Risk assessment for the introduction of PRRS via boar semen into Switzerland

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Switzerland, in contrast to other countries, has sustained its pig population free of porcine reproductive and respiratory syndrome virus (PRRSV). No pigs are imported for breeding, but the amount of boar semen imported from EU-countries has substantially increased during the past years. In 2010, the total of more than 24,000 doses originated from five boar studs in Germany, France and Austria. This poses a risk of introducing PRRSV into Switzerland, since transmission via boar semen is one of the known infection routes. In order to estimate the risk of PRRSV introduction into Switzerland via boar semen, a risk assessment was initiated. It included analyzing records on all trans-border shipments of semen available in the TRACES-database. Current import procedures were surveyed in interviews with importing breeding companies and exporting boar studs. Biosecurity measures and monitoring systems certifying the PRRSV status in each boar stud and basic data on sow holdings inseminating with imported semen were documented. Further specific information, such as the infectivity of the virus, etc., was drawn from literature search and expert opinions. This feeds into a release assessment estimating the likelihood of an imported semen dose to contain PRRSV, and an exposure assessment that describes the likelihood of Swiss pig herds to be exposed to PRRSV, using @RISK for a stochastic approach. First results of the release assessment are in line with current knowledge on the spread of PRRSV in pig populations. The risk of PRRSV ‘import’ rises with the number of imported semen doses per boar stud. They further suggest that testing intervals and techniques of ruling out acute PRRSV infections in boar studs have a considerable impact on the risk. Final results will contribute to the development of science-based guidelines for future imports of boar semen into Switzerland.