Environmental Enrichment

Jai Research Foundation is committed to providing environmental enrichment to all the animals. All the species housed in animal facilities receive social enrichment through paired or group housing, unless single housing is scientifically or medically justified. Structural enrichment is provided, as per the species-specific requirement (e.g., wooden chew blocks, nesting material, toys, etc.).

In the wild environment, the animals enjoy their indulgence in a wide range of natural behaviours such as posture, burrowing, foraging, sleeping, grooming, digging, nest building, vocalization, etc. On the other hand, the laboratory, animals are housed in a small cage or enclosure for experimental purposes, could cause stress to these animals, since opportunities for such indulgences are not available, unless provided externally. In captive condition the animals have a limited opportunity to satisfy their natural instincts which may lead to a variety of behavioural anomalies.

The animals that are healthy, unstressed, and comfortable in their respective environments, ensure the most reliable and reproducible results of experimental data generation.

Every experiment is performed on animals, ultimately for the benefit the humanity. Hence, it is prime responsibility of the researcher to provide most comfortable and highly stimulating environment to animals.

It is possible to develop an environment , enabling the animals opportunities to perform their naturalistic behaviour. Such opportunities could be provided by providing environmental enrichment to enhance their physiological and psychological well-being and reduce abnormal behaviour.

Objectives of providing environmental enrichment are:

- Promote numerous ranges of normal behaviour amongst laboratory animals
- Minimise behavioural variability of animals
- Increase the ability to manage behavioural and physiological challenges in a normal way
- Reduce the development of behavioural anomalies

Environmental enrichment programme should be

- Designed, as per the needs of the specific animals based on their natural habits
- Economical
- Practical
- No risk to the animals, to the human or to the experiment.

Designing environmental enrichment programme requires a sound knowledge of behaviour of animals as well as also requires attention on the age and sex of animals.

As young animals are more playful, these require more active enrichment opportunities than adults. In some species there are differences in the behaviour driven by sex and individual behavioural orientation. In addition, the safety of animals and personnel, should also be taken into consideration, during designing and implementation of enrichment programme.

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Environmental enrichment programme are broadly categorized as social and physical enrichment,

Social Enrichment:
Animals enjoy when housed in unisex, compatible pairs or groups, either temporary or permanent, which provide suitable interaction with each other. Animal behaviour, when housed with a goal of maximizing species-specific behaviours and minimizing stress-induced abnormal behaviours, help generate reliable experimental results. Procedure-induced stress are less in group-housed animals than in those housed singly.

Physical Enrichment:
The most common method of providing enrichment is to modify the home cage environment in a manner that expands the range of behaviours of the animal.

A balance should be maintained between providing adequate complexity within the enclosure and ensuring that the materials

- Are relevant to the animal
- Will not cause any harm the animal and
- Do not interrupt the animal-care staff for conducting their husbandry activities

Structure enrichment are generally provided within the cage or pen, such as nest boxes, nesting materials, tubes, toys, perches, allowing animals to climb onto or burrow in or hide under them, wooden blocks for chewing and gnawing purpose.

Selection of enrichment materials as per the species specific needs are very significant because use of inappropriate enrichment can induce fear or stress amongst animals.

About The Author

Mr. Rajesh Posia, MVSc is a principle research officer leading a team of animal breeding facility having more than 14 years experience of breeding of various species of laboratory animals for toxicology research.