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O52 RAPID ULTRASONOGRAPHIC EXAMINATION OF STILLBORN PIGLETS CAN PROVIDE ACCURATE DIAGNOSIS OF TRUE INTRA-PARTUM DEATH

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Introduction. High perinatal mortality in modern pig farms has clear economic and ethical issues. Both stillbirths and post-partum mortality exhibit large increases, with variations according to herds. However, due to poor supervision, and few necropsies, true stillborn are often misdiagnosed at farm level. The objective of this work was to investigate possible use ultrasonography as a rapid alternative to lung floatation test.

Materials and methods. The study was performed in the IFIP experimental farm on 50 dead piglets, collected from 19 spontaneous unassisted farrowings. These neonates were found dead at birth or within the first 12 hours of life, mummies being excluded. Thoracic ultrasonographic examinations were performed in the intercostal space, parallel to the ribs, at the height of the elbow joint (5 MHz linear probe, Imago®, ECM). Subsequently, piglets were weighted, necropsied and lung floatation tests were carried on to identify main cause of death (intra-partum vs post-partum).

Results. Average litter size was 16.5 ± 1.5 live-born, and 1.5 ± 1.1 stillborn. According to lung floatation test, 58% dead piglets were true stillborn (intra-partum death) while early post-partum death was mainly attributed to crushing (75%), weakness (14%) or euthanasia (10%). In case of post-partum death, presence of air in the lungs prevented clear visualization of pulmonary tissues but generated typical reverberation artifacts on ultrasound pictures (A-Lines, B-lines, comet tails). By contrast, non-ventilated atelectasic lungs of intra-partum dead piglets clearly appeared as echogenic hepatized tissues, without any sign of reverberation artifact. Because of complete agreement with floatation test (100% accuracy), the absence of any reverberation artifact can be used for ultrasound diagnosis of intra-partum death. Birth weights (0.903 ± 0.343 kg on average) varied within a large range (0.400 to 1.730 kg), but high proportion of small piglets (36% <0.800 kg) did not impact the accuracy of the exam.

Conclusions. These preliminary results suggest that ultrasonography can provide rapid, accurate and real-time evaluation of stillborn piglets and intra-partum death. This new tool may be of great practical interest for practitioners, in farms with high perinatal mortalities.