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Diploma in Pharmacy 2nd Year

Pharmacology

Experiment

To study the laboratory animal Mice

Aim:

To study the laboratory animal Mice

Reference :

‘ Dr. P.Mudagal Manjunatha , “Practical Manual of Pharmacology”
Published by Nirali Prakashan, Page no 5 - 7

Theory :

Description

- **Normal Temperature:** 37.4
- **Pulse Rate:** 120
- **Oestrous Cycle:** 4-5 days
- **Gestation Period:** 19-21 days
- **Weaning Age:** 19-21 days
- **Mating Age:** 6-8 week's
- **Litters:** 8-12 yearly
- **Room Temperature:** 20-21
- **Humidity:** 50-60%
- **Weight-Weaning:** 7g. adult: 25-28gm

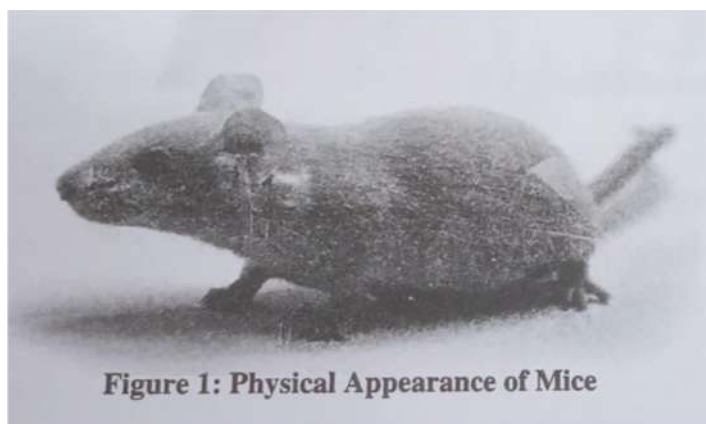


Figure 1: Physical Appearance of Mice

Housing

- Many different designs of mouse and no one pattern should be the standard.
- Aluminium box of 6x12x6 inches deep with tapering side to facilitate stacking should be provided.
- The lids should be of steel sheet or of strong wire mesh and are designed so that hopper is built into them and accommodation should be provided to hold the drinking bottle.
- The cages should be light, durable and easily sterilised by dry or moist heat.

Feeding

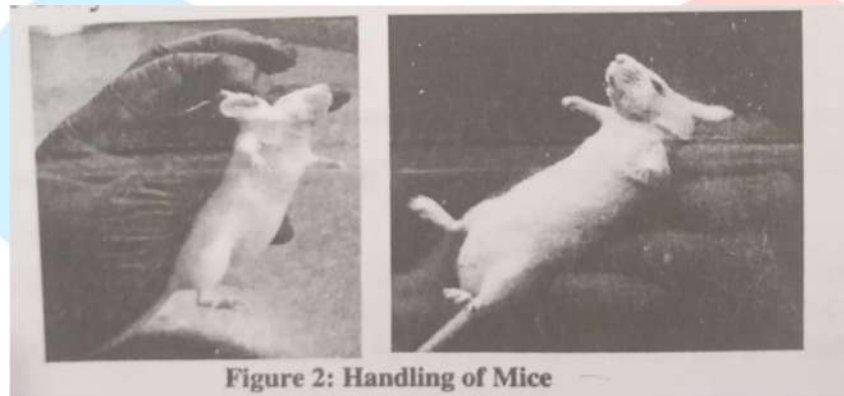
- ▲ Pelleted diets, such as diet 86 of Howie (1952) or diet 41 of Bruce (1950) should be provided.
- ▲ Fresh water in drinking bottles should be provided.

Different Strains of Mice

- Black
- White
- Chocolate
- Fawn.
- Blue
- Dove
- Champagne
- Lilac
- Black Tan
- Chocolate Tan
- Dutch
- Broken Marked
- Agouti
- Silver Agouti
- Chinchilla
- Sable
- Cinnamon
- Argentre
- Siamese
- Brindle
- Normal
- Satin
- Astrex
- Long Hair

Handling of Mice

- ❖ Mice should be transferred from one cage to another by grasping the skin behind the neck/body with blunt forceps.
- ❖ Base of the tail should be held with one hand and the loose skin behind its neck should be held with the other hand.
- ❖ Complete body should be held by grabbing the back with all fingers.



Common Diseases of Mice

- Salmonellosis
- Ectromelia (mouse pox)
- Streptobacillus moniliformis infection
- Miscellaneous virus infection
- Worms (Taenia taenia-formis).

Experimental Procedures on Mice

- 1) Anaesthesia
 - i. Short Acting: Ether
 - ii. Long Acting: Pentobarbitone sodium
- 2) Subcutaneous inoculation
- 3) Intraperitoneal inoculation
- 4) Intracerebral inoculation
- 5) Intravenous inoculation
- 6) Intranasal inoculation
- 7) Collection of blood

Applications

- ✚ Toxicological studies
- ✚ Teratogenicity studies
- ✚ Bioassay of insulin
- ✚ Screening of analgesic and anticonvulsant
- ✚ Screening of chemotherapeutic agents
- ✚ Studies related to genetics and cancer research.

Result :

The laboratory animal mice were studied.

