

## **RODENT BREEDING**

### **I. Purpose**

To maintain breeding colonies according to the needs of principal investigators

### **II. Responsibility**

The 3A caretaker is responsible for maintenance of rodent colonies to be bred for use by principal investigators.

The two most important aspects of maintaining and/or monitoring a breeding colony are knowledge of the animals' breeding cycles and accurate record keeping.

This table provides necessary data for breeding colonies:

<b>Item</b>		<b>Rat</b>	<b>Mouse</b>
Breeding Age	Male Female	100 days 100 days	50 days 50-60 days
Estrous Cycle		5 days	4-5 days
Gestation		20-22 days	17-21 days
Weaning Age		16-21 days	21 days
Litter Size		12	8-12
Breeding Life	Male Female	1 year 1 year	18 months 7-9 months
Rebreed		Immediately*	Immediately**
Mating Group		1.3-5	1.3-4

\*Males should not remain with pups if problems occur.

\*\*Only ½ of the females are fertile upon postpartum heat.

### **III. Procedures**

- A. The exact procedure for rodent breeding for investigators is performed according to instructions in the individual animal use protocols.
- B. The most important item on a rodent breeding bin is the cage ID/breeding record card.
  1. This card records the breeding of 1-2 female rodents per cage. Breeding cage cards should be filled out completely.
  2. Records of rodent breeding are also kept in a Breeding Book that is kept in each room used for breeding.
- C. One male and 1-2 females are placed in the breeder cage. The pair should be provided with a Shepard shack or hiding box and fed a breeder diet. Females should be housed together in order to synchronize their estrus cycle. The male is then introduced into the females' cage.

- D. When sufficient offspring have been produced, the male is removed and placed back into a holding cage. Otherwise, the male can remain in the cage with a single female. Alternatively, the male may be removed before the litter is born to minimize the possibility of cannibalism.
- E. Females may be separated from males near parturition or they may be permanently paired with a male.
- F. Juveniles are usually removed at 21 days, the average weaning age for rodents, or longer depending on size.
- G. It is also important to identify individual breeding animals as closely as possible and record their ages and breeding data. This can be accomplished by grouping adult breeders and identifying the cage with a regular cage I.D. card. At the investigator's request, and according to instructions written in their animal use protocol, other methods of identification can be used (ear punching, ear tags, etc.).
- H. Animals that reach or exceed their breeding life should be culled from the colony and replaced with offspring reserved for this purpose (It may be necessary to periodically bring in "new blood," i.e., new animals from other blood lines in order to maintain the viability of the colony).