Serological survey on Aujeszky’s disease, swine influenza and porcine reproductive and respiratory syndrome virus infections in Italian pigs

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Abstract

Aujeszky’s disease (AD), Porcine reproductive and respiratory syndrome (PRRS) and Swine influenza (SI) are among the principal agents of respiratory diseases of pigs. The aim of the study was to determine the prevalence of antibodies to SHV-1, PRRSV and SIV in pigs reared in Sicily. An Enzyme Linked Immunosorbent Assay for the glicoprotein gE of pseudorabies virus, for PRRSV and for SIV was performed. Antibodies against gE of SHV-1 were detected in 171 serum samples (14.6%), whereas PRRSV antibodies occurred at a higher frequency than SHV-1 with 289 (31.1%) samples being positive. The seroprevalence of SIV was found to be 33.3%. This study demonstrated the circulation of ADV, PRRSV and SIV viruses in Sicilian swine population. This is the first report on this topics in Sicily.

Key words: Aujeszky’s disease, swine influenza, porcine reproductive and respiratory syndrome, serological monitoring, pig

Introduction

The Sicily government estimates the swine population for 53,000 pigs (of these, 1000 are the Nero Siciliano pigs) with 1494 herds: 1416 are breeding herds while 78 are fattening herds. The Nero Siciliano pig is a typical local breed reared mainly under extensive management. The breed is well adapted to extreme conditions and is appreciated for its reproductive performance and production of tasty meat (Chiofalo et al. 2003).

Aujeszky’s disease (AD), Porcine reproductive and respiratory syndrome (PRRS) and Swine influenza (SI) are among the principal agents of respiratory diseases of pigs. Serological evidence of antibodies against ADV, PRRSV and SIV has been reported in several studies (Elbers et al. 1992, Grosse Beilage et al. 1992, Gutierrez-Martin et al. 2000, Maes et al. 2000, Van Reeth et al. 2000, Markowska-Daniel and Stankevicius 2005, Kamakawa et al. 2006).

Until now no data are available regarding these viruses circulation in the swine population in Sicily; especially for the Nero Siciliano pig for which there are no erlier reports. The aim of the study was to determine the prevalence of antibodies to SHV-1, PRRSV and SIV in pigs reared in Sicily.