

COMBAT

A new tool for fast evaluation and benchmarking of biosecurity, pig flow and management



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INTRODUCTION

COMBAT (Comprehensive Online Management and Biosecurity Assessment Tool)¹ is a new app developed by Boehringer Ingelheim Vetmedica to help farmers and veterinarians to evaluate and improve the level of biosecurity, pig flow and management procedures and benchmark against other farms. COMBAT is based on a detailed set of 55 questions to be answered directly in the application.

MATERIALS AND METHODS

This study is based on more than 1000 COMBAT's (questionnaires) from 46 different countries globally. The relative risk of not being able to prevent, control or manage a PRRSV infection is calculated in 4 categories. The risk evaluation output is visualized in a circle chart, fig.1. Feedback is given to each category and categorized as very high, high, medium and low risk, to facilitate discussion of behaviors and prioritize fields of importance, fig 2.

Figure 1.

Combat results in project farms are placed in a 4 dimension circle chart, indicating the Internal risks, External risks, risks related to location and the quality of management and pig flow. Global benchmark results are only shown in 2 dimensions, Internal and External risks. Benchmark average is shown by a red star.

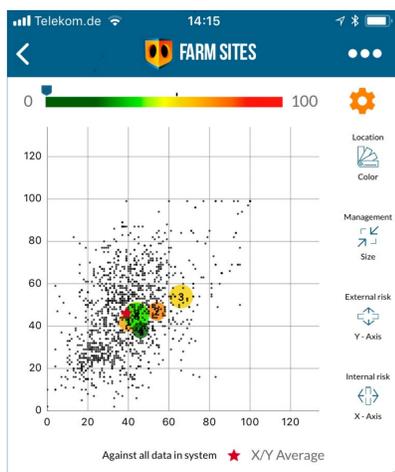
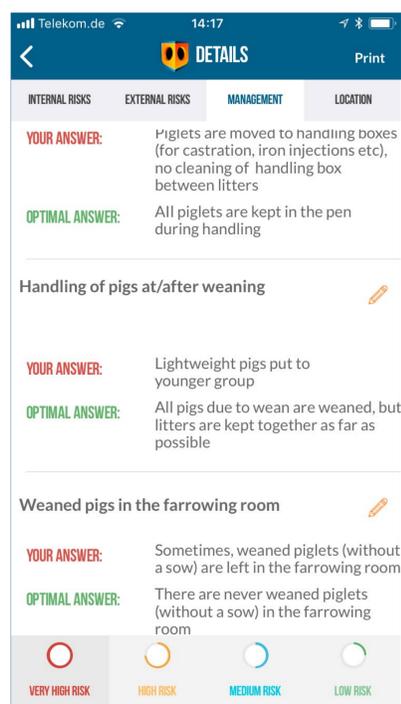


Figure 2.

Example of feedback on very high risks in the Internal risk category, with suggestions for improvement. Several options for printing of feedback sheets.



RESULTS

Very high risky behaviours were identified regarding;

- External biosecurity Fig 3;
- Internal biosecurity Fig 4.
- Location; Fig 5.
- Management and pigflow; Fig 6.

Figure 3. Percent of Very high risk answers given to question 6, 7, 8 and 11 in External risk category.

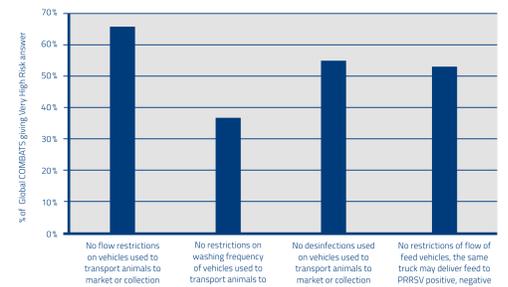


Figure 4. Percent of Very high risk answers given to question 10, 11, 12 and 5 in Internal risk category

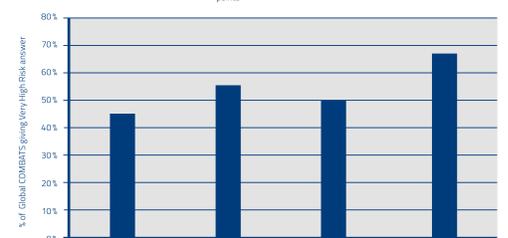


Figure 5. Percent of Very high risk answers given to question 1 and 5 in Location risk category

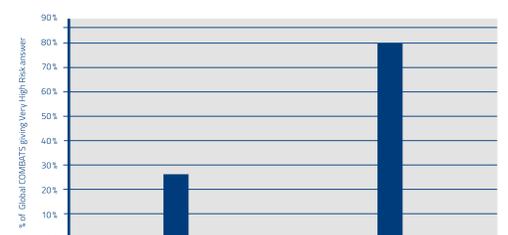
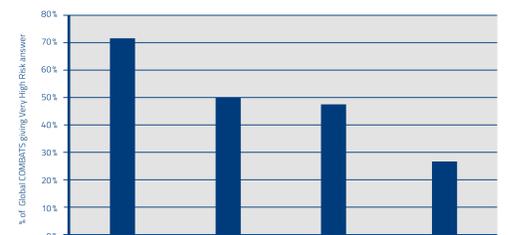


Figure 6. Percent of Very high risk answers given to question 6, 7, 8 and 12 in Management risk category. All Questions in the category are linked to the 10 Golden management Rules²



DISCUSSION AND CONCLUSION

Majority of farms does not know the status of their neighbors. Attention to flow and cleaning of vehicles between PRRS negative and positive farms is often questionable. This plays an important role to minimize the risk of introducing PRRSV (and other viral diseases as ASF). Internal biosecurity assessment reveals that, people are often moving unrestricted without boot or clothes change around in the farm.

Mixing of pigs happens at several time points and still many farms introduce gilts directly into the sow herd.

COMBAT facilitates improved biosecurity, pig flow and management practices, by highlighting the most important risk areas related to PRRS incidence. Successful PRRS control must incorporate measures to reduce the risk of new virus introduction (external risks) and improve the ability to control PRRSV internally on a farm/site/area. Immediate feedback encourages and veterinary advisers to address risky behaviors on the actual production site.

REFERENCES

- Rathkjen, De-Paz, Huan, Gomez-Duran, Mondaca, APVS 2017, COMBAT: Comprehensive Online Management and Biosecurity Assessment Tool
- Rathkjen PH, Dall J. Control and eradication of porcine reproductive and respiratory syndrome virus type 2 using a modified-live type 2 vaccine in combination with a load, close, homogenise model: an area elimination study, Acta Veterinaria Scandinavica, 2017, 59:4

