

Reliability of the Welfare Quality® animal welfare assessment protocol for sows and piglets

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The Welfare Quality® animal welfare assessment protocols are animal-based on-farm assessment tools for animal welfare. Aim of the project was to test the Welfare Quality® protocol applied to sows and piglets for its interobserver reliability (IRR). The protocol consists of a Qualitative Behaviour Assessment (QBA), direct behavioural observations (BO) by instantaneous scan sampling, a human-animal relationship test (HAR), scans for stereotypies (ST) and scans for different individual parameters, e.g. metritis and shoulder sores. The study took place on twelve farms in Schleswig-Holstein, Germany. Two trained observers assessed the same animals at the same time, but completely independent from each other in 20 joint visits. IRR was calculated using Spearman's rank correlation coefficient (RS), intraclass correlation coefficient (ICC) and smallest detectable change (SDC). Preliminary results showed that there was no agreement for the QBA (ICC 0.00, RS 0.07, SDC 86.70). These results were confirmed by principal component analysis. The BO showed good agreement, e.g. investigation of the pen (ICC 0.60, RS 0.49, SDC 0.19). Overall, ST were of acceptable agreement, e.g. bar biting (ICC 0.99, RS 0.63, SDC 0.06). Only poor agreement was observed for the HAR (ICC 0.20, RS 0.08, SDC 0.25), which can be explained by the fact that the definition is somewhat uncertain. In most cases, individual measures had acceptable to good agreement, e.g. metritis (ICC 0.90, RS 0.77, SDC 0.10). However, the IRR was poor for the parameter shoulder sores (ICC 0.00, RS 0.00, SDC 0.60), which can be explained by difficulties in differentiation between category 0 (no lesions) and 1 (scar tissue, healing injury, reddening of the area) if it is too dark in the stables. In conclusion, the IRR was good for BO, ST and most individual parameters, but not for the QBA, the HAR and for the parameter shoulder sores.