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**Analysis of spray dried porcine plasma indicates absence of PRRSV infection in Brazilian pigs**

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**Introduction**

Porcine reproductive and respiratory syndrome virus (PRRSV) is one of the most economically devastating diseases of the global pig industry. The PRRSV is endemic in most major swine producing areas of the world with some exceptions. A recent study in Brazil reported absence of PRRSV genome and antibodies against PRRSV in the analysis of 4020 samples of either serum, plasma, or oral fluid collected from quarantined imported boars, feral pigs, or from domestic pigs at 113 commercial farms located in eight states during 2008 to 2012 (2).

To indirectly confirm these results, the following strategy was planned. Pathogens infecting pigs during their productive life cause the immune system to produce antibodies, which are still detectable in blood even at slaughter age. Spray dried porcine plasma (SDPP), a standard high quality protein used globally in diets for nursery pigs, has been proven as a good source material to monitor evolution of antibodies in pig populations, especially in regards to enzootic agents (5). The objective of this study was to provide the results of analysis, of different lots (batches) of SDPP collected from a Brazilian spray-dried plasma producer plant, for the occurrence of antibodies against PRRSV as a way to demonstrate the presence or absence of this virus in the Brazilian pig population.

**Materials and Methods**

During November 2012 samples from 8 different manufacturing lots of SDPP were obtained from a commercial spray-dried plasma producer located in the state of Santa Catarina, Brazil. This Brazilian producer collects blood from abattoirs that slaughter pigs from farms located within about a 500 km circumference of the manufacturing plant. The Brazilian SDPP powder samples were analyzed at CReSA for antibodies against PRRSV. Prior to analyses, the SDPP powder was reconstituted in sterile distilled water at a concentration of 9% w/v to obtain a similar concentration to that of liquid porcine plasma. The presence of antibodies against PRRSV was determined by a commercially available ELISA kit (HerdChek PRRS 2XR, IDEXX Laboratories). According to the manufacturer, sample to positive control ratios (S/P) > 0.4 were considered positive. A qRT-PCR was also performed on these samples as an attempt to detect PRRSV genome (4).

**Results**

None of the SDPP lots analyzed from the Brazilian commercial plasma producer contained antibodies against PRRSV and no PRRSV genome were detected. Each of the 8 manufacturing lots of SDPP were produced from the blood collected from approximately 35,000 to 40,000 pigs; therefore the study involved the blood from about 300,000 pigs which represented approximately 1% of the total Brazilian pig population and approximately 3.1% of the total Santa Catarina state pig population.

**Conclusions and Discussion**

The use of SDPP in nursery pig diets has been a common practice by the Brazilian swine industry during the past 10 years. During this period the use of SDPP has expanded significantly and presently it is estimated that around 80% of Brazilian pigs consume diets containing SDPP during the post-weaning period. The nutrition provided by the inclusion of SDPP in diets and duration of feeding diets with SDPP to pigs in Brazil has been reported to reduce clinical symptoms associated with Porcine Circovirus Associated Disease (PCVAD) and improve nursery pig performance compared to diets without SDPP (3).

Under the conditions of this study results indicated that PRRSV is not present in the Brazilian pig population as previously reported (1) and confirmed by recent studies of Brazilian swine herds (2).

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