

BIOSECURITY IN PIG HERDS IN PORTUGAL



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OBJECTIVE

To investigate biosecurity practices in Portuguese industrial farrow-to-finish pig herds.

MATERIAL & METHODS

The survey framework and questionnaire were presented to veterinarians by the 1st author. 250 questionnaires were distributed, from September to December 2008 (response rate - 52%, 129 questionnaires). Target area: Lisbon and Tagus Valey region that holds 44% of the total number of pigs in Portugal.

From the original dataset, only variables with non-missing values were included in the analysis. A factor analysis model with orthogonal rotation was used to investigate biosecurity patterns (n=91 herds). Nominal data were scaled using the maximum-total variance method.



RESULTS & DISCUSSION

DESCRIPTIVE ANALYSIS

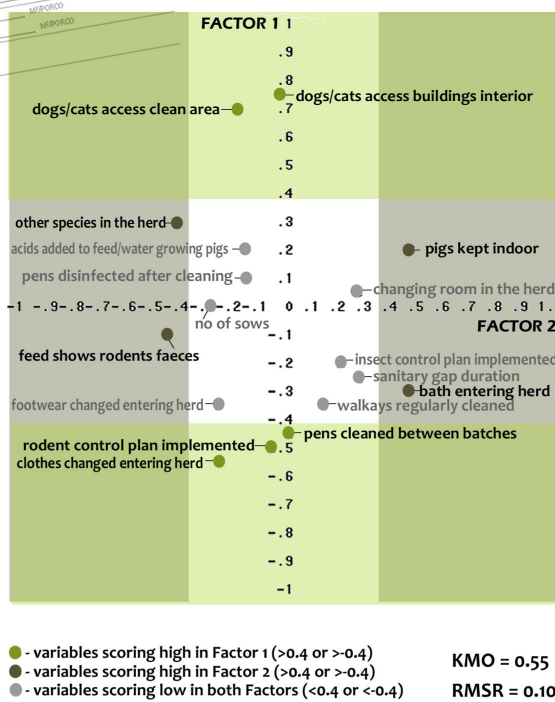
	Mean	Q1	Q2
Number of sows	294.7	200	350
Sanitary gap (days)	5.3	3.0	7.0

Fisher's exact test was used to identify differences between herd size: small (≤ 250 sows) and large (>250 sows) (significant differences are indicated with a *, $p < 0.05$)

Variables (nominal)	N	Yes	No
Pigs kept indoor*	81	10	
Other species present in the herd	51	40	
Dogs/cats access the clean area	28	63	
Dogs/cats access buildings interior	14	77	
Rodent control plan implemented	74	17	
Feed shows rodent faeces	2	89	
Insect control plan implemented	66	25	
Walkways regularly cleaned	82	9	
Pens cleaned between batches	89	2	
Pens disinfected after cleaning	90	1	
Changing room in the herd	88	3	
Bath when entering herd	22	69	
Clothes changed entering herd	89	2	
Footwear changed entering herd	90	1	
Acids added feed/water	15	76	

FACTOR ANALYSIS

2 factors were retained in the model and accounted for 31% of the total variance.



A herd scoring high on one of the factors is described as follows: (a low score is described as the opposite):

- FACTOR 1** - High score indicates POOR biosecurity:
- dogs/cats have access to the clean area and buildings interior
 - rodent control plan is not implemented
 - clothes are not changed when entering the herd
 - pens are not cleaned between batches
- FACTOR 2** - High score indicates HIGH biosecurity:
- no other animal species are present in the herd
 - pigs are kept in indoor units
 - when entering the herd bath is required
 - feed does not show rodent faeces

CONCLUSION

Overall, the biosecurity status of Portuguese industrial farrow-to-finish pig herds was acceptable. Further improvements can be suggested in particular with hygiene for personnel entering the farm as well as control of animal vectors like insects, rodents, dogs and cats.

Herd size was not found to be related to biosecurity.

17 variables were combined into 2 factors reflecting general biosecurity. The scoring factor coefficients will be used in the future to assess the biosecurity status of Portuguese farrow-to-finish pig herds.