Subclinical porcine circovirus infection significantly decreases growth parameters of fattening pigs

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Abstract: Porcine Circovirus Type 2 (PCV2) is the obligate infectious agent in Postweaning Multisystemic Wasting Syndrome (PMWS) of pigs. We vaccinated dams twice before and once during pregnancy with an inactivated PCV2 vaccine and monitored health status, antibody titers in dams and piglets and growth parameters of their progeny. Two producer farms, run under the supervision of the Swiss Swine Health Organisation and categorized in the highest health status, were selected for the study. Historically, PMWS was diagnosed in animals of one farm at the weaning stage, whereas in the other farm, pigs wasted during the fattening period. Groups of dams in each farm were randomly chosen for vaccination or sham injection. Compared to historical data, cases of PMWS decreased 4-12-fold among all animals of both farms. In sera of vaccinated dams only low concentration of PCV2 DNA was detected and no case of PMWS was diagnosed in their progeny. Vaccination increased serum antibodies of dams significantly accompanied with significant increased colostral antibody titers in their offspring. However, after weaning, progeny from vaccinated dams showed a significant increased daily weight gain and shortened fattening period compared to controls. This is the first demonstration of an effect of subclinical circovirus infection on growth performance of fattening pigs that can be controlled by vaccination of dams.

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