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TITLE

EFFECT OF GROUP VACCINATION OF SOWS AND GILTS AGAINST SALMONELLA TYPHIMURIUM ON SALMONELLA SEROLOGY AND EXCRETION IN SOWS AND THEIR OFFSPRING

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CONTENT

Introduction Vaccination might be effective to control Salmonella infections at farm level. The present study evaluated the effect of group vaccination of sows and gilts against *S. Typhimurium* (ST) on Salmonella serology in sows and their offspring and the excretion in the offspring in three pig farms. Materials & Methods In each farm (A-B-C), all sows and gilts were vaccinated twice with an attenuated live vaccine (Salmoporc®, IDT Biologika) (3 weeks apart, subcutaneously, 1 mL/dose). From 3 months after the group vaccination onwards, all sows were given a booster dose 3 weeks before every farrowing. The farms were monitored serologically (sows and their offspring at slaughter age) and bacteriologically (fattening pigs of 18 and 26 weeks of age) one year before and one year after the group vaccination. Results After group vaccination, the mean S/P-ratios of the sows increased from 1.60 to 2.97 in farm A, from 1.58 to 1.85 in farm B and from 1.31 to 2.14 in farm C. The mean S/P-ratios of the offspring at slaughter age decreased from 0.99 to 0.72 in farm A, from 1.48 to 0.83 in farm B and from 2.69 to 1.57 in farm C. In the combined analysis of all farms, the increase in the S/P-ratios of sows and the decrease in the S/P-ratios of their offspring at slaughter age were both significant ($p < 0.001$ and $p = 0.001$, respectively). After group vaccination, the percentage ST-field strain positive fecal and overshoe samples decreased from 17% to 11% ($p = 0.242$) and from 15% to 7% ($p = 0.092$) in the fattening pigs of 18 and 26 weeks of age, respectively. Discussion & Conclusion Group vaccination of sows and gilts induced a serological response in sows and resulted in significantly lower S/P-ratios in their offspring at slaughter age, although the excretion of ST-field strain in the offspring of the sows did not significantly decrease.