CONTROL OF WATER CONSUMPTION IN SWINE BARNS; ONE STEP CLOSER TO REAL-TIME MANAGEMENT

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C. Piñeiro, P. Castro, J. Morales and G. Montalvo
PigCHAMP Pro Europa, Spain; carlos.pineiro@pigchamp-pro.com

INTRODUCTION

- Pigs' drinking water needs are farm and management specific, and wide ranges for every production phase and age have been described in literature.

- **The objective** of this study was to use new technologies to **monitor and predict** daily water consumption of fattening pigs with higher accuracy.

MATERIALS AND METHODS

- **Real-time sensor system** installed in two fattening buildings (ca. 1000 animals each). Pigs of 60 days of life at the entrance. Pens of 10 pigs with a stock density of 0,70 m^2/pig. **Four batches** of pigs followed-up.

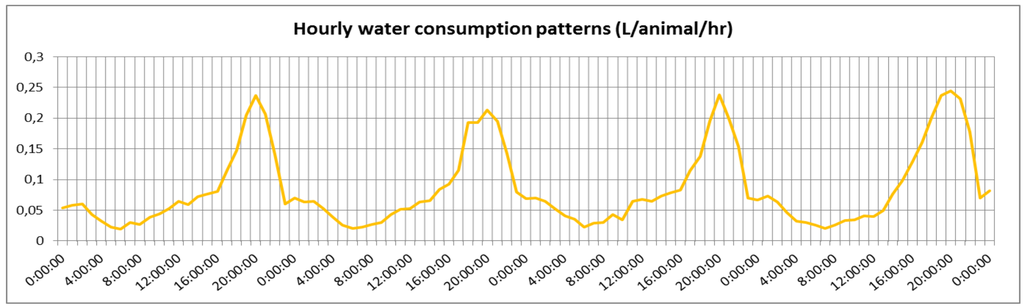

Figure 1 Example of daily water consumption trends.

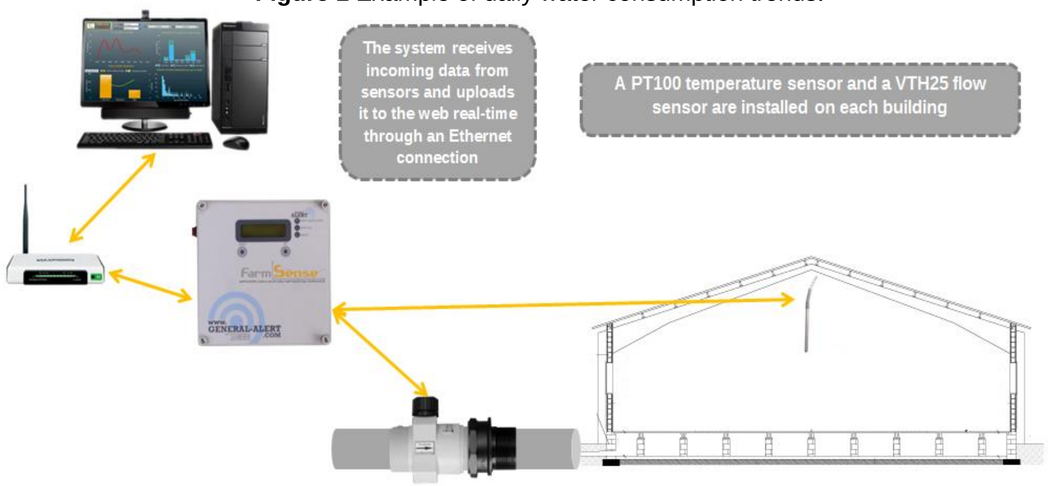

Figure 2. Sensor system operation layout

RESULTS

Age vs Intake R^2=0,72

	Avg. Water consumption range (L/animal/day)	Average difference to literature values
Lower (60 days of age)	1.73	22.4%
Higher (150 days of age)	4.65	48.9%

Table 1. Average consumption ranges and difference to theoretical values

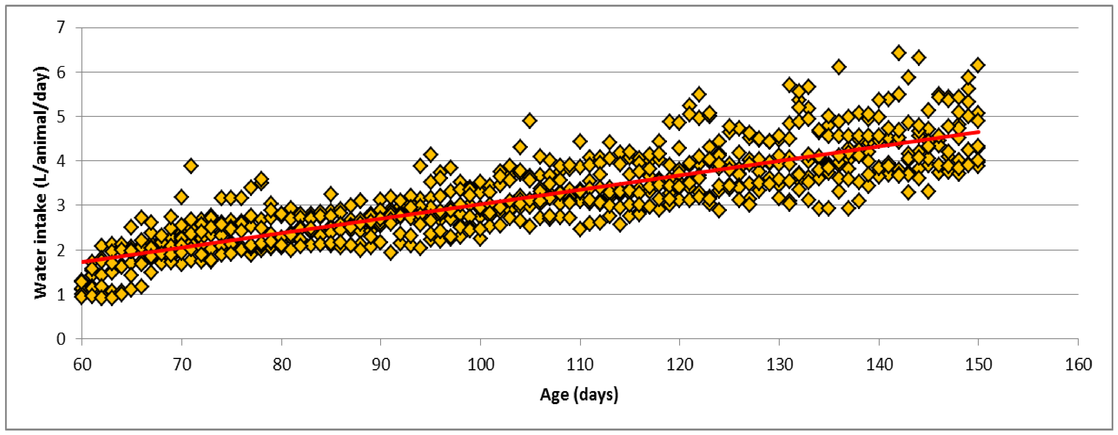

Figure 3. Linear regression of water consumption versus age of fattening pigs

*. Y= individual daily water intake (L/animal/day)
X= age (days)

Predictive equation for water consumption at this site:
Y = 0.0324x – 0.2081

CONCLUSION

Information and communication technologies allow real time control of water consumption of GF pigs, defining more accurately the reference levels and patterns. This leads to huge possibilities about predicting disease and adjust water medication properly

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