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**Impact of playing classical music and scratching on avoidance distance in loose housed farrowing sows**

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Neonatal piglet mortality, partly caused by crushing, causes economic loss and reduced welfare. Studies have shown that reactivity of the sow can influence the number of piglets being crushed. The effect of handling/scratching on sow reactivity has previously been found to result in more calm sows. Since handling takes time, an alternative and more economically feasible method is enrichment through sound. A number of studies support the calming effect of classical music both in humans and animals. The hypothesis is that classical music and/or scratching has a calming effect on sows and will result in a shorter avoidance distance. Data originates from two commercial herds with sows housed individually in farrowing pens, two sections from each farm, 111/110 sows in each of the four groups. A split-plot design was used, with section as hole plot (music +/- (+M-sows and -M-sows)) and farrowing pen as subplot (scratch +/- (+S-sows and -S-sows)). The +S-sows were scratched by the farm staff once daily for 15 seconds. The music was played continuously 06.00-18.00 from 5 days before to 5 days after expected farrowing. The playlist used was "100 calm classics for study and concentration". Three speakers were placed in the section, to allow even distribution of music throughout the section. To test the reactivity of the sows, a forced approach test was done by an unfamiliar person on the day of placement and before treatment was initiated, the day before expected farrowing and day 5 post farrowing. The test person was not blinded regarding treatment. The test person crouched in front of the sow and tried to touch her head; the sows were scored 0 if they could be touched and did not withdraw, 1 if they initially withdrew but could be touched within 15 s, 2 if they withdrew and could not be touched within 15 s. A Glimmix model (SAS) that included farm, music, scratching, batch and the day of avoidance was used to analyse the results. Scratching resulted in a highly significant decrease in avoidance behaviour in line with the hypothesis (+S=0.63 (SE: 0.03), -S=0.74 (SE: 0.03), P=0.02) whereas music had no significant effect (+M=0.68 (SE: 0.03), -M=0.68 (SE: 0.03)). However, it cannot be excluded that other noises reduced the possible impact of the music. Personnel on farm, when asked about the effect of the two treatments, stated that they found sows in all treatment groups less reactive and easier to handle than sows in the non-treatment group. Also they did not consider the treatments as time-consuming or annoying. This research was funded by the EU FP7 Prohealth project (no. 613574).

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