation of virulent challenge bacterial strain) using TBC after cleaning and disinfection.







Efficacy of different disinfectant on the level of bacterial count (Open plate method) at SPF isolator and BSC.

Conclusions

The findings of this study

Biological wastes especially carcasses and biological specimens need more attention, efficient treatment and good understanding of waste management and control to avoid putting people under risk of fatal diseases and exposure of environment to hazardous materials.

Outcomes

Effective cleaning and disinfection are needed for carcasses and necropsy disposal to workforce and environmental hazardous. Raising awareness of all contact persons to raise public health interest from exposure to hazardous materials.

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CLEVB = Central Lab for Evaluation of Vet Biologics , AHRI = Animal Health Research Institute .

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