

Equations to predict the effects of dietary deoxynivalenol on the performance of pigs

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Introduction

- Dietary deoxynivalenol (DON) negatively affects the growth performance of pigs
- Prediction equations for negative effects of dietary DON on the performance of pigs reported by Mok et al. (2013) have not been validated
- The objectives were to **assess the accuracy of the published equations** and to **update the equations** based on the recently published data

Materials and Methods

- **Recently published 55 data** from 22 experiments reporting the effects of DON on the growth performance of pigs were employed for **validating** the previously published equations and **establishing** the novel equations
- The PROC REG of SAS (SAS Inst. Inc., Cary, NC) was used

Results

- The intercept and slope of published equations were different from 0 ($P < 0.05$; Figure 1) indicating that these equations did not accurately reflect recently published data
- Novel equations were developed based on the large number of observations and wide range of dietary DON concentration (0 to 14.6 mg/kg; Figure 2)

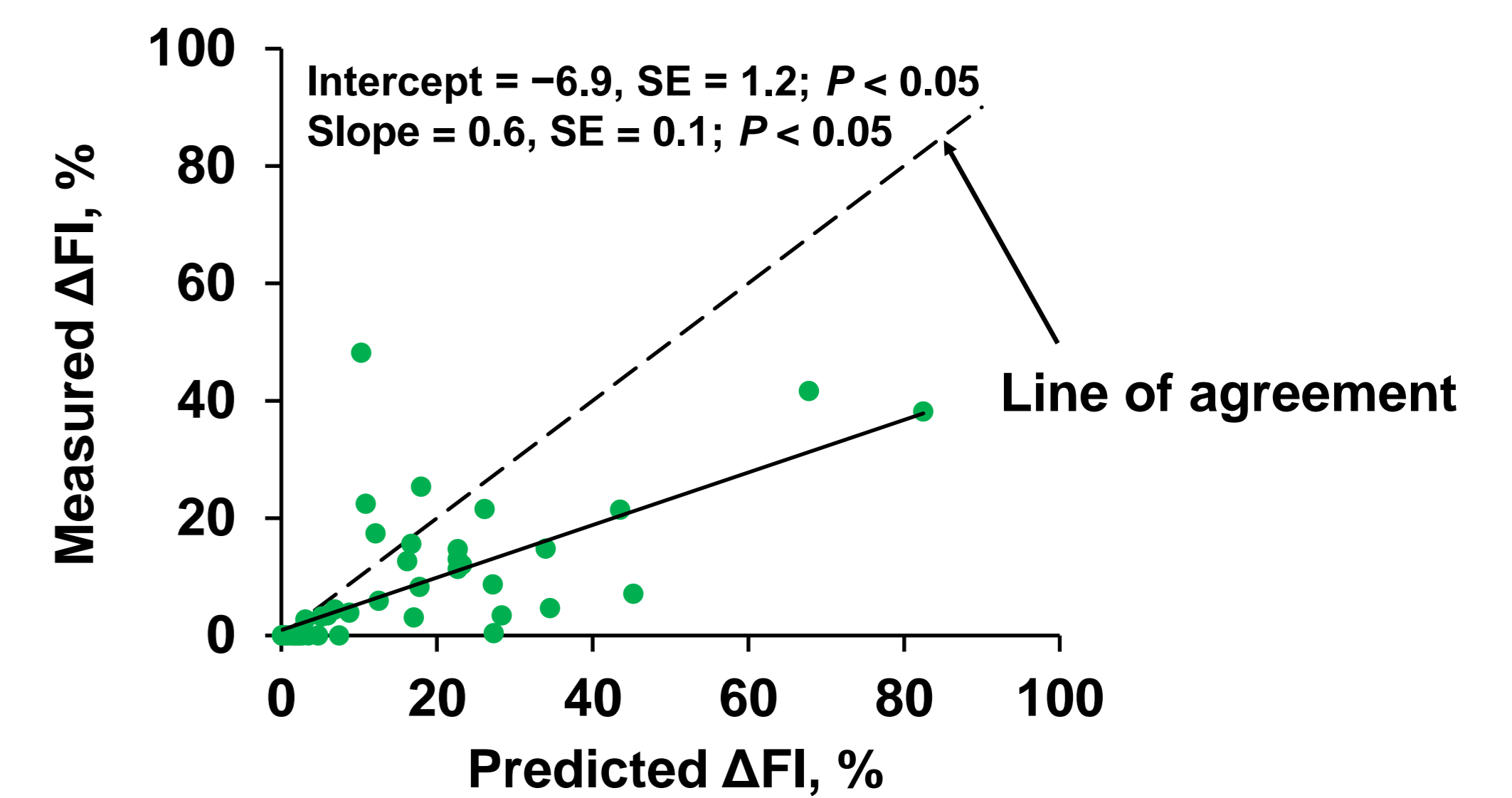
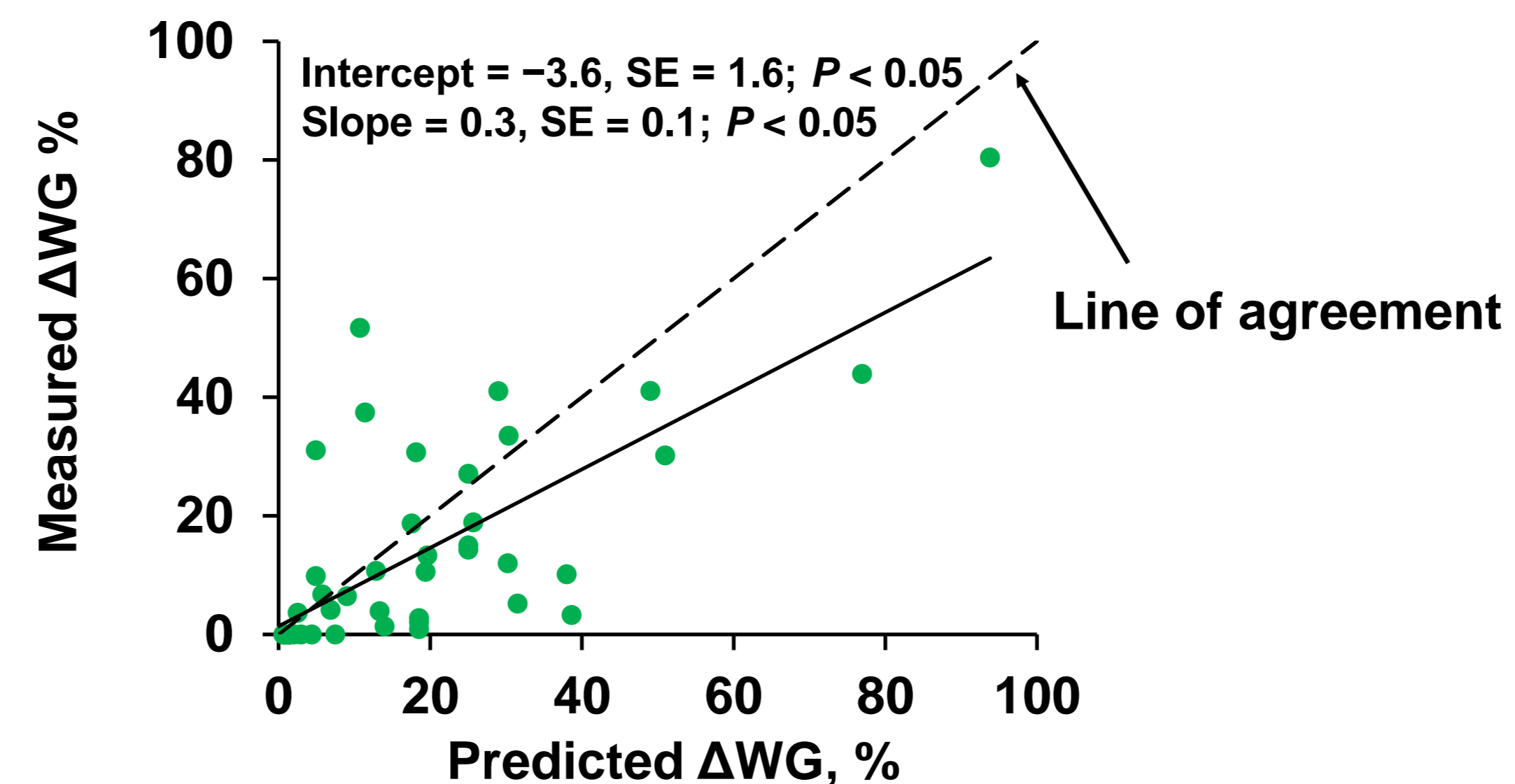


Figure 1. Validation of published equations for predicting weight gain changes (Δ WG, %) and feed intake changes (Δ FI, %)

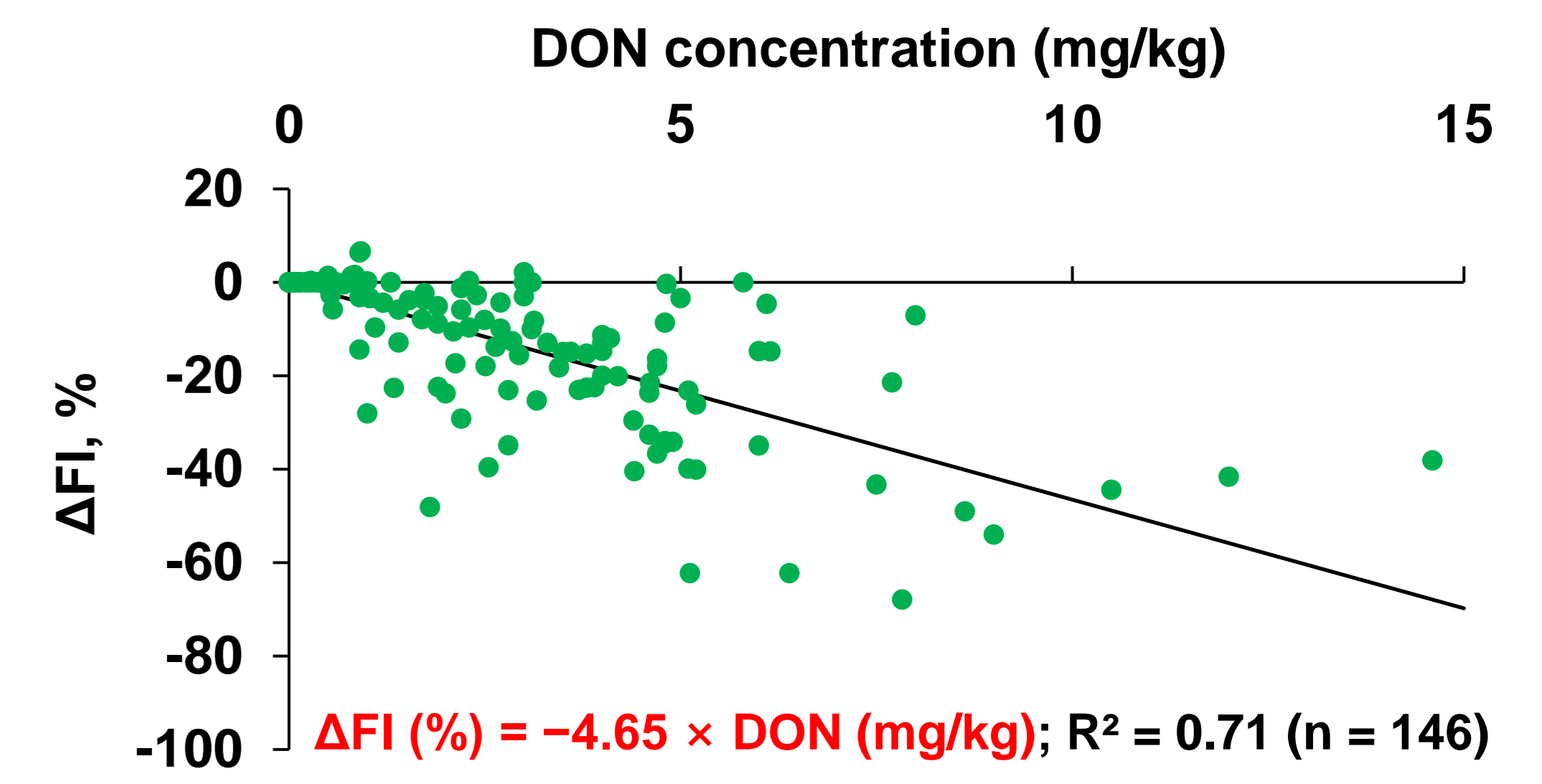
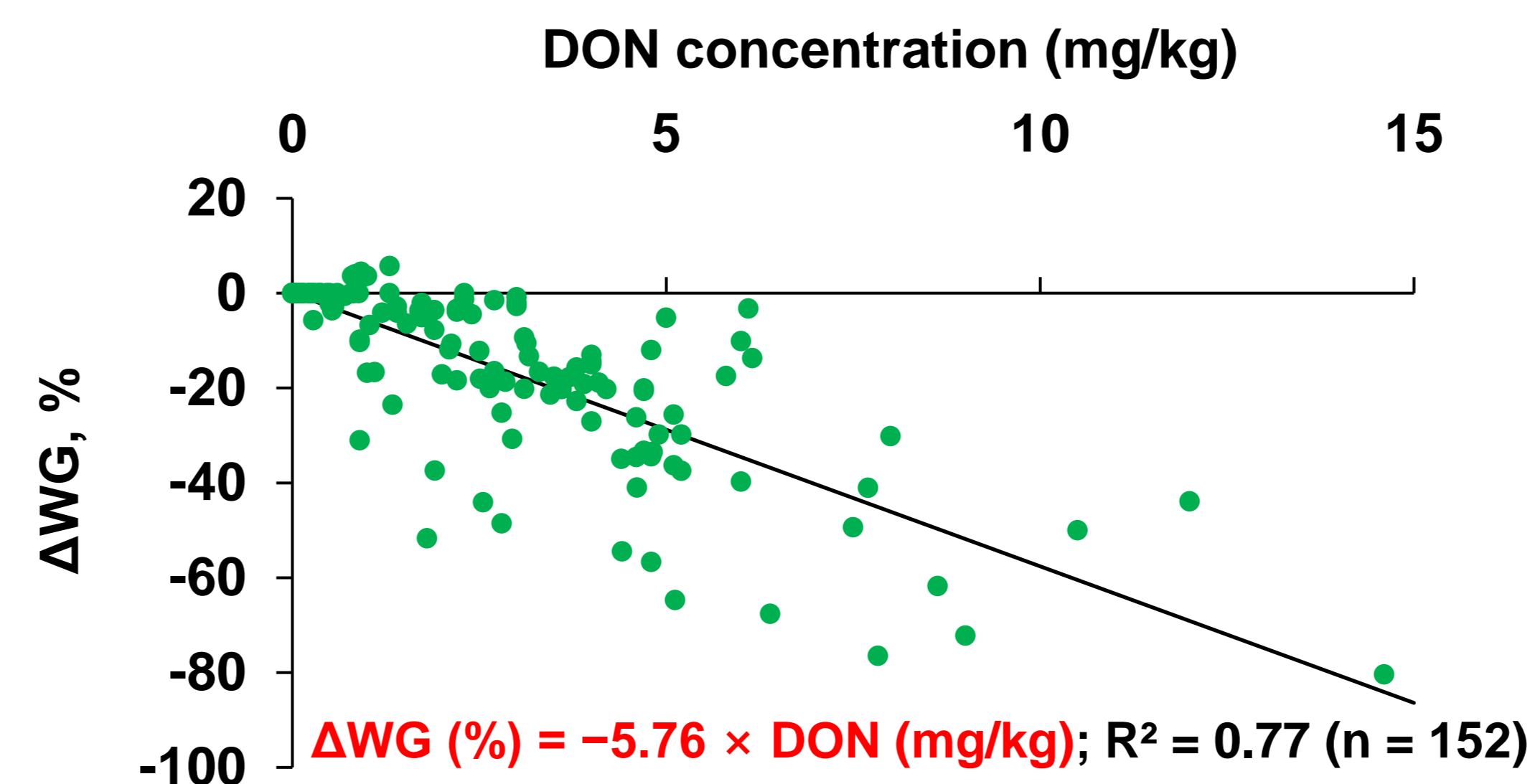


Figure 2. Weight gain changes (Δ WG) and feed intake changes (Δ FI) by dietary deoxynivalenol (DON) concentration

Conclusion

- The novel equations including recent data may accurately predict effects of dietary DON on the performance of pigs

Reference

- Mok, C. H., S. Y. Shin, and B. G. Kim. 2013. Rev. Colomb. Cienc. Pecu. 26:243-254.