

# Risk factor analysis for proliferative hemorrhagic enteropathy (PHE) on Dutch finishing pig farms



R. Jansen<sup>1</sup>, G. van Well<sup>2</sup>, M. Steenaert<sup>1</sup>

<sup>1</sup>Boehringer Ingelheim Animal Health Netherlands, Alkmaar, The Netherlands; <sup>2</sup>Vitelia Voeders, Oirlo, The Netherlands



## INTRODUCTION

PHE is a clinical form of ileitis caused by *Lawsonia intracellularis*, which is characterized by acute hemorrhagic diarrhea and sudden death, mostly hitting finishing pigs close to slaughter weight (2). PHE is frustrating for both pig farmers and practitioners, due to the unpredictable occurrence and quick development of clinical disease. Sadly, not much is known about PHE risk factors, offering no effective control and prevention of disease. To gain more knowledge, a risk factor analysis was made based upon answers from a survey that was conducted across 30 different finishing pig farms in The Netherlands.

## MATERIALS AND METHODS

A questionnaire was developed containing possible risk factors related to PHE, based on empirical and previously published findings. This survey covered aspects of management, technical performance, biosecurity, ventilation, feed and water management. In total 30 farms were selected to participate based on individual PHE history and categorized:

- severe (sPHE), 10 farms, defined by more than 0.5% mortality per year caused by PHE
- mild-to-moderate (mPHE), 9 farms, defined by 0.1-0.5% mortality per year caused by PHE
- control farms without PHE (C), 11 farms, defined by no registered mortality caused by PHE

To exclude influences of different feeding recipes, only farms using complete pelleted feed were included. To exclude seasonality all the questions only considered the months August to October of 2016. The farms were visited and interviewed by the same person.

## RESULTS

For the analysis of PHE-related risk factors, sPHE and mPHE farms were combined in the data set. Significant ( $p < 0.05$ ) odd's ratio's (OR) for PHE could be attributed to:

- specialized finishing pigs farms compared to farrow to finish sites (OR 5.77);
- less floor surface per finisher pig ( $0.8 \text{ m}^2$  vs  $1.0 \text{ m}^2$ ; OR 9.33);
- deworming more than once during finishing (OR 9.9).

Tendencies ( $0.1 < p > 0.05$ ) could be attributed to:

- more than one piglet supplier per finishing location (OR 1.92);
- less cleaning and disinfection of boots (OR 4.86)

Pigs on farms that suffered PHE had a higher average daily gain (833 vs 822 gram/day) and were fed larger amounts of starter and grower feed compared to control farms. Antibiotics use was higher in sPHE farms compared to mPHE and C farms (Defined daily Dosage 11.5 vs 3.2 and 5.1 respectively) (1).

Fig 1: Available floor space per finisher

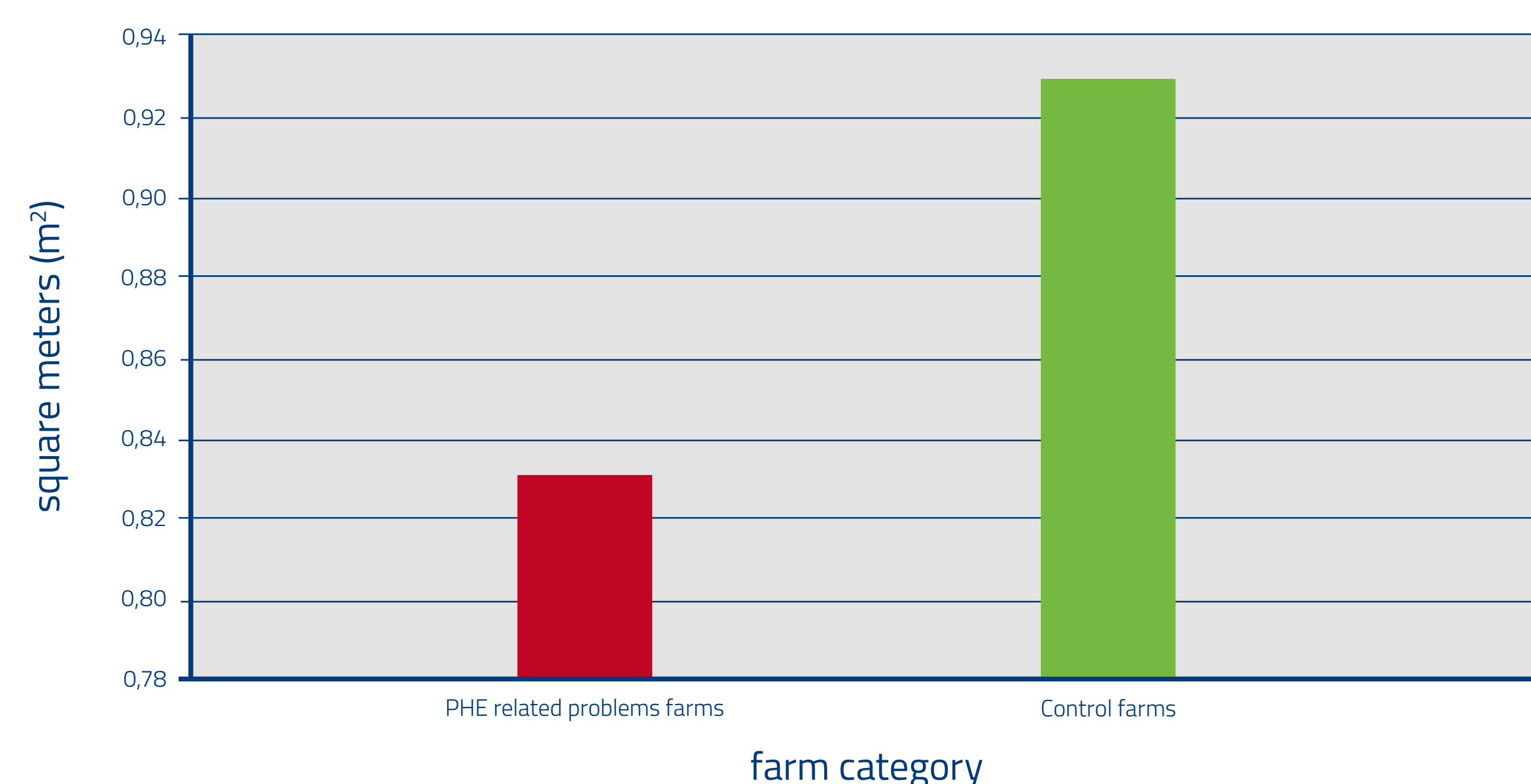
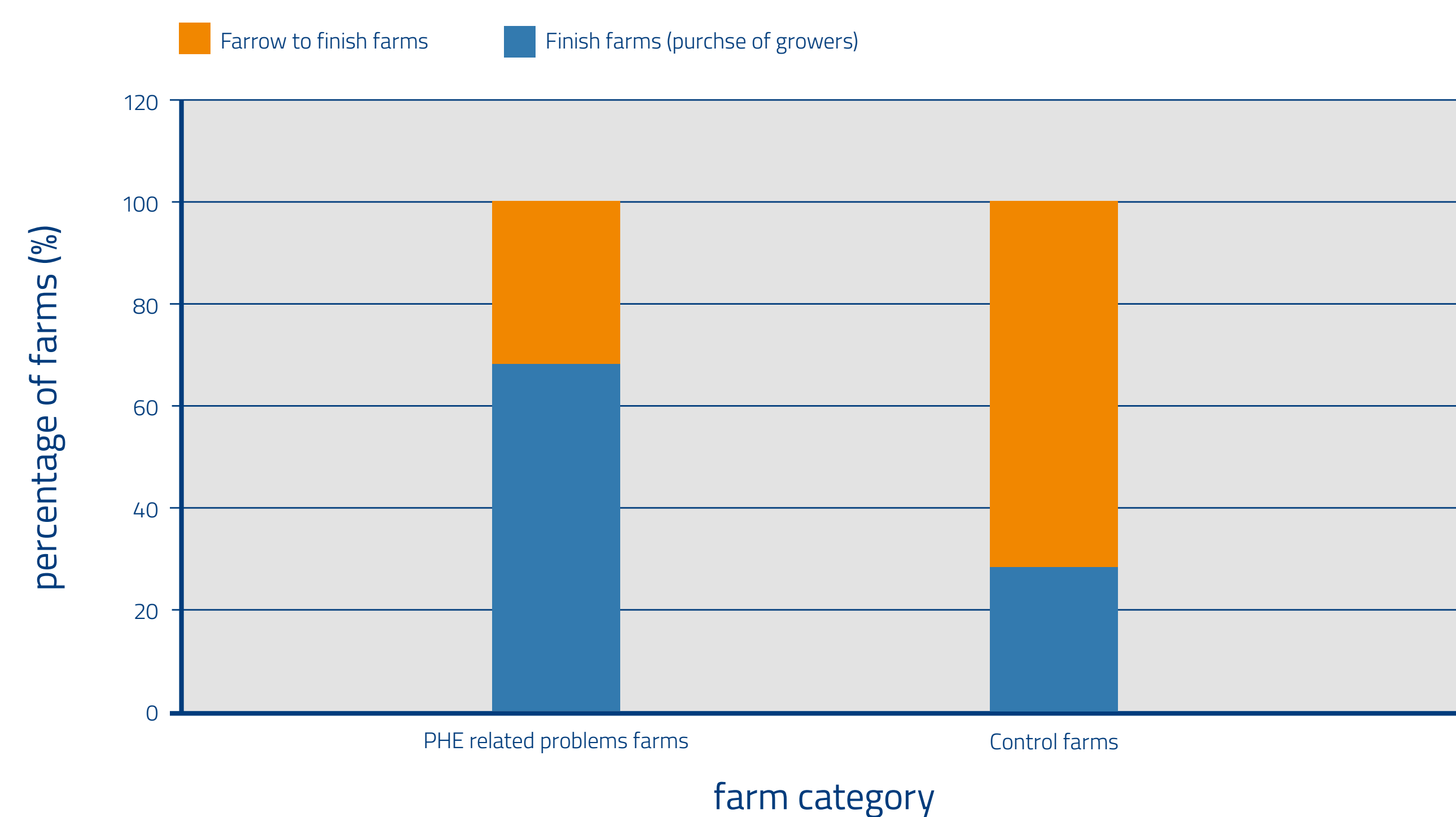


Fig 2: Difference between production systems



## DISCUSSION AND CONCLUSION

This study offers some first insights for possible PHE risk factors in finishing farms. None of them is proving a root cause for higher PHE risk. The low number of farms in this study combined with the huge variation in individual farm and management systems might explain some of the lack in significant differences. Deworming more often in PHE farms is explained by the fact that PHE-affected farms implement counter measures to control the disease. Hopefully this paper inspires to do more study gaining knowledge on PHE risk factors.

## REFERENCES

1. <https://www3.lei.wur.nl/antibiotica>
2. Guedes (2004) *J Swine Health Prod: May and June 2004*

