Applicability of a non-invasive method to predict body weight of growing-finishing pigs based on the support of the front legs

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INTRODUCTION AND OBJECTIVE

❖ **Weighting individual pigs** regularly may be a helpful practice to anticipate interventions to increase growth of the whole herd. This opens the opportunity to implement feeding strategies to improve the homogeneity of the herd at slaughter, such as precision feeding.

❖ However, weighting pigs usually is a **stressful procedure** for both stockmen and animals.

OBJECTIVE: The aim of the current study was to verify the applicability of an **automatic weighting method** based on the **support of the front legs (FLS)** of the pigs compared to a **regular scale (RS)**

RESULTS

❖ A strong correlation (**Table 1)** was observed between FLS and RS (Pearson coefficient coefficient (r) of 0.99).

Table 1. Correlation between FLS and RS.

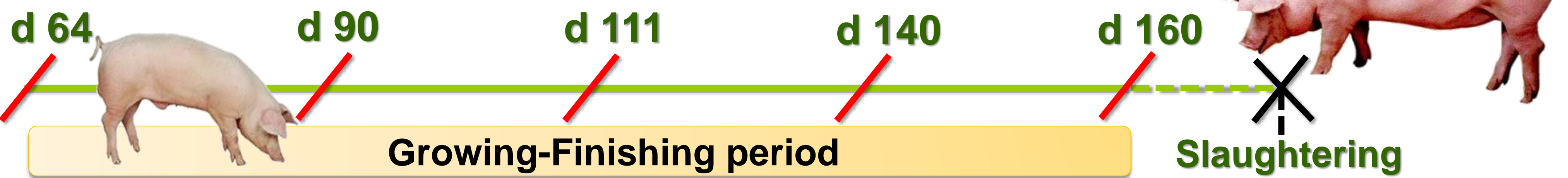| Item	RS	p-value
FLS	r = 0.99	<.0001

❖ The linear model fitted was:

(RS = -1.6799 + 1.7413 x FLS; P<.0001)

- High R^2 (0.99)
- Low CV (4.29%)
- Low RMSE (2.641)

MATERIALS AND METHODS

ANIMALS:

d 64   d 90   d 111   d 140   d 160

Growing-Finishing period   Slaughtering

❖ **1320** ♂ & ♀ crossbreed pigs [*Pietrain* x (*Landrace* x *Large White*)] , **13** pigs/pen, fed *ad libitum*.

❖ **Individually identified** by electronic ear tags and weighed from d 64 until slaughter with **two scales**:

A) Platform to put the front legs (**FLS**) with antenna to read ear tags & <u>assembled with the feeder (**AUTOMATIC**)</u>.

B) Regular scale (**RS**) to weight pigs on days: 64 (entry), d 90, d 111, d 140 and d 160 (**MANUAL**).

STATISTICAL ANALYSES: sas

❖ Correlation between the two weighting methods was analyzed by **PROC CORR**.

❖ Prediction of BW was obtained by regression from FLS by using the **PROC REG**.

CONCLUSION

FLS is a good method to weight individually and automatically growing-fattening pigs allowing farmers to monitor the growth of their animals. The benefits in terms of welfare by reducing the stress associated to the over manipulation of pigs should also be considered