BEHAVIOURAL DIVERSITY IN GROUPS OF JUVENILE PIGS

**Stephanie M. Hayne and
Harold W. Gonyou**

Introduction

Understanding behavioural diversity is important for commercial production, animal behaviour and animal welfare. One interpretation of individual differences in behaviour is that these represent different strategies for coping with a challenging environment. For example, one pig may respond to a crowded feeder by becoming aggressive, while another adopts the strategy of waiting until the feeder is vacant. There is variability in pig performance, and this may be related to individual behavioural characteristics. The objective of this study was to determine the primary characteristics that distinguish individual pigs.

Methods

Eighty-nine pigs (nine litters) were followed from birth until eight weeks of age. In addition to determining each piglet's average daily gain and assessing health and injuries, we determined their general activity levels in terms of time spent eating, drinking, lying, standing, playing, fighting, displacing, and chewing/belly nosing on penmates. We also determined how consistent each piglet was in using their primary teat while suckling. While the pigs were in the nursery, we exposed each pig to three behavioural test situations. During a restraint test, we gently held each pig on their back in a V-trough for one minute and evaluated their degree of resistance. In an ease of movement test, each pig was evaluated on their willingness to move down a novel corridor. The final test involved using a novel arena (a circular arena consisting of six solid plywood walls) in which we evaluated each pig's willingness to approach and interact with a human and a novel object.

Results

Three primary 'personality' factors were identified. These factors distinguished the pigs based on their response to humans, their ease of movement down a novel corridor and their involvement in social displacement activities. The specific variables that contributed to the formation of each factor are presented in Table 1. The factor relating to the pig's response to humans was correlated with average daily gain. Pigs that were more cautious had a tendency to be less active and gain more weight.

Table 1. Variables that contributed to the formation of each factor		
Factor 1	Factor 2	Factor 3
Time taken to approach a human	Time taken to move down a novel corridor	Involvement in social displacement activities
Time to interact with a human	Subjective score of pig's willingness to move	(pushing/biting another pig, causing recipient to move)
Time spent within 0.5 m of a human	Degree of resistance during restraint	
Number of interactions with a human	Time spent standing	
Time taken to interact with a novel object	Time spent lying	
Time spent standing		
Time spent lying		

Figure 1. Example of the restraint test

Conclusions

Based on the variables that loaded onto each factor, it appears that factor 1 is related to level of confidence, factor 2 is related to level of exploration, and factor 3 is related to level of aggression. This study will be expanded to investigate the effect different re-grouping strategies (based on weight, behaviour or random) have on 'personality' traits, and form the basis of recommendations to the industry about the most appropriate grouping strategies to use.

Acknowledgements

Further study is required to determine the best grouping strategies.