

Animal Welfare Programme



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The BBSRC Animal Welfare Programme had three strands. Between them they looked at new means of measuring animal welfare and the impact that early life experiences have on animal welfare. They also explored how a farm animal's environment and its perception of that environment, can affect its welfare.

Animals' lives are intimately connected with our own, whether they are farm animals intended for food production, laboratory animals used in scientific and medical research or companion animals.

The welfare of animals is a topic many people feel strongly about. One of the key aims of the BBSRC Animal Welfare Programme was to produce knowledge that will lead to a better understanding of how to improve animal welfare and the quality of animals' lives. Launched in 2005, this five year, £8M programme is now drawing to a close and we can begin to see the tangible benefits that the research carried out under the programme will bring.

The programme was comprised of three coordinated and complementary programmes of research involving researchers from some of the UK's veterinary schools and associated institutions. Between them they looked at new ways of measuring animal welfare and the impact that early life experiences have on animal welfare. They also explored how a farm animal's environment, and how it perceives that environment, can affect its welfare.

Welfare measures

There are two main scientific approaches to assessing animal welfare. One uses 'welfare indicators' and relies on the behavioural responses or physical appearance of the animal, whether a chicken has glossy feathers for example. The other assesses 'motivational priorities' and assumes that given options animals will choose the environment that is best for their welfare. Research has now connected these two approaches, showing that chickens generally choose the environment that welfare indicators have previously suggested is better for their welfare. For the first time, this provides essential cross-validation of these two approaches, and identifies welfare indicators that appear to predict animal choice.

Key facts

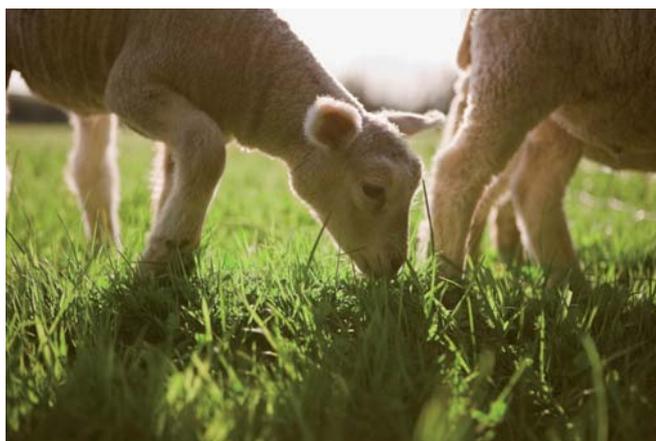
BBSRC's 5 year £8M Animal Welfare Programme is now reporting its conclusions

3 projects were funded at four vet schools and associated institutions

The UK sheep farming industry is the largest in Europe

16 million chickens are produced for the table in the UK each week

There are 5 million pigs on UK farms at any one time



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The animal welfare programme has also developed a new method which attempts to measure another aspect of animal welfare, the emotional states of animals. This method is based on the knowledge that in humans emotional states influence decision-making. For example, people in negative states make negative decisions about the outcome of ambiguous events – they show a ‘pessimistic’ cognitive bias. A growing body of work now shows that cognitive bias may be a reliable new indicator of emotional state and welfare in animals too; assessing whether an animal is more likely to make a positive or negative decision can indicate its underlying emotional state.

Tools for welfare assessment

Two other projects within the programme have developed new tools for measuring welfare of pigs and chickens. In one project the researchers have worked closely with farmers and stockpersons to develop a welfare assessment tool that can be used easily on the farm to assess the welfare both of a herd of pigs as a whole and of individuals within the herd. The second project also looks at assessing the welfare of groups of animals, this time chickens. Working together with commercial poultry farms, the researchers have developed an automated system to detect changes in the movement patterns of flocks of chickens that are indicative of a welfare problem in the flock. This allows problems to be monitored remotely, saving time and preventing the disease risks associated with farmers moving between hen houses to check for problems in person.

Contact

Name: Dr Lee Glassbrook
Title: Policy and Strategy Officer
Tel: 01793 413283
Email: lee.glassbrook@bbsrc.ac.uk
Web: www.bbsrc.ac.uk/welfare

Early life experiences and animal welfare

Research in pigs, poultry, rats and sheep has shown that the conditions that animals experience either before birth or in their first months of life have long term effects on welfare. Pregnant pigs and rats were exposed to social stress during pregnancy and their offspring were observed for changes in their behaviour and responses that might affect their welfare. It was found that pigs and rats exposed to pre-natal stress in this way were more vulnerable to experiencing heightened stress and also showed alterations to their pain responses. This suggests that the long term welfare of these animals has been compromised by their experiences in the womb. Work with lambs has also shown that exposure to stress in early life can compromise later welfare. In broiler hens, incubation conditions were shown to impact on aspects of leg health after hatch. Overall, this body of work has important implications for farm management and demonstrates the need to optimise conditions for farm animals both before they are born and during early life.

Environment and farm animal welfare

A new experimental barn, built with funding from the Animal Welfare Programme, has enabled researchers to closely control the environment that their farm animals are kept in and accurately measure the welfare implications of factors such as raised ammonia levels, background noise or dim light. For example, recent work suggests that even moderately elevated ammonia concentrations can lead to animals becoming stressed, possibly because their sense of smell is disrupted, which in turn disrupts their social behaviours. The facility, unique in the world, enables experiments to be carried out to inform the standards set for on-farm conditions so that they are a true reflection of what the animals need for their welfare.



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