



Examining the Influence of Training on Biosecurity: A Comparative Analysis of Biosecurity Scoring Between Commercial Layer and Broiler Farms in Gujarat, India



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Introduction

- Biosecurity, a multifaceted approach to prevent the introduction and dissemination of diseases within animal production systems, assumes paramount importance in addressing “**One health**” challenges.
- However, the effectiveness of biosecurity measures hinges upon a critical factor knowledge and adherence among those entrusted with its implementation. This raises a fundamental question about the role of training in enhancing biosecurity practices.
- Through a meticulous comparative analysis, we seek to understand the impact of training on biosecurity scoring within diverse poultry production systems.

Objectives

- The primary objective is to conduct a thorough exploration of biosecurity scores, drawing insights from commercial layer and broiler farms in Gujarat, India.
- To investigate the impact of training and identify critical gaps in knowledge and biosecurity practices.

Methodology

- To assess the biosecurity levels on individual poultry farms (n=56, broiler n=35; layer n=21), a comprehensive scoring system was used that developed by **Ritz (2017)**.
- In this longitudinal study, after three months a comprehensive post-training biosecurity score was collected from the same farmer and score analyzed.

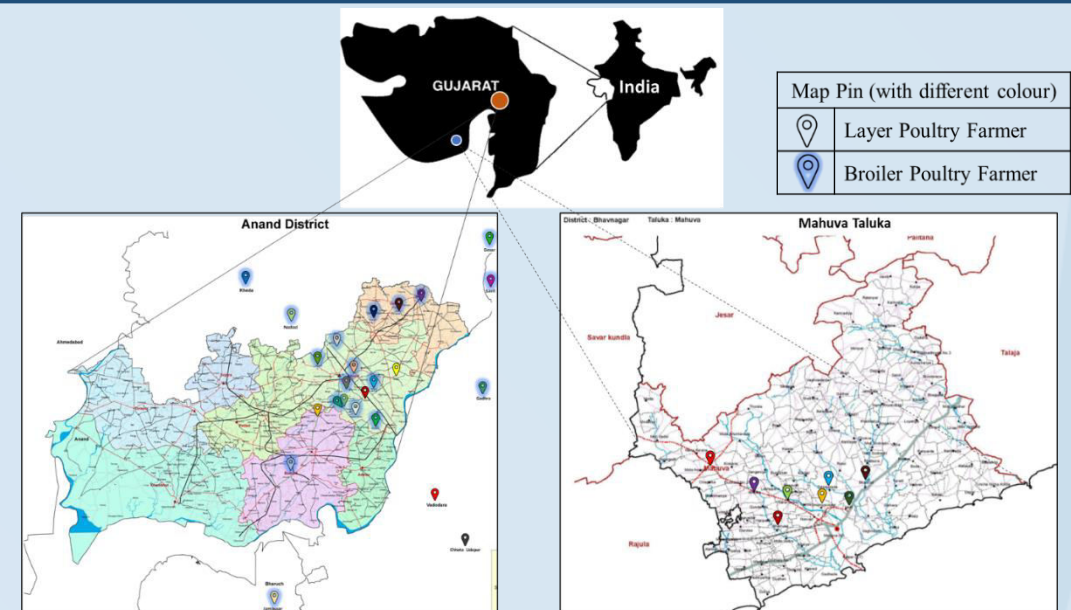
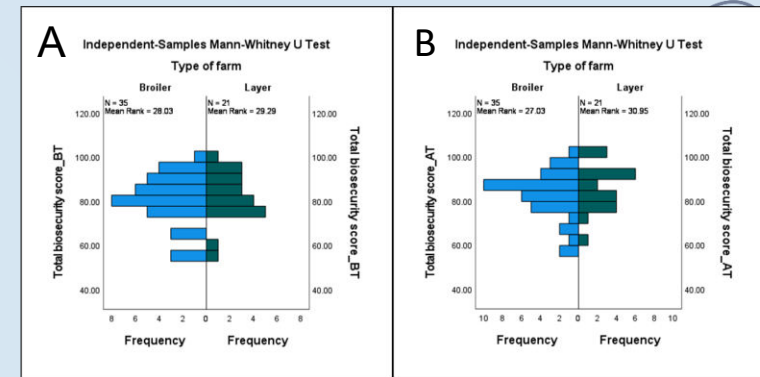


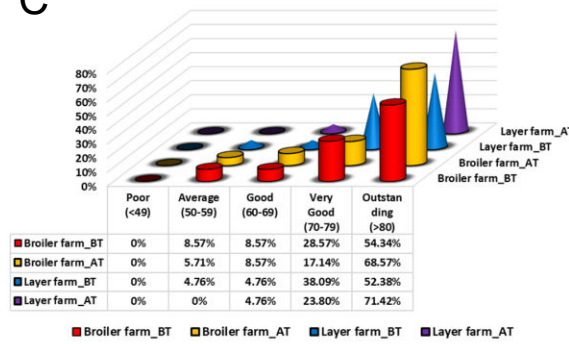
Figure 1: Map displaying the poultry farmers who participated in biosecurity training from various geographical areas of the major poultry bands in Gujarat.

Results

- The mean biosecurity score for broiler and layer farms before training was 80.26 and 81.86, respectively, out of a total 100. After training, these scores increased by 2.44% (82.66) and 3.9% (85.76) for broiler and layer farms, respectively indicate improvement but not statistically significant.
- Significant differences were observed in biosecurity measures for broiler and layer farms before training (p-value 0.78) and after training (p-value 0.38) using the **Independent-Samples Mann-Whitney U Test**.



C Biosecurity score before and after training



D Correlation of farm biosecurity score with variable (farm and farmer profile)

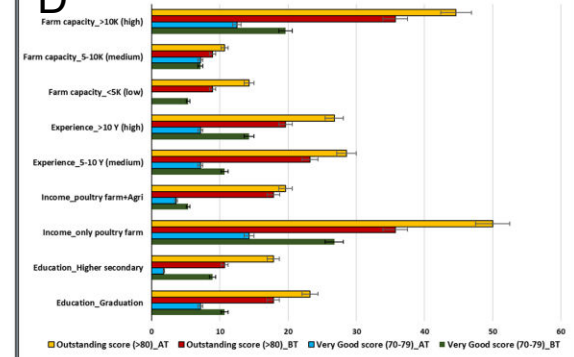


Figure A: Significance levels in total biosecurity scores before training (BT; p value 0.78). **Figure B:** after training (AT; p value 0.38). **Figure C:** Improvement in farm biosecurity score **Figure D:** Correlation of farm biosecurity score categories

Conclusions

- Poultry farmers have very high level of basic knowledge regarding biosecurity and the pre and post intervention data shows that there was improvement, but training was not effective in making big changes.