

Health Scores in Finishing Pigs: Do not Forget to Stratify by Initial Body Weight



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Background

Animal welfare and health are current challenges in farming and veterinary practice. In the present study, which is carried out in the frame of the MuTiViS-project, seven health scores and one total score were developed [1].

They are based on semi-annual production data of German finishing pigs from July 2017 to June 2019 to describe pig health in a collective of 200 herds as preparation for a monitoring system.

As the initial body weight (IBW) at the beginning of the fattening period plays a decisive role for several production variables, the study examined how stratification by different IBW-classes could prevent bias.

Material and methods

Production data for health scores

- Performance data provided by agricultural advisory service
- Information on antibiotic usage
- Findings in slaughter pigs at meat inspection

Stratification by IBW

- Three different IBW-classes were defined:
 1. light (< 24 kg)
 2. medium (24 - 33,5 kg)
 3. heavy (> 33,5 kg)
- ANOVA F-tests were conducted to prove significance of differences between classes

Table 1 Health scores and indicators with p-value of ANOVA F-test.

Score	Indicator	P-value F-test
MOR	mortality	<.0001
ADG	average daily gain	<.0001
FCR	feed conversion ratio	<.0001
TF	treatment frequency	0.0028
RESP (respiratory lesions)	pneumonia, pleurisy, pericarditis	<.0001
EXT (exterior lesions)	arthritis, abscess, ear lesions, tail lesions, dermal alterations, bursitis	0.3650
MANG (animal management)	liver milk spots, dermal damage, intestinal alteration, whole carcass condemnation	0.1004

Results

- MOR was significantly higher and ADG was lower in class-1-herds (light piglets)
- Class-1-herds had fewer treatments with antibiotics and better FCR
- More lesions of respiratory tract were found in class-3-herds (heavy piglets)

References

[1] Grosse-Kleimann et al. Health Monitoring of Finishing Pigs by Secondary Data Use – A Longitudinal Analysis. PHM 2021.

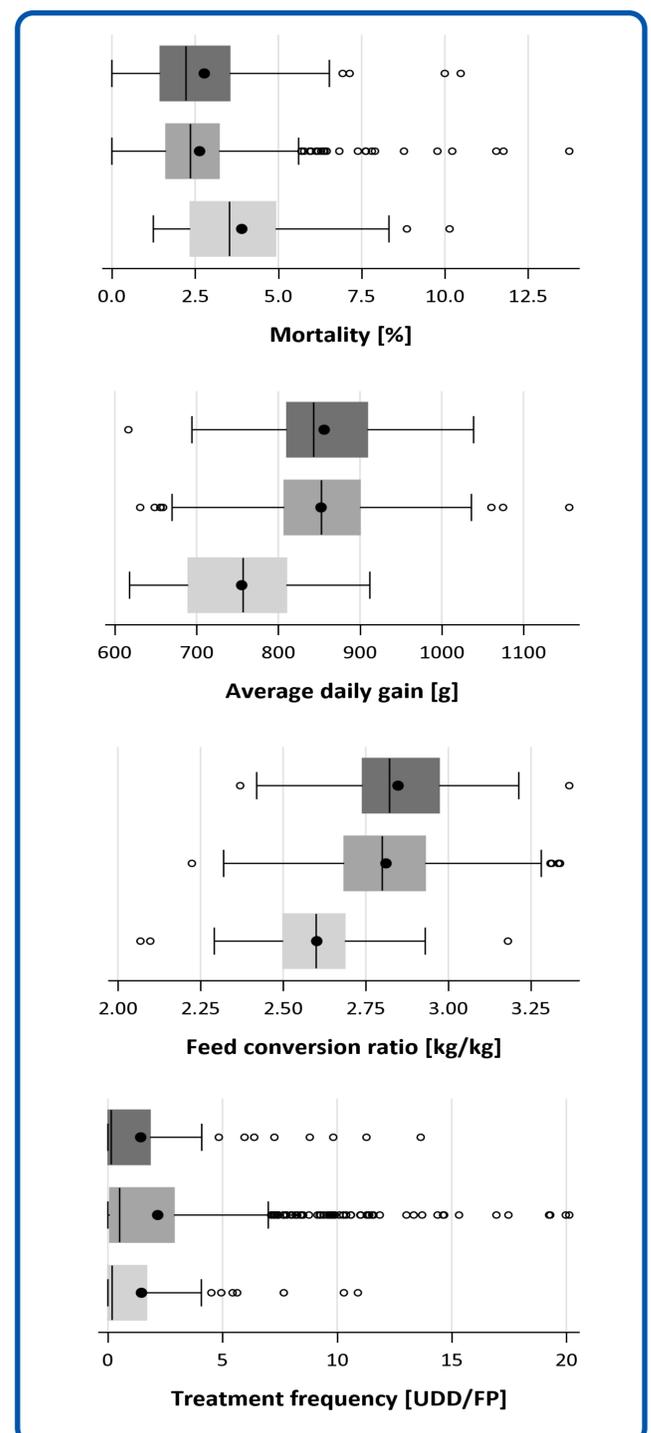


Fig. 1 Boxplots of mortality, average daily gain, feed conversion ratio and treatment frequency between IBW classes.

Light grey class 1, medium grey class 2, dark grey class 3, UDD used daily doses, FP finishing pig place.

Conclusion

- Production data are usable for health monitoring
- Stratification by IBW is necessary