Enriching sow environment and diet during gestation reduced piglet neonatal mortality
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To cite this version:
Hélène Quesnel, Elodie Merlot, Benoît Peuteman, Armelle Prunier, Delphine Gardan-Salmon, et al..
Enriching sow environment and diet during gestation reduced piglet neonatal mortality. 69. Annual Meeting of the European Federation of Animal Science (EAAP), Aug 2018, Dubrovnik, Croatia. hal-02738306

HAL Id: hal-02738306
https://hal.inrae.fr/hal-02738306
Submitted on 2 Jun 2020

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Sow management interventions to improve piglet survival

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Management interventions which result in calmer sows might be beneficial for piglet survival. A first experiment tested the effect of two interventions on behaviour of sows in two Danish commercial herds with farrowing pens. In a split-plot design, background music (M) was the main plot and sow handling (scratching, S) was a subplot, with 111/110 sows in each group. +S-sows were scratched by farm staff once daily for 15 s. Classical music was played 06.00-18.00 from 5d before to 5d after expected farrowing. Scratching resulted in a significant decrease in avoidance behaviour (0-2 scale) in a forced approach test (+S=0.63±0.03, –S=0.74±0.03, P=0.02) whereas music had no significant effect. However, farm staff stated that sows in all treatment groups were less reactive and easier to handle than sows in the non-treatment group. The combined treatments were therefore tested in a commercial trial in Belgium. Treatment sows experienced background music (commercial radio station) 06.00-18.00 from entry to the farrowing unit and for the whole lactation period. Staff also performed daily 15 s of backscratching per sow from entry until farrowing. Treated groups were interspersed with control groups to give 3 groups of treated sows (n=140 sows) and 7 contemporary control groups (n=314 sows). Piglet mortality was significantly reduced by the intervention (treated 9.83%, control 11.91%, P<0.05). Batch weighing of weaners from 3 groups per treatment also suggested higher weaning weight of piglets from treated sows (6.1 kg, n=1,296) vs piglets from control sows (5.35 kg, n=1,296). Positive handling of the sows in the farrowing rooms proved to be beneficial for the sows and their piglets but also for staff, who reported that the sows were calmer and also preferred working with music in the farrowing rooms to offer a win-win situation. This research was funded by the EU FP7 Prohealth project (no. 613574).

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Enriching the sow environment and diet during gestation reduced piglet neonatal mortality

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Sow environment during gestation can generate maternal stress which could influence piglet health and survival after birth. The study aimed to investigate a strategy of environmental and nutritional enrichment to reduce maternal stress and its consequences on piglet mortality. Gestating sows were group-housed in a conventional system on a slatted floor (C, n=26), in the same conventional system with environmental and nutritional enrichment (CE, n=30) or in larger pens enriched with straw bedding (E, n=27). The enrichment of the CE group consisted of pieces of oak attached to a chain (three per pen) and straw pellets provided in the trough at a rate of 200 g/d from 3-30 days of gestation (DG) and 400 g/d from 31-104 DG. On DG 105, sows were transferred into farrowing pens and housed in identical individual stalls on a slatted floor. Cortisol concentration was measured in sow saliva during gestation, sow behavioural and investigative activities were recorded on DG 101 and piglet mortality was recorded. Cortisol concentration was greater (P<0.05) in C and CE than in E sows on DG 107 (after the transfer). On DG 101, CE sows exhibited a lower proportion of stereotypes compared to C sows (22 vs 34%, P<0.05) but a greater proportion compared to E sows (7%, P<0.05). On this same day, CE sows had more investigative sequences than C sows (7.3±7.0 vs 1.7±1.8, P<0.01) but less than E sows (20.3±13.8; P<0.01). Rate of early mortality (i.e. piglets dead at birth + piglets that died within 12 h of birth) was lower in groups CE and E (6.6 and 6.3%, respectively) than in group C (11.1%, P<0.05), but overall mortality (stillbirth + preweaning death) did not differ significantly among the 3 groups (23.2, 19.1 and 19.3% in groups C, CE, and E, respectively, P=0.35). Enriching the sow environment and diet during gestation therefore improved sow welfare and reduced piglet mortality at and soon after birth. Research was funded by the EU FP7 Prohealth project (no. 613574).