

Load with *Salmonella* spp. in Fattening Pigs after Weaning Until to Fattening

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Abstract

The aim of the present study was to monitor the carrier status for *Salmonella* spp. in piglets from two farms (farm A and farm B), collecting samples from piglets after weaning until fattening, on the same animals. For this purpose 60 faecal samples were collected immediately after weaning until transfer to fattening facilities.

By analyzing faecal samples collected from both farms (farm A and B), a 50% *Salmonella* spp. load was observed in weaned piglets, and an increase by 7% to young stock.

Identification and isolation of *Salmonella* was carried out by EN ISO 6579: 2003 method followed by serum agglutination, and to isolate *Salmonella* spp. serovars API 20E method was used.

Keywords: contamination, piglets, *Salmonella* spp., samples, serovars

INTRODUCTION

Weaning stress and horizontal transmission occurred in the nursery were the important factors of increasing the prevalence in the nursery. The most important stress factors are likely to be: a change in feed, the commingling of litter, a piglet's being deprived of the antibodies found in sow's milk before the activation of its own immune response (Kranker *et al.*, 2003).

AIMS AND OBJECTIVES

The objectives of this study was to monitor the transmission possibility of *Salmonella*, by analyzing samples of piglets from weaning to fattening, thus making an assessment of the risk factors involved in the introduction of *Salmonella* at each stage of the production chain.

MATERIALS AND METHODS

The study was conducted in two pig production farms (A and B). A total number of 150 pigs were monitored, housed in 6 pens, from weaning for

90 days. The faecal sampling frequency was every two weeks, totalling 60 samples.

Piglets were weaned at 28 days of age, being transferred to the nursery pens within the same farm. Examination of samples was conducted in the laboratory of animal hygiene, using the bacteriological method SR EN ISO 6579/2003 and serovars were identified by method API 20E.

RESULTS AND DISCUSSION

After analyzing the collected samples (n = 60) from weaned piglets in each farm a high degree of *Salmonella* spp. contamination was revealed, positive samples were recorded in 57% of piglets in farm A and in 43% of piglets in farm B. Continuing examination of the collected samples, a slight increase of positive samples by 11% was observed in farm A, before their transfer in fattening pens, while in farm B, the increase was only 3% of positive samples (Fig.1).

These results are due to non-compliances of disinfection and cross-contamination with faeces

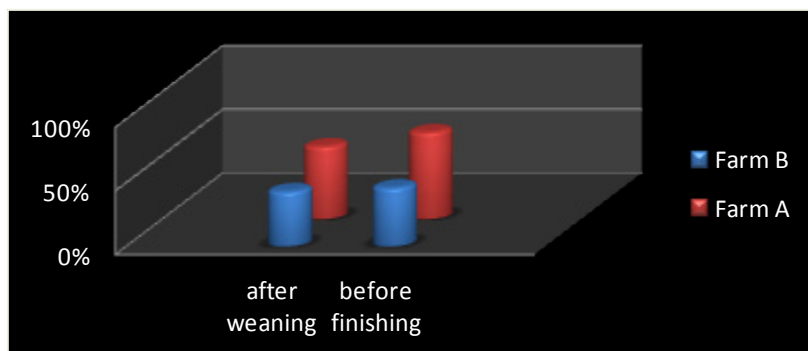


Fig. 1. The presence of *Salmonella* in pigs after weaning and in young pigs

from *Salmonella* spp. carrier piglets. Also, this increase may be due to the fact that after weaning, piglets' immunity is declining, they are deprived of the maternal milk protection, adding to this the re-grouping and ration changing. Thus, piglets become sensitive to various infections, including microorganisms of the *Salmonella* genus.

After analyzing the samples by API 20E method, the most common serovars isolated from weaned piglets, and from young pigs until their transfer to the fattening pens were: *Salmonella* Typhimurium at a rate of 59.95%, followed by *Salmonella* Choleraesuis (31.17%), and *Salmonella* spp. was found to make up 15.57% of the positive samples.

Through these analyzes, *Salmonella* spp. dispersion was monitored, as well as the distribution of the most common isolated *Salmonella* spp. serovars. Also, the role of carrier status of the animals was monitored by collecting samples from weaned piglets, and in young pigs until the age of fattening, in two different farms.

Similar results were obtained by Funk *et al.* (2001) and Kranker *et al.* (2003), where the authors found an increase in the number of pigs infected with *Salmonella* spp.

CONCLUSION

A load of *Salmonella* spp. of 57% (farm A) and 43% (farm B) was observed after weaning the piglets. Before moving piglets to fattening pens, the number of positive samples increased to 68% and 47% (farm A and B, respectively). The main serovars isolated from weaned piglets, and from young pigs until their transfer to fattening pens were: *Salmonella* Typhimurium (59.95%), and *Salmonella* Choleraesuis (31.17%).

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