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Test-retest reliability of the Welfare Quality[®] animal welfare assessment protocol for growing pigs

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Abstract

The aim of this study was to assess the feasibility and test-retest reliability of the Welfare Quality[®] Animal Welfare Assessment Protocol for Growing Pigs. Twenty-three German pig farms were visited repeatedly by the same trained observers; each farm being visited six times during two fattening periods. The entire protocol assessment was carried out during each farm visit, ie a Qualitative Behaviour Assessment (QBA), behavioural observations (BO), a Human Animal Relationship test (HAR) and different individual parameters (IPs), eg bursitis and tail-biting. Test-retest reliability was evaluated by a Wilcoxon signed rank test (W) and by calculation of the Smallest Detectable Change (SDC) and Limits of Agreement (LoA). The QBA presented non-satisfactory agreement between farm visits. However, good agreement, in general, was found for the BO. For the HAR, no reliability could be detected. Most IPs were of acceptable agreement, with the exception of bursitis and manure on the body. Bursitis showed great differences, which can be explained by difficulties in the assessment when the animals moved around or their legs were dirty. The disagreement in the parameter manure on the body can be explained by seasonal effects. Disagreement was further found concerning the parameters coughing, sneezing, pleuritis, pneumonia and milkspots. Feasibility was good; both observers could be well-trained to fulfil the protocol. Furthermore, the time needed for an assessment did not exceed 6 h. The parts of the protocol that proved to be insufficiently reliable need to be addressed in the future in order to enhance and improve the objective measurement of animal welfare.

Keywords: animal-based measure, animal welfare assessment, farm, pig, test-retest reliability, Welfare Quality[®]