Longitudinal field studies reveal early infection and persistence of influenza A virus in piglets despite the presence of maternally derived antibodies - DTU Orbit (14/10/2019)

A longitudinal study was performed in three Danish farrow to grower (30 kilos) herds over a 4-month period to investigate the dynamics and clinical impacts of influenza A virus (IAV) infections. In each herd, four batches consisting of four sows each with five ear-tagged piglets were included. Nasal swabs and/or blood were sampled from the sows and/or the piglets prior to farrowing and at weeks 1, 3, and 5 and at the end of the nursery period. Clinical examinations were performed at each sampling time. The sows and piglets were tested for IAV and IAV antibodies in nasal swabs and blood samples, respectively. The results revealed three enzootically infected herds, where the majority of the pigs were infected during the first 5 weeks after birth. Infected piglets of only 3 days of age were detected in the farrowing unit, where the sows were also shedding virus. In all herds, low to moderate numbers of infected pigs (ranging from 3.6 to 20.7%) were found to be virus positive in nasal swabs at two consecutive sampling times. Furthermore, clinical signs of respiratory disease were associated with IAV detection. The findings of this study documented that IAV can persist in herds and that piglets as young as 3 days can be infected despite the presence of maternally derived antibodies.