Identification of factors at the farm, sow and piglet level associated with the colostrum intake per kg piglet
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Over the last decade, the litter size of sows has substantially increased. This has resulted in a lower birth weight, more variation in birth weight, more stillborn piglets and higher mortality in suckling piglets. As a consequence, sufficient colostrum and milk intake of each single piglet has become a critical issue. This study aimed at identifying factors associated with colostrum intake per kg piglet. Ten randomly selected sows per farm and their offspring from five conveniently selected farms were included in the study. Several farm, sow and piglet factors, potentially associated with colostrum intake per kg piglet were recorded. A linear mixed regression model with farm and sow within a farm as random effects was fit (PROC MIXED, SAS 9.3). Additionally, the contribution of the three different levels to the total variance of colostrum intake per kg piglet was determined. The average colostrum intake per kg piglet during first day of life was 324 gram with a range between 0 and 1554 gram. Most variation in colostrum intake per kg piglet resided at the piglet level (63%). Almost 16% and 21% of the variation occurred at sow and farm level respectively. Parturition duration, birth weight and birth rank were all negatively associated with colostrum intake per kg piglet with a P-value of less than 0.05, 0.001, 0.01, respectively. The average kg colostrum intake per piglet tended to be higher in small litter sizes than in large ones (P=0.06). The average kg colostrum intake per kg piglet also strongly depended on the sow breed (P<0.001). Interestingly, all variation in colostrum intake at farm level was explained by the sow breed.