

# **Establishing and Management of an Animal**

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# Important factors designing an animal house

- 1 Increasing the use of defined animals
- 2 Greater awareness of employers for health and safety of employees

# Increasing the use of defined animals Why?

- The animal used in these experiments should produce meaningful results using minimum number of animals.
- They should be reared under standard conditions.
- (Microbiology, Parasitology)
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# Cont

- Free from disease.
- Genetical aspect
- Nutrition
- Environment

# Standardization and welfare of animal management

- The number that are used should be absolute minimum.
- Over standardization should be prevented (Use of single inbred strain, or confining them to an extremely restricted range of environment in order to make the results statistically valid.

# Designing the animal house

- 1 Air distribution-protect animals from air born infection
- 2 Provision of safe environment for employees
- 3 The investigators-They are using the animal house and will spend some of their time working it
- 4 Animal technicians and associated staff. Spend most of the time in it
- 5 Animals Live for their whole lives.

# When designing a team should work

- A representative of investigators
- Technician representative
- Animal representative- Expert in the requirement of animals
- Administrative representative
- Finance representative
- Maintenance officer

- Professional team-Architect engineers surveyors service consultant
- Architect should be provided with the animal population

# Species

- Animal facilities for multi-disciplinary use. Because there may be sudden changes in research interests.
- Generally produce an animal house which is easily adaptable for a variety of species and types of work

# Animal that are used oil the world

- Mouse 70%
- Rat 14
- Guinea pig 11
- Hamster 0 3
- Rabbit 2

# Factors to be considered in animals

- To be brought in or bred on site
- This will be decided by the way that animals are needed
- Economic considerations
- Usually there are commercial sources
- If day old animals are needed
- Breeding site is necessary

# Quarantine requirement

- All countries have quarantine for imported animals
- However to protect the existing stock all animals brought on to the site should be subjected to a realistic period of quarantine (Cant we uses the adaptation period )
- If there is a known disease, suspected disease from that out side source
- This area should be physically isolated
- Not advisable to mix batchace at dif times.

# Type of barrier

- With the increase in production and use of disease free animals the concept of housing them behind a barrier is important

# Common barriers used in animal facility

- Building should be away from potential hazards
- Physical separation of the building from others
- Building should be in one way flow to increase isolation between clean and dirty operations

# Organizing of flow of work

- Animals, bedding equipment personnel in and out of the building to minimize the introduction of disease
- Provision of extra room to allow a routine cycle of room sterilization at periodic intervals.

- Provision of insect barriers of all entrances
- Chemical insect control are not advisable  
UV attractant device or net
- Restricted entry of personnel

# Enforcing the staff routines

- Use of footbaths
- Change of footwear
- Change other clothing, hats
- Showering and complete change of clothing
- Wearing face masks and gloves when handling animals
- Routine screening of staff to identify those harboring undesirable organisms

- Provision of sterilizing equipments
- Autoclave, sterilization of bedding cages bottles

# Design consideration relating to the building

- Preliminary planning
- Detailed planning

# Preliminary planning

- Species that are going to be used
- Number of animals to be housed

## Approximate net area of animal room

Species	Group size	Ono of animals /m2
Mouse (25-39)	6-7	60-70
Rat 200g	3	56
400g	2	37
Guinea-pig 250g	5	33.3
450g	5	30
650g	9	48
Rabbit (0.75-4 kg)	4	20
	2	15
	-	1.5-6

Different areas	Percentage devoted to Different areas
Animal room	45
Corridors	21
Service areas	12
Staff areas	9
Storage areas	12

# Selection of the Site

- **Features of topography-**  
Sloping, or level of drainage
- **Relationships with adjacent building**
- **Availability of utility services-**  
electricity gas, water
- **Accessibility**  
Especially for contractors for equipments
- **Possibility of future expansion**

# Services

- -Floor and cage cleaning
- Dry sweeping raise the clouds of dust, Hosing down is necessary for easy removal of considerable quantities
- Excess water can harbor Micro- organisms
- If use hosing drainage is important

# Detailed planning

- Approximate overall size of the building
- Cost
- Subdivisions to be included
- Breeding animal area
- Stock animals
- Experimental animals area
- Quarantine area
- Staff area

Change /Shower

Common room

Office

Store

Corridor

Stock animals

Experimental animals

Laboratory

Breeding

Dirty Disposal Corridor

Cleaning Room

Disposal

# Standardization of Animal Welfare

- Number of animals used in all experiments should be minimum
- Proper space should be provided
- Period of acclimatization should be provided

# Contd

- Animal cage should provide the sense of security
- For animal health, animal need exercise
- Animal Human interaction –Person who feeds animals become familiar to animals. So if researcher is handling animal gert use to the animals.

- Daily monitoring of animals-Food, water
- If animals are transported the vehicle should provide necessary facilities such as Air conditioner
- Keep records about breeding, mortality

Thank you