Estimation of wild boar movement based on rabies antibody detection in Finland

Background

African swine fever (ASF) has never been detected in Finland. ASF surveillance of wild boar (WB) started in 2010. Since 2014 number of samples has increased. Wild boar population has increased in recent years but it remains very small in our territory. Estimated population is around 2 000 animals. Finnish wild boar population density is at its highest in the Southeast Finland next to Russian Federation border and there seems to be regular movement of wild boar across the border.

In the Southeast border area also oral rabies vaccination (ORV) (Figure 1) for small predators is ongoing yearly (Rabigen®, Virbac, France). We have tested rabies antibodies from wild boar in order to estimate the movement of wild boar from the Southeast Finland to the interior of Finland.

Materials and methods

Serum samples from wild boar were tested for rabies antibodies using BioPro rabies ELISA Ab Kit (O.K. Service BioPro, Czech republic). The kit has been developed to detect antibodies against rabies in domesticated and wild carnivores. The WB samples were from active surveillance from the hunting bag.

Results

During 2014-2016, 113 WB serum samples were analyzed for rabies antibodies. Most of the samples were from the vaccination area (Figure 2). 30 animals (26.5%, 95% CI 19.3-35.4%) had detectable rabies antibodies. All, except one rabies antibody positive animal, were from or nearby the vaccination area.

Conclusions

In countries where ORV is conducted in limited areas, measuring rabies antibodies from wild boar can be used to estimate the movement of the animals.

Most samples in this study were from the vaccination area. Therefore no conclusions on the movement of WB from the vaccination area to the interior of Finland cannot be made yet.

The ORV used is intended for red foxes and raccoon dogs, but it has been shown to be able to induce seroconversion in several species, including wild boar. The ORV bait consists fat and fish ingredients and might not be as attractive to wild boars as to small predators.