

## Electronically controlled feedback dosing of gestating sows and gilts on Electronic Sow Feeding Stations.

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### Introduction

Feedback of feces (placenta, etc.), as a source of infective material extracted from the same farm, and administered to sows during gestation, has long been described as a crude method to induce infection and immunity to certain diseases<sup>1</sup>. This management has proven useful for diseases that do not have protective commercial vaccines.

Feedback might have various drawbacks and is not necessarily consistent in results; however, it is not the focus of this paper to discuss this. One of the problems related to feedback is its implementation. For feedback to be useful, it is basic to administer the infective material consistently at the right time of gestation, and during a long enough period of time. This job is difficult and time consuming, which frequently is a cause for failure in efficacy.

With Electronic Sow Feeding Stations (ESFS), the possibility of administering feedback to individual sow using the SEFS a modified paint spary system was evaluated.

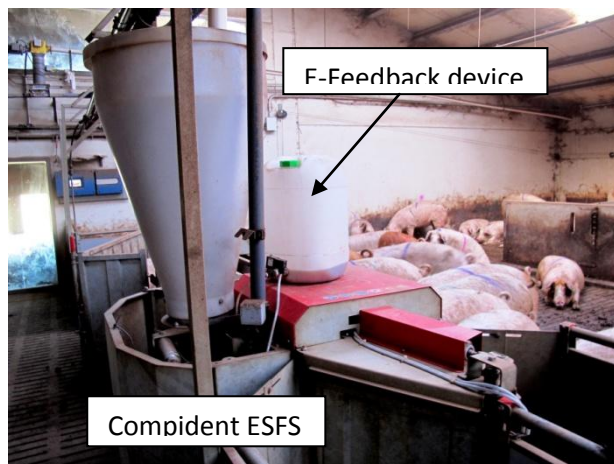
### Materials and Methods

An E-Feedback device was developed by Optimal Pork Production, to adjust to the Compident<sup>®</sup> ESFS (Schauer Agrotronic GmbH). with the purpose of automatic dosing of feedback to sows and gilts, simplifying labor to a minimum. The design was evolved from prototype 1 to prototype 2, to ensure; a) ease of use, b) automatic recording of treated sows, c) minimal movable parts, d) low cost e) automatic down load of recorded information.

The E-Feedback device is composed of: 5 lt. Plastic bin. Electrovalve, and a plastic hose. The device is connected to the paint spray system of the feeding station. This means that it's use can be programed by the ESFS software. Information of sows to be treated, length of treatment, and dose, was entered in the software.

Rotavirus induced piglet diarrhea and gut content, was diluted to a liquid solution following the recommendations of the farmers veterinarian. It was later filtered to avoid clogging up of the valve. The feedback liquid was administered for 5 days to pregnant gilts and sows from day 80 to 85 of gestation, at a dose of 50 ml per sow/daily, at their first feed.

The authors were only involved in the design and testing of the E-Feedback device, not on the health related aspects of the feedback itself.



### Results

The E-Feedback device was tested for a period of twenty two months in two large scale commercial farms in Spain. The device managed to deliver efficiently the product for all the length of the treatment. When the bin was empty, the software delivered the following alarm: "empty paint can".

Dosing treatments were completed in all cases, and consumption of the feedback was at the rate predicted. Efficacy of feedback was variable.

### Conclusions and Discussion

A summarized over all evaluation by users was:

1. All staff involved were trained in the use of ESFS.
2. Dosing management was greatly aided and simplified by the E-Feedback device.
3. Care should be taken to avoid clogging if the valve and outlet hose. Filtering of the mix is strongly recommended.
4. At the end of the treatment, staff should regularly evaluate the adequate flow of the liquid, since the pressure tends to diminish within the plastic bin.

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### References

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