

## ANIMAL PROCUREMENT AND HOUSING

The NADIA recommended operating procedures for rat procurement and housing are:

Priorities for procurement:

1. First choice: breed rats in-house. This option is often less expensive than purchasing dams but can require more animal space. Stressors associated with transport (vibrations, food/water restriction, temperature) are avoided and rat housing is controlled. Litters can be culled to 10 and balanced for a sex ratio of no more than 6 males. (Spear, Robinson, Chandler are already breeding rats.)
2. Second choice: shipping litters with dams, close to weaning (and definitely after postpartum day 7). This option was considered the least stressful for transport of dams and offspring, but has the consequence that litters will not be culled as quickly.
3. Worse choice: shipping pregnant dams, due to the known effects of maternal stress on offspring behavior. This can be mitigated somewhat by transporting from close by (versus cross-country).
4. Worst choice: shipping post-weaning offspring, as it has been established that breeding practices in vendor facilities often result in inaccurate ages and small-size offspring (see McCutcheon & Marinelli, European Journal of Neuroscience, Vol. 29, pp. 997–1014, 2009.) Juvenile shipping can also delay puberty in females.

NADIA Housing Recommendations.

1. Cull litters to 10 rats, with no more than 6 males per litter (as maternal licking affects male pubertal development).
2. Avoid using the first litter, as the first litter of a dam typically is smaller and receives less maternal care. If ordering dams, specify “proven” breeders rather than first-time breeders.
3. Upon weaning, group- or pair-house rats during and after AIE treatment. If rats need to be separated for tests such as home-cage drinking, this can be done with a cage divider.
4. Procurement and housing for adolescents and adults, both control and treatment groups, should be the same as described above – that is, adult-treatment controls should be procured as above and grow up in the lab’s animal facility.

A recent manuscript finding major differences between group-housed controls vs animals ordered directly from a vendor found markedly different behaviors dependent upon source and housing. (“Adolescent Rearing Conditions Influence the Relationship Between Initial Anxiety-Like Behavior and Ethanol Drinking in Male Long Evans Rats,” Chappell, Carter, McCool, Weiner, Alc.Clin.Exp.Res. 37:2013).