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Administration of medicated water to weaned piglets using a Maxi-Tolva
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Introduction

The introduction of Enterisol® Ileitis vaccine posed new challenges for product administration because many factors interfere with drinking behaviour, such as housing, climate, and health status⁽¹⁾.

The usage of a proportioner for administration of the vaccine by nipple drinkers is well-established in North-America⁽²⁾. The adequacy of trough administration, however, has not been well researched.

We therefore conducted a trial on the drinking behaviour of weaned piglets to assess the efficacy of the trough method. The objective was to demonstrate that all piglets drink from a trough provided within a four-hour period.

Materials and Methods

The study took place in Brittany, France, on a 380-sow farrow-to-finish unit. Weaned piglets were 4 weeks old with an average weight of 7.5–8 kg. Four groups of 19 healthy piglets were randomly selected and distributed across 4 pens. Animals in each pen were individually marked with a number painted on the back. Each pen had a maxi-tolva trough (picture 1), used for vaccine administration.

Picture 1: Illustration of a Maxi-Tolva trough.



On the day of weaning, water consumption was measured for a four-hour dry-run between 10:30 and 14:30. Vaccination was performed one day after weaning in the same time window. In both cases, no water was available from 09:30 onwards.

The groups were observed by video camera throughout. Criteria observed were: drinking time and number of drinking bouts per piglet after 1.5, 3 and 4 hours.

Results

76 of the 77 piglets (99%) went to the trough at least once in the 4-hour period (table 1). On average, 22 bouts per piglet occurred per pen, and the average total drinking time was 97 s.

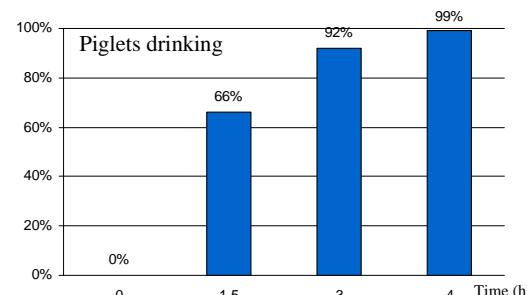
Table 1: Results per pen after 4 hours.

	1	2	3	4	Av.
Bouts per piglet	20	20	25	23	22
Drinking time per piglet (s)	93	83	105	108	97
% of piglets drinking	100	100	100	96	98.7

Av. = average

66% of the piglets drank in the first 1.5 h (2, 14 and 10 did not drink in pens 2, 3 and 4 respectively). 92 % had drunk after 3 h (1, 3 and 2 piglets did not drink in pens 2, 3 and 4 respectively (figure 1).

Figure 1: Pigs drinking over time.



Conclusion

All piglets but one (76/77) drank from a trough in a four-hour period and were therefore exposed to the oral vaccine. With an average number of drinking bouts of 22 and an average drinking time of 97 s, it can be assumed that uptake of the vaccine was adequate. The Enterisol® Ileitis vaccine is therefore suitable for administration by trough.

References

1. Madsen T.N. (2000) Danish Bacon and Meat Council, 1-9.
2. Edler R. (2006). Proceeding IPVS. 197.