

Scottish Pig Industry Unites to Eradicate Endemic Disease

Representatives from the Scottish pig industry - including pig producers, vets, pharmaceutical companies, pig specialists and industry bodies - are working together to try to develop a strategy to eliminate a debilitating and costly disease in the Scottish pig herd.

Porcine Reproductive and Respiratory Syndrome (PRRS) is a global problem. It was first seen in pigs in Scotland in 1992 and since then, PRRS has become the single most important endemic disease of pigs across the country.

The PRRS virus infects sows and growing pigs, leading to reproductive failure - characterised by abortions, weak and stillborn piglets and infertility - as well as respiratory problems and increased mortality in young animals. The virus also has an immuno-suppressive effect, which means that animals infected with the PRRS virus are susceptible to repeated infections, often resulting in increased antibiotic use.

The loss of production seen as a result of PRRS has a significant economic impact. The disease is estimated to cost the UK pig industry around £80 per sow, £3.50 per finished pig, or typically £40,000 for a 500-sow herd per year.

When this is multiplied by the number of affected herds, this cost is calculated to be around £3 million each year to the UK pig industry.

PRRS only affects pigs and poses no risk to human health. The virus that causes PRRS can be transmitted in boar semen, through the air, from pig to pig, and via contact with things like contaminated boots, overalls and vehicles. One of the key elements of controlling the disease is to prevent the risk of infection or re-infection in pig herds which are free of PRRS or have invested in disease elimination.

Pig vet Grace Webster, chair of the QMS Scottish working group established in 2017 to try to combat the disease, is convinced that developing a strategy to eliminate the virus from the Scottish pig sector would be a major benefit to the industry.

She said: "Eliminating the PRRS virus in Scotland would undoubtedly improve pig health and welfare by reducing disease and mortality in Scottish pigs."

"It would also lead to increased sustainability of the Scottish pig industry through improved production efficiency by reducing mortality, increasing piglets born alive and the number of litters per sow per year."



Inset image: Pig vet Grace Webster.

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She added that another advantage of eliminating PRRS would be a reduction in antibiotic use: "As pigs with PRRS are affected by secondary infections, eliminating the virus would help reduce antimicrobial use in pigs and could also reduce abattoir condemnations due to chronic health issues such as pleurisy."

The first stage of the eradication programme was to determine how many pigs in Scotland are, or have been, exposed to PRRS virus. Over the last 18 months, blood and oral fluid samples have been collected from pig units across Scotland and tested for the presence of antibodies to the virus. Much of this work was carried out by Allan Ward, QMS Pig Specialist, at abattoirs across Scotland, and the remainder were collected by private vets on units not slaughtering pigs in Scotland.

Results show that 40% of pig units in Scotland tested positive for the virus, which, encouragingly, is 15% lower than in 2012/2013. Using this data, the epidemiology team at SAC Inverness have mapped the disease, showing each individual site, by unit type, size and PRRS status.

Phase Two of testing will begin soon and will involve characterising the units that have already tested positive via a more in-depth blood survey. This will identify whether the exposure has simply been to the vaccine strain of the virus or to a wild type strain. The strain of the PRRS viruses found on each positive unit will also be sequenced to establish which farms share the same strain. This will help inform improvements in biosecurity.

to establish clusters of units that have the potential to eradicate PRRS."

Eradication of PRRS is further complicated by the fact that the virus has the ability to evolve. The USA and China have already recorded the presence of more virulent genotypes of the virus which cannot be controlled by the current PRRS vaccines, and there are farms in England experiencing high losses associated with PRRS on units that had vaccinated against the disease.

"The next key steps towards control and elimination," said Dr Webster, "need to be done in a co-ordinated manner within a region, to prevent neighbours re-infecting each other, and the mapping process has allowed identification of regions where positive units are clustered together."

"For example, the Moray Coast region has been identified as the preferred starting point for trying to eliminate PRRS, as there are very few positive units in this area."

She added: "Where there is a greater density of pigs, such as in Aberdeenshire, the first step will be to move towards control and to reduce the shedding of the virus in the area before starting

Grace Webster stressed the urgency of trying to eradicate the virus in Scotland. She said: "Viral isolates from Scottish farms that have had their DNA sequenced are already seeing a diversity from region to region, so eliminating the virus quickly will hopefully protect the Scottish herd against the development of highly pathogenic strains."

Stuart Ashworth, QMS Director of Economics Services, commented: "With an impending Brexit, the need to secure existing and develop new markets is becoming more important."

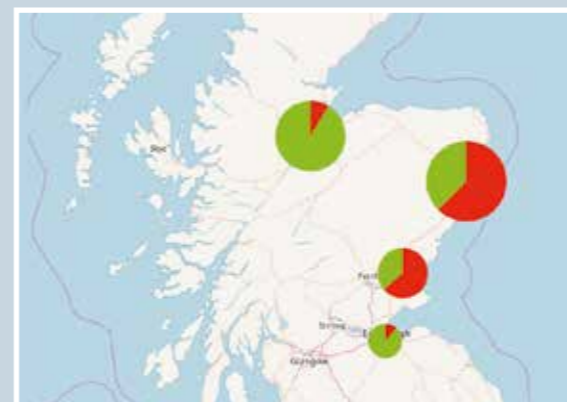
"To export to many countries there is a need for the pork to come from producers deemed free from clinical or laboratory evidence of PRRS. Clearly being able to determine national freedom from the disease will make it easier to comply with this requirement, boosting export opportunities and increasing demand for pork from Scotland."

It is anticipated that the PRRS eradication project will take three to five years to complete, and its success will depend on co-operation from producers, vets, hauliers, feed companies and all allied industries in the Scottish pig sector. Regular meetings for these stakeholders will be arranged after the initial diagnosis work is complete, to share information and provide updates on the progress towards agreed goals.

A project manager will be recruited to facilitate the co-ordination of this project, and a grant has been secured from the Rural Innovation Support Service (RISS) to help develop a project plan.+



Regional distribution of PRRS positive and negative units in Scotland



Positive
Negative

