

## Breeding

The numbers justification for breeding requires a description of:

- i) the breeding colony that will be used to produce the number of animals needed for experimental use and to maintain one or more lines,
- ii) the total number of animals produced, including those pre- or post-weaning not genotypically useful, and
- iii) the disposition of animal that do not have the desired genotype.

Regardless of how an animal generated by breeding will be used (i.e. in experiments or future breeding), all animals are to be counted only once when estimating the total number of animals generated by breeding.

As a practical guide:

1. Estimate the number of animals specifically needed for experimental use.
2. Estimate an approximate number of pups/litter, genotypically appropriate and inappropriate pups/litter, and number of male breeders/female breeders.
3. Add animals in items 1 and 2 to determine the number of animals required to meet the goals of the study and to account for the total number of animals produced.

Other notes:

- The total number animals that are requested and counted as "used" includes progeny with useful genotypes that are weaned into the colony as well as genotypically useless adults and pre-weaning pups, since they undergo the genotyping procedures.
- A quick reference table to assist with making these calculations and assigning the appropriate USDA pain category is shown below:

	<b>PAIN CATEGORY GUIDE</b>	<b>NUMBER OF ANIMALS</b>
Estimated number of weaned adults that are used in experiments	Category assigned based on the type of procedure(s) to which the animals are subjected and/or phenotype. Highest pain category is used.	#
Estimated number of pre-weaning pups that are used in experiments	Category assigned is dependent on whether there is a perinatal phenotype that results in pain or distress and/or the type of procedure(s) to which the pups are subjected. Highest pain category is used.	#
Estimated number of mice used only for breeding to maintain the line(s)	Most likely assigned to USDA pain category B, unless there is a phenotype in adults that causes pain or distress.	#
Estimated number of pre-weaning pups that will be genotyped and euthanized at or before weaning and not subjected to experimental manipulation	Most likely assigned to USDA pain category B, but can be different depending on phenotype(s).	#

Estimated number of adult animals that are weaned into the colony but are euthanized shortly thereafter because they do not have the correct genotype.	Most likely assigned to USDA pain category B, but can be different depending on phenotype(s).	#
		<b>Total number of animals requested= X</b>