

Every time you take a pill, have your children vaccinated, tip soap powder into your laundry load, or spray the weeds in your garden, spare a thought for the price that's been paid by animals.

Entwined throughout our daily lives are products, ranging from vital medicines to industrial chemicals, pesticides and food additives that have been developed or tested with the aid of animal experiments.

These experiments and tests cause considerable stress and suffering to the animals used – including mice and rats, guinea pigs, rabbits, monkeys and dogs.

No compassionate person would wish for animals to suffer in this way. But most would accept the need to try to find treatments for serious diseases and for manufacturers to test the safety of certain essential materials for use in our world.

The use of animals in science poses serious ethical dilemmas but the RSPCA firmly believes that a major way forward lies in implementing the principles of humane research first established by a book published 50 years ago.

The Principles of Humane Experimental Technique, by William Russell and Rex Burch, was to have a profound influence on the use and welfare of laboratory animals.

It defined the principles of the '3Rs' as the basis for the more humane treatment of animals in research and testing.

"Fully implementing the 3Rs is extremely important – from both an ethical and a scientific point of view," said RSPCA senior scientific officer Barry Phillips. "People have a moral obligation to minimise any negative impact that human activities have on animals and the 3Rs provides a framework for achieving this for laboratory animals.

"It is also acknowledged by most scientists that good animal welfare is essential for good science. If animals suffer as a result of the way they are being used, housed or cared for, their physiology can be altered with serious consequences for the validity of the results of experiments."

Since 1959, the 3Rs concept has gradually become accepted throughout the world. In the UK, it is a key principle of the *Animals (Scientific Procedures) Act 1986*, which regulates the use of animals in experiments. Scientists planning to use animals must demonstrate that there is no alternative to using animals, and describe how they will keep the numbers used, and any suffering caused, to a minimum.

THE 3Rs

Replacement – methods which avoid or replace the use of animals wherever possible.

Reduction – minimising the numbers of animals used, for example by improving the experimental design and statistical analysis used in a study.

Refinement – improving experimental procedures, and other factors affecting animals such as housing and care, to reduce suffering and improve welfare throughout the animals' lives.

A golden landmark for animal welfare

Without doubt, lab animals suffer in the name of science. But there's plenty that can be done to help – the RSPCA is celebrating the 50 year anniversary of the 3Rs, the principles of humane research.

Many national and international organisations involved in research on animals, such as medical research charities, universities, pharmaceutical and chemicals companies, base their animal research policies on the 3Rs principles.

RSPCA and the 3Rs

The RSPCA works tirelessly towards the goal of replacing animal experiments altogether.

"We recognise that unfortunately it will take time to achieve this, and so promoting the 3Rs is a really important way of reducing the numbers and suffering of those animals who continue to be used," said Barry Phillips.

"We do all we can to promote the development of alternative methods and finding ways of avoiding animal use. For example, when European legislation on chemicals was updated recently, the RSPCA took every opportunity to ensure that non-animal methods of testing would be used as far as possible."

The Society also successfully lobbied for other important measures, such as compulsory data sharing between companies to prevent duplication of tests.

Achieving improvements in the way animals are housed and cared for in laboratories is a major area of the Society's work. It is essential to provide good quality housing and care that meets animals' physical, psychological and social needs, and allows them to express a range of natural behaviours.

"We have played a major role in defining practical ways of improving the welfare of laboratory animals throughout their lifetime, particularly reducing suffering caused by experiments," said Barry Phillips.

"For example, we have taken the initiative in seeking

to refine the tests used for veterinary vaccine testing, to reduce the impact of research on genetically altered mice, and to improve the housing and care of many different species of animals."

World congresses

To mark the 50th anniversary of the 3Rs, the RSPCA supported the 7th World Congress on Alternatives and the Use of Animals in Life Sciences, which took place in August.

World congresses help raise the status of the science of alternatives and encourage scientists to get involved and share ideas and scientific developments. Thousands of delegates from all over the world attend, including representatives from animal protection organisations, governments, universities, and pharmaceutical and chemicals companies.

At this year's congress, the RSPCA had a major presence and highlighted the work it does to help laboratory animals. Specialist staff from the Society's research animals department urged for faster process towards ending the use of primates, and presented our recent initiative for improving the housing and care of rabbits in laboratories. They also spoke about our work with scientific journals to improve their policies relating to their publication of research that has involved animals.

SOME 3RS SUCCESSES

- Tissue made from human skin cells has largely replaced the use of rabbits to test chemicals for irritancy to the skin.
- Using new imaging methods, some brain research can now be carried out safely on human volunteers rather than monkeys.
- Careful study design, and the smart use of statistics, helps reduce the numbers of animals used in many experiments.
- Methods of recognising, assessing and alleviating discomfort, pain or distress in laboratory animals have significantly improved.
- The effectiveness of certain vaccines can now be tested by a simple blood test rather than exposing vaccinated animals to diseases to see if they become sick.
- When practical, animals are now housed in a group rather than singly, often in pens or large enclosures, with bedding, shelters and toys provided.

3RS IN REVISED EUROPEAN LAW

The European law on animal experiments is being updated.

RSPCA experts had significant influence in the development of the proposals and are now lobbying hard to ensure that animal welfare improvements are not watered down as the Directive passes through the complex legislative process.

We believe that the revision of the Directive is an opportunity for the EU to make much greater effort to find new ways of implementing the 3Rs. The RSPCA is calling for the strengthening of organisations such as the European Centre for the Validation of Alternative Methods, and greater support for the development of new 3Rs methods.

"Clearly 2009 is an important year for laboratory animal welfare, both looking back at 50 years of the 3Rs of Russell and Burch, and looking forward to even more opportunities to extend their influence throughout Europe and beyond," said Barry Phillips. 

For more information on how the RSPCA helps lab animals, see: www.rspca.org.uk/researchanimals

